

## Multilayer ceramic capacitors

Chip, C0G

**Series/Type:**        **Chip**

**Date:**                February 2009

The following products presented in this data sheet are being withdrawn.

Substitute Products: See [www.epcos.com/withdrawal\\_mlcc](http://www.epcos.com/withdrawal_mlcc)

| Ordering Code   | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B37940K5560J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5560J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5680J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |

| Ordering Code   | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B37940K5680J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5680J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5820J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5820J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5820J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5101J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5101J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5101J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5121J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5121J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5121J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5151J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5151J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5151J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5181J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5181J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5181J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5221J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5221J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5221J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5271J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5271J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5271J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5331J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5331J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5331J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5391J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5391J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5391J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5471J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5471J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5471J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5561J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5561J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5220J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5270J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5330J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5390J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |

| Ordering Code   | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B37930K5470J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37949K5332J062 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37949K5332J072 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37949K5472J062 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37949K5472J072 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37949K5682J062 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5560J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5680J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5820J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5101J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5121J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37949K5682J072 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37949K5103J062 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37949K5103J072 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5151J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5181J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5221J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5271J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5331J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5391J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5471J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5561J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5681J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5681J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5681J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5821J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5821J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5821J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5102J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5102J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5102J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5122J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5122J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5152J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5152J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5182J062 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5182J072 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5222J062 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |

| Ordering Code   | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B37940K5222J072 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1100J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1100J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1120J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1120J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1150J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1150J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1180J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5030C360 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5030C370 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5030C960 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5030C970 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1180J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1220J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1220J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1270J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1270J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5040C760 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5040C770 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5050D660 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5050D670 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5060D860 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1330J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1330J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5102J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1390J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5102J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1390J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5122J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1470J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5122J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5060D870 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5152J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5080D260 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5080D270 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5100J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5100J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1470J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |

| Ordering Code   | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B37940K1560J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5152J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1560J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5182J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1680J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5182J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1680J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5222J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5222J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1820J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1820J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5272J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1101J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5272J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1101J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5332J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1121J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5332J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5392J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1121J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1151J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5392J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1151J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5472J062 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1181J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5472J072 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1181J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5562J062 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5562J072 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1330J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1330J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1470J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1470J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1680J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1680J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1101J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1101J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1151J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |

| Ordering Code   | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B37871K1151J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1221J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1221J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1331J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1331J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1471J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1471J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1681J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1681J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1102J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1102J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1152J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1152J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1222J062 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K1222J072 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5100J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5100J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5120J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5120J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5150J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5150J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5470J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5560J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5560J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5680J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5680J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5820J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5820J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5101J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5101J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5121J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5121J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5151J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5151J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5181J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5181J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5221J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5221J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |

| Ordering Code   | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B37871K5271J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5271J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5331J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5331J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5391J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5391J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5471J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5471J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5561J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5561J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5681J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5681J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5821J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5821J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5120J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5120J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5150J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5150J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5180J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5180J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5220J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5220J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5270J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5270J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5330J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5330J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5390J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5390J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5470J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1221J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1221J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1271J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1271J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1331J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5470J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5560J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5560J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5680J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |

| Ordering Code   | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B37920K5680J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1331J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1391J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1391J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1471J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1471J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5820J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5820J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5101J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37920K5101J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5010C060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5010C070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1561J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1561J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1681J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1681J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1821J062 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5010C260 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5010C270 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5010C560 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5010C570 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5010C860 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1821J072 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1102J062 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K1102J072 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K2101J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K2101J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5010C870 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5020C260 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5020C270 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5020C760 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5020C770 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K2151J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K2151J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K2221J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K2221J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5010C060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5030C360 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |

| Ordering Code   | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B37930K5030C370 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5030C960 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5030C970 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5040C760 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5010C070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5010C001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5010C260 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5010C270 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5010C201 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5040C770 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5050D660 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5050D670 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5060D860 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5060D870 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5010C560 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5010C570 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5180J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5010C501 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5180J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5010C860 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5220J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5010C870 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5220J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5270J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5080D260 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5080D270 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5100J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5100J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5120J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5010C801 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5020C260 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5270J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5330J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5330J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5390J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5390J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5120J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5150J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |

| Ordering Code   | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B37930K5150J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5180J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5180J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37871K5470J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5020C270 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5020C201 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5020C760 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5020C770 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5020C701 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5030C360 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5030C370 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5030C301 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5030C960 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5030C970 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5030C901 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5040C760 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5040C770 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5040C701 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5050D660 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5050D670 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5050D601 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5060D860 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5060D870 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5060D801 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5080D260 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5080D270 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5080D201 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5100J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5100J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5100J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5120J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5120J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5120J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5150J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5150J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5150J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5180J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5180J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |

| Ordering Code   | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B37940K5180J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5220J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5220J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5220J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5220J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5220J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5270J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5270J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5330J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5330J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5390J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5390J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5470J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5470J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5560J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5560J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5680J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5680J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5820J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5820J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5101J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5101J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5121J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5121J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5151J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5151J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5181J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5181J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5221J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5221J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5271J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5271J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5331J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5331J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5391J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5391J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5471J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5471J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |

| Ordering Code   | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B37930K5010C001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5010C201 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5010C501 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5010C801 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5020C201 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5020C701 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5270J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5270J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5270J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5330J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5330J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5030C301 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5030C901 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5040C701 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5050D601 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5060D801 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5330J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5390J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5390J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5390J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5470J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5080D201 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5100J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5120J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5150J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37930K5180J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5470J070 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5470J001 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |
| B37940K5560J060 |                    | 2009-06-26         | 2010-06-30           | 2010-12-31     |

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at [www.epcos.com/sales](http://www.epcos.com/sales).

# SMD

## Ordering code system



B37940

K

5

010

C

5

60

### Type and size

Chip size (inch/mm) = Temperature characteristic C0G:

0402/1005  $\triangle$  B37920

0603/1608  $\triangle$  B37930

0805/2012  $\triangle$  B37940

1206/3216  $\triangle$  B37871

1210/3225  $\triangle$  B37949

### Termination

#### Standard:

K  $\triangle$  nickel barrier for all case sizes

#### On request:

J  $\triangle$  silver-palladium for conductive adhesion for all case sizes

### Rated voltage

5 (Code)  $\triangle$  50 VDC

1 (Code)  $\triangle$  100 VDC

2 (Code)  $\triangle$  200 VDC

### Capacitance, coded (example)

010  $\triangle$   $1 \cdot 10^0 \text{ pF} = 1 \text{ pF}$

100  $\triangle$   $10 \cdot 10^0 \text{ pF} = 10 \text{ pF}$

221  $\triangle$   $22 \cdot 10^1 \text{ pF} = 220 \text{ pF}$

### Capacitance tolerance

$C_n < 10 \text{ pF}$ :

B  $\triangle$   $\pm 0.1 \text{ pF}$

C  $\triangle$   $\pm 0.25 \text{ pF}$  (standard for capacitance values  $\leq 4.7 \text{ pF}$ )

D  $\triangle$   $\pm 0.5 \text{ pF}$  (standard for capacitance values  $\leq 8.2 \text{ pF}$ )

$C_n \geq 10 \text{ pF}$ :

F  $\triangle$   $\pm 1\%$

G  $\triangle$   $\pm 2\%$

J  $\triangle$   $\pm 5\%$  (standard)

K  $\triangle$   $\pm 10\%$

Decimal place for cap. values  $< 10 \text{ pF}$ , otherwise 0

### Packaging

60  $\triangle$  cardboard tape, 180-mm reel

62  $\triangle$  blister tape, 180-mm reel

70  $\triangle$  cardboard tape, 330-mm reel

72  $\triangle$  blister tape, 330-mm reel

01  $\triangle$  bulk case

# Multilayer ceramic capacitors

C0G

C0G

## SMD

### Features

- Good thermal stability
- High insulation resistance
- Low dissipation factor
- Low inductance
- Based on AEC-Q200 Rev-C



### Applications

- Resonant circuits
- Filter circuits
- Timing elements
- Coupling and filtering, particularly in RF circuits

### Termination

- Nickel barrier terminations (Ni) for lead-free soldering
- For conductive adhesion: Silver-palladium terminations (AgPd) on request

### Options

- Alternative capacitance values and tolerances available on request

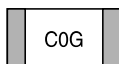
### Delivery mode

- Cardboard and blister tape (blister tape for chip thickness  $\geq 1.2 \pm 0.1$  mm and case size 1210), 180-mm and 330-mm reel available
- Bulk case for case sizes 0402, 0603 (50 V) and 0805 (50 V)

### Electrical data

|                                     |               |               |                            |     |
|-------------------------------------|---------------|---------------|----------------------------|-----|
| Temperature characteristic          |               |               | C0G                        |     |
| Climatic category                   | (IEC 60068-1) |               | 55/125/56                  |     |
| Standard                            |               |               | EIA                        |     |
| Dielectric                          |               |               | Class 1                    |     |
| Rated voltage                       |               | $V_R$         | 50, 100, 200               | VDC |
| Test voltage                        |               | $V_{test}$    | $2.5 \cdot V_R/5$ s        | VDC |
| Capacitance range                   |               | $C_R$         | 1 pF ... 10 nF (E6/E12)    |     |
| Temperature coefficient             |               |               | $0 \pm 30 \cdot 10^{-6}/K$ |     |
| Dissipation factor                  | (limit value) | $\tan \delta$ | $< 1.0 \cdot 10^{-3}$      |     |
| Insulation resistance <sup>1)</sup> | (at +25 °C)   | $R_{ins}$     | $> 10^5$                   | MΩ  |
| Insulation resistance <sup>1)</sup> | (at +125 °C)  | $R_{ins}$     | $> 10^4$                   | MΩ  |
| Time constant <sup>1)</sup>         | (at +25 °C)   | $\tau$        | $> 1000$                   | s   |
| Time constant <sup>1)</sup>         | (at +125 °C)  | $\tau$        | $> 100$                    | s   |
| Operating temperature range         |               | $T_{op}$      | -55 ... +125               | °C  |
| Ageing                              |               |               | none                       |     |

1) For  $C_R > 10$  nF the time constant  $\tau = C \cdot R_{ins}$  is given.



## Multilayer ceramic capacitors

### COG

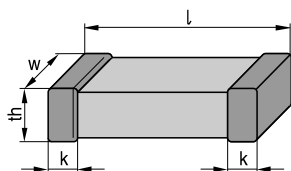
### SMD

#### Capacitance tolerances

|             | $C_R \leq 4.7 \text{ pF}$            |                       |                      | $5.6 \text{ pF} \leq C_R \leq 8.2 \text{ pF}$ |                                       |                      |
|-------------|--------------------------------------|-----------------------|----------------------|-----------------------------------------------|---------------------------------------|----------------------|
| Code letter | B                                    | C (standard)          | D                    | B                                             | C                                     | D (standard)         |
| Tolerance   | $\pm 0.1 \text{ pF}$<br>(on request) | $\pm 0.25 \text{ pF}$ | $\pm 0.5 \text{ pF}$ | $\pm 0.1 \text{ pF}$<br>(on request)          | $\pm 0.25 \text{ pF}$<br>(on request) | $\pm 0.5 \text{ pF}$ |

|             | $C_R \geq 10 \text{ pF}$                                           |                                                                    |              |            |  |
|-------------|--------------------------------------------------------------------|--------------------------------------------------------------------|--------------|------------|--|
| Code letter | F                                                                  | G                                                                  | J (standard) | K          |  |
| Tolerance   | $\pm 1\%$ (on request for 50 V and 100 V; not available for 200 V) | $\pm 2\%$ (on request for 50 V and 100 V; not available for 200 V) | $\pm 5\%$    | $\pm 10\%$ |  |

#### Dimensional drawing



KKE0329-N

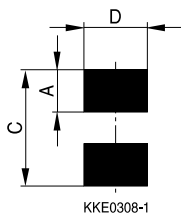
#### Dimensions (mm)

| Case size | (inch) | 0402            | 0603            | 0805            | 1206            | 1210            |
|-----------|--------|-----------------|-----------------|-----------------|-----------------|-----------------|
|           | (mm)   | 1005            | 1608            | 2012            | 3216            | 3225            |
| l         |        | $1.00 \pm 0.10$ | $1.60 \pm 0.15$ | $2.00 \pm 0.20$ | $3.20 \pm 0.20$ | $3.20 \pm 0.30$ |
| w         |        | $0.50 \pm 0.05$ | $0.80 \pm 0.10$ | $1.25 \pm 0.15$ | $1.60 \pm 0.15$ | $2.50 \pm 0.30$ |
| th        |        | $0.50 \pm 0.05$ | $0.80 \pm 0.10$ | 1.30 max.       | 1.30 max.       | 1.70 max.       |
| k         |        | $0.10 - 0.40$   | $0.10 - 0.40$   | $0.13 - 0.75$   | $0.25 - 0.75$   | $0.25 - 0.75$   |

Tolerances to CECC 32101-801

## SMD

### Recommended solder pad



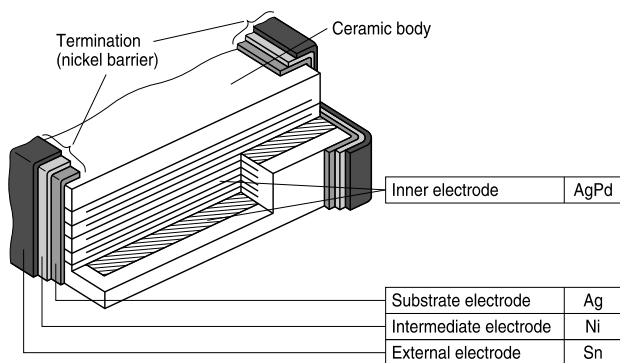
### Recommended dimensions (mm) for reflow soldering

| Case size | (inch/mm) | Type        | A             | C             | D             |
|-----------|-----------|-------------|---------------|---------------|---------------|
| 0402/1005 |           | single chip | 0.35 ... 0.45 | 1.00 ... 1.40 | 0.40 ... 0.60 |
| 0603/1608 |           | single chip | 0.60 ... 0.70 | 1.80 ... 2.20 | 0.60 ... 0.80 |
| 0805/2012 |           | single chip | 0.60 ... 0.70 | 2.20 ... 2.60 | 0.80 ... 1.10 |
| 1206/3216 |           | single chip | 0.80 ... 0.90 | 3.80 ... 4.32 | 1.00 ... 1.40 |
| 1210/3225 |           | single chip | 1.00 ... 1.20 | 4.00 ... 4.80 | 1.80 ... 2.30 |

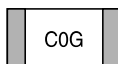
### Recommended dimensions (mm) for wave soldering

| Case size | (inch/mm) | Type        | A             | C             | D             |
|-----------|-----------|-------------|---------------|---------------|---------------|
| 0603/1608 |           | single chip | 0.80 ... 0.90 | 2.20 ... 2.80 | 0.60 ... 0.80 |
| 0805/2012 |           | single chip | 0.90 ... 1.00 | 2.80 ... 3.20 | 0.80 ... 1.10 |
| 1206/3216 |           | single chip | 1.00 ... 1.10 | 4.20 ... 4.80 | 1.00 ... 1.40 |

### Termination



KKE0484-W-E



# Multilayer ceramic capacitors

## C0G

### SMD

#### Product range chip capacitors, C0G

| Size<br>inch (l x w)<br>mm (l x w) | 0402<br>1005 | 0603<br>1608 | 0805<br>2012 |     |     | 1206<br>3216 |     | 1210<br>3225 |
|------------------------------------|--------------|--------------|--------------|-----|-----|--------------|-----|--------------|
| Type                               | B37920       | B37930       | B37940       |     |     | B37871       |     | B37949       |
| $C_R \setminus V_R$ (VDC)          | 50           | 50           | 50           | 100 | 200 | 50           | 100 | 50           |
| 1.0 pF                             |              |              |              |     |     |              |     |              |
| 1.2 pF                             |              |              |              |     |     |              |     |              |
| 1.5 pF                             |              |              |              |     |     |              |     |              |
| 1.8 pF                             |              |              |              |     |     |              |     |              |
| 2.2 pF                             |              |              |              |     |     |              |     |              |
| 2.7 pF                             |              |              |              |     |     |              |     |              |
| 3.3 pF                             |              |              |              |     |     |              |     |              |
| 3.9 pF                             |              |              |              |     |     |              |     |              |
| 4.7 pF                             |              |              |              |     |     |              |     |              |
| 5.6 pF                             |              |              |              |     |     |              |     |              |
| 6.8 pF                             |              |              |              |     |     |              |     |              |
| 8.2 pF                             |              |              |              |     |     |              |     |              |
| 10 pF                              |              |              |              |     |     |              |     |              |
| 12 pF                              |              |              |              |     |     |              |     |              |
| 15 pF                              |              |              |              |     |     |              |     |              |
| 18 pF                              |              |              |              |     |     |              |     |              |
| 22 pF                              |              |              |              |     |     |              |     |              |
| 27 pF                              |              |              |              |     |     |              |     |              |
| 33 pF                              |              |              |              |     |     |              |     |              |
| 39 pF                              |              |              |              |     |     |              |     |              |
| 47 pF                              |              |              |              |     |     |              |     |              |
| 56 pF                              |              |              |              |     |     |              |     |              |
| 68 pF                              |              |              |              |     |     |              |     |              |
| 82 pF                              |              |              |              |     |     |              |     |              |
| 100 pF                             |              |              |              |     |     |              |     |              |
| 120 pF                             |              |              |              |     |     |              |     |              |
| 150 pF                             |              |              |              |     |     |              |     |              |
| 180 pF                             |              |              |              |     |     |              |     |              |
| 220 pF                             |              |              |              |     |     |              |     |              |
| 270 pF                             |              |              |              |     |     |              |     |              |
| 330 pF                             |              |              |              |     |     |              |     |              |
| 390 pF                             |              |              |              |     |     |              |     |              |

# Multilayer ceramic capacitors

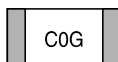
C0G

C0G

SMD

## Product range chip capacitors, C0G

| Size<br>inch (l x w)<br>mm (l x w) | 0402<br>1005 | 0603<br>1608 | 0805<br>2012 |     |     | 1206<br>3216 |     | 1210<br>3225 |
|------------------------------------|--------------|--------------|--------------|-----|-----|--------------|-----|--------------|
| Type                               | B37920       | B37930       | B37940       |     |     | B37871       |     | B37949       |
| $C_R \setminus V_R$ (VDC)          | 50           | 50           | 50           | 100 | 200 | 50           | 100 | 50           |
| 470 pF                             |              |              |              |     |     |              |     |              |
| 560 pF                             |              |              |              |     |     |              |     |              |
| 680 pF                             |              |              |              |     |     |              |     |              |
| 820 pF                             |              |              |              |     |     |              |     |              |
| 1.0 nF                             |              |              |              |     |     |              |     |              |
| 1.2 nF                             |              |              |              |     |     |              |     |              |
| 1.5 nF                             |              |              |              |     |     |              |     |              |
| 1.8 nF                             |              |              |              |     |     |              |     |              |
| 2.2 nF                             |              |              |              |     |     |              |     |              |
| 2.7 nF                             |              |              |              |     |     |              |     |              |
| 3.3 nF                             |              |              |              |     |     |              |     |              |
| 3.9 nF                             |              |              |              |     |     |              |     |              |
| 4.7 nF                             |              |              |              |     |     |              |     |              |
| 5.6 nF                             |              |              |              |     |     |              |     |              |
| 6.8 nF                             |              |              |              |     |     |              |     |              |
| 10 nF                              |              |              |              |     |     |              |     |              |



# Multilayer ceramic capacitors

## C0G

### SMD

## Ordering codes and packing for C0G, 50 VDC, nickel barrier terminations

### Case size 0402, 50 VDC

| C <sub>R</sub> | Ordering code   | Chip thickness<br>mm | Cardboard tape,<br>Ø180-mm reel | Cardboard tape,<br>Ø330-mm reel |
|----------------|-----------------|----------------------|---------------------------------|---------------------------------|
|                |                 |                      | ** $\triangle$ 60               | ** $\triangle$ 70               |
|                |                 |                      | pcs./reel                       | pcs./reel                       |
| 3.3 pF         | B37920K5030C3** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 3.9 pF         | B37920K5030C9** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 4.7 pF         | B37920K5040C7** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 5.6 pF         | B37920K5050D6** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 6.8 pF         | B37920K5060D8** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 8.2 pF         | B37920K5080D2** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 10 pF          | B37920K5100J0** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 12 pF          | B37920K5120J0** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 15 pF          | B37920K5150J0** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 18 pF          | B37920K5180J0** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 22 pF          | B37920K5220J0** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 27 pF          | B37920K5270J0** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 33 pF          | B37920K5330J0** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 39 pF          | B37920K5390J0** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 47 pF          | B37920K5470J0** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 56 pF          | B37920K5560J0** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 68 pF          | B37920K5680J0** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 82 pF          | B37920K5820J0** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |
| 100 pF         | B37920K5101J0** | 0.5 $\pm$ 0.05       | 10000                           | 50000                           |

## Ordering codes and packing for C0G, 50 VDC, nickel barrier terminations

### Case size 0603, 50 VDC

| C <sub>R</sub> | Ordering code   | Chip thickness<br>mm | Cardboard<br>tape, Ø180-mm<br>reel | Cardboard<br>tape, Ø330-mm<br>reel | Bulk case         |
|----------------|-----------------|----------------------|------------------------------------|------------------------------------|-------------------|
|                |                 |                      | ** $\triangle$ 60                  | ** $\triangle$ 70                  | ** $\triangle$ 01 |
|                |                 |                      | pcs./reel                          | pcs./reel                          | pcs.              |
| 1.0 pF         | B37930K5010C0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 1.2 pF         | B37930K5010C2** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 1.5 pF         | B37930K5010C5** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 1.8 pF         | B37930K5010C8** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 2.2 pF         | B37930K5020C2** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |

# SMD

## Ordering codes and packing for C0G, 50 VDC, nickel barrier terminations

### Case size 0603, 50 VDC

| C <sub>R</sub> | Ordering code   | Chip thickness<br>mm | Cardboard<br>tape, Ø180-mm<br>reel | Cardboard<br>tape, Ø330-mm<br>reel | Bulk case         |
|----------------|-----------------|----------------------|------------------------------------|------------------------------------|-------------------|
|                |                 |                      | ** $\triangle$ 60                  | ** $\triangle$ 70                  | ** $\triangle$ 01 |
|                |                 |                      | pcs./reel                          | pcs./reel                          | pcs.              |
| 2.7 pF         | B37930K5020C7** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 3.3 pF         | B37930K5030C3** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 3.9 pF         | B37930K5030C9** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 4.7 pF         | B37930K5040C7** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 5.6 pF         | B37930K5050D6** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 6.8 pF         | B37930K5060D8** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 8.2 pF         | B37930K5080D2** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 10 pF          | B37930K5100J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 12 pF          | B37930K5120J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 15 pF          | B37930K5150J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 18 pF          | B37930K5180J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 22 pF          | B37930K5220J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 27 pF          | B37930K5270J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 33 pF          | B37930K5330J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 39 pF          | B37930K5390J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 47 pF          | B37930K5470J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 56 pF          | B37930K5560J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 68 pF          | B37930K5680J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 82 pF          | B37930K5820J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 100 pF         | B37930K5101J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 120 pF         | B37930K5121J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 150 pF         | B37930K5151J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 180 pF         | B37930K5181J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 220 pF         | B37930K5221J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 270 pF         | B37930K5271J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 330 pF         | B37930K5331J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 390 pF         | B37930K5391J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |
| 470 pF         | B37930K5471J0** | 0.8 $\pm$ 0.1        | 4000                               | 16000                              | 15000             |

C0G

Multilayer ceramic capacitors

C0G

SMD

# Ordering codes and packing for C0G, 50 VDC, nickel barrier terminations

## Case size 0805, 50 VDC

| C <sub>R</sub> | Ordering code   | Chip thickness | Cardboard tape, Ø180-mm reel | Cardboard tape, Ø330-mm reel | Blister tape, Ø180-mm reel | Blister tape, Ø330-mm reel | Bulk case         |
|----------------|-----------------|----------------|------------------------------|------------------------------|----------------------------|----------------------------|-------------------|
|                |                 |                | ** $\triangle$ 60            | ** $\triangle$ 70            | ** $\triangle$ 62          | ** $\triangle$ 72          | ** $\triangle$ 01 |
|                |                 | mm             | pcs./reel                    | pcs./reel                    | pcs./reel                  | pcs./reel                  | pcs.              |
| 1.0 pF         | B37940K5010C0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 1.2 pF         | B37940K5010C2** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 1.5 pF         | B37940K5010C5** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 1.8 pF         | B37940K5010C8** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 2.2 pF         | B37940K5020C2** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 2.7 pF         | B37940K5020C7** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 3.3 pF         | B37940K5030C3** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 3.9 pF         | B37940K5030C9** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 4.7 pF         | B37940K5040C7** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 5.6 pF         | B37940K5050D6** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 6.8 pF         | B37940K5060D8** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 8.2 pF         | B37940K5080D2** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 10 pF          | B37940K5100J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 12 pF          | B37940K5120J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 15 pF          | B37940K5150J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 18 pF          | B37940K5180J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 22 pF          | B37940K5220J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 27 pF          | B37940K5270J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 33 pF          | B37940K5330J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 39 pF          | B37940K5390J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 47 pF          | B37940K5470J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 56 pF          | B37940K5560J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 68 pF          | B37940K5680J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 82 pF          | B37940K5820J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 100 pF         | B37940K5101J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 120 pF         | B37940K5121J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 150 pF         | B37940K5151J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 180 pF         | B37940K5181J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 220 pF         | B37940K5221J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 270 pF         | B37940K5271J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 330 pF         | B37940K5331J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |

# Multilayer ceramic capacitors

C0G

C0G

## SMD

### Ordering codes and packing for C0G, 50 VDC, nickel barrier terminations

#### Case size 0805, 50 VDC

| C <sub>R</sub> | Ordering code   | Chip thickness | Cardboard tape, Ø180-mm reel | Cardboard tape, Ø330-mm reel | Blister tape, Ø180-mm reel | Blister tape, Ø330-mm reel | Bulk case         |
|----------------|-----------------|----------------|------------------------------|------------------------------|----------------------------|----------------------------|-------------------|
|                |                 |                | ** $\triangle$ 60            | ** $\triangle$ 70            | ** $\triangle$ 62          | ** $\triangle$ 72          | ** $\triangle$ 01 |
|                |                 | mm             | pcs./reel                    | pcs./reel                    | pcs./reel                  | pcs./reel                  | pcs.              |
| 390 pF         | B37940K5391J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 470 pF         | B37940K5471J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 560 pF         | B37940K5561J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 680 pF         | B37940K5681J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 820 pF         | B37940K5821J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 1.0 nF         | B37940K5102J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            | 10000             |
| 1.2 nF         | B37940K5122J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |                   |
| 1.5 nF         | B37940K5152J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |                   |
| 1.8 nF         | B37940K5182J0** | 1.2 $\pm$ 0.1  |                              |                              | 3000                       | 12000                      |                   |
| 2.2 nF         | B37940K5222J0** | 1.2 $\pm$ 0.1  |                              |                              | 3000                       | 12000                      |                   |

### Ordering codes and packing for C0G, 100 VDC, nickel barrier terminations

#### Case size 0805, 100 VDC

| C <sub>R</sub> | Ordering code   | Chip thickness | Cardboard tape, Ø180-mm reel | Cardboard tape, Ø330-mm reel | Blister tape, Ø180-mm reel | Blister tape, Ø330-mm reel |
|----------------|-----------------|----------------|------------------------------|------------------------------|----------------------------|----------------------------|
|                |                 |                | ** $\triangle$ 60            | ** $\triangle$ 70            | ** $\triangle$ 62          | ** $\triangle$ 72          |
|                |                 | mm             | pcs./reel                    | pcs./reel                    | pcs./reel                  | pcs./reel                  |
| 10 pF          | B37940K1100J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            |
| 12 pF          | B37940K1120J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            |
| 15 pF          | B37940K1150J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            |
| 18 pF          | B37940K1180J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            |
| 22 pF          | B37940K1220J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            |
| 27 pF          | B37940K1270J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            |
| 33 pF          | B37940K1330J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            |
| 39 pF          | B37940K1390J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            |
| 47 pF          | B37940K1470J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            |
| 56 pF          | B37940K1560J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            |
| 68 pF          | B37940K1680J0** | 0.6 $\pm$ 0.1  | 5000                         | 20000                        |                            |                            |

C0G

## Multilayer ceramic capacitors

C0G

### SMD

#### Ordering codes and packing for C0G, 100 VDC, nickel barrier terminations

##### Case size 0805, 100 VDC

| C <sub>R</sub> | Ordering code   | Chip thickness<br>mm | Cardboard tape,<br>Ø180-mm reel | Cardboard tape,<br>Ø330-mm reel | Blister tape,<br>Ø180-mm reel | Blister tape,<br>Ø330-mm reel |
|----------------|-----------------|----------------------|---------------------------------|---------------------------------|-------------------------------|-------------------------------|
|                |                 |                      | ** $\triangle$ 60               | ** $\triangle$ 70               | ** $\triangle$ 62             | ** $\triangle$ 72             |
|                |                 |                      | pcs./reel                       | pcs./reel                       | pcs./reel                     | pcs./reel                     |
| 82 pF          | B37940K1820J0** | 0.6 $\pm$ 0.1        | 5000                            | 20000                           |                               |                               |
| 100 pF         | B37940K1101J0** | 0.6 $\pm$ 0.1        | 5000                            | 20000                           |                               |                               |
| 120 pF         | B37940K1121J0** | 0.6 $\pm$ 0.1        | 5000                            | 20000                           |                               |                               |
| 150 pF         | B37940K1151J0** | 0.6 $\pm$ 0.1        | 5000                            | 20000                           |                               |                               |
| 180 pF         | B37940K1181J0** | 0.6 $\pm$ 0.1        | 5000                            | 20000                           |                               |                               |
| 220 pF         | B37940K1221J0** | 0.6 $\pm$ 0.1        | 5000                            | 20000                           |                               |                               |
| 270 pF         | B37940K1271J0** | 0.6 $\pm$ 0.1        | 5000                            | 20000                           |                               |                               |
| 330 pF         | B37940K1331J0** | 0.6 $\pm$ 0.1        | 5000                            | 20000                           |                               |                               |
| 390 pF         | B37940K1391J0** | 0.6 $\pm$ 0.1        | 5000                            | 20000                           |                               |                               |
| 470 pF         | B37940K1471J0** | 0.6 $\pm$ 0.1        | 5000                            | 20000                           |                               |                               |
| 560 pF         | B37940K1561J0** | 0.8 $\pm$ 0.1        | 4000                            | 16000                           |                               |                               |
| 680 pF         | B37940K1681J0** | 0.8 $\pm$ 0.1        | 4000                            | 16000                           |                               |                               |
| 820 pF         | B37940K1821J0** | 1.2 $\pm$ 0.1        |                                 |                                 | 3000                          | 12000                         |
| 1.0 nF         | B37940K1102J0** | 1.2 $\pm$ 0.1        |                                 |                                 | 3000                          | 12000                         |

#### Ordering codes and packing for C0G, 200 VDC, nickel barrier terminations

##### Case size 0805, 200 VDC

| C <sub>R</sub> | Ordering code   | Chip thickness<br>mm | Cardboard tape,<br>Ø180-mm reel | Cardboard tape,<br>Ø330-mm reel |
|----------------|-----------------|----------------------|---------------------------------|---------------------------------|
|                |                 |                      | ** $\triangle$ 60               | ** $\triangle$ 70               |
|                |                 |                      | pcs./reel                       | pcs./reel                       |
| 100 pF         | B37940K2101J0** | 0.6 $\pm$ 0.1        | 5000                            | 20000                           |
| 150 pF         | B37940K2151J0** | 0.8 $\pm$ 0.1        | 4000                            | 16000                           |
| 220 pF         | B37940K2221J0** | 0.8 $\pm$ 0.1        | 4000                            | 16000                           |

# SMD

## Ordering codes and packing for C0G, 50 VDC, nickel barrier terminations

### Case size 1206, 50 VDC

| C <sub>R</sub> | Ordering code   | Chip thickness | Cardboard tape, Ø180-mm reel | Cardboard tape, Ø330-mm reel | Blister tape, Ø180-mm reel | Blister tape, Ø330-mm reel |
|----------------|-----------------|----------------|------------------------------|------------------------------|----------------------------|----------------------------|
|                |                 |                | ** $\triangle$ 60            | ** $\triangle$ 70            | ** $\triangle$ 62          | ** $\triangle$ 72          |
|                |                 | mm             | pcs./reel                    | pcs./reel                    | pcs./reel                  | pcs./reel                  |
| 10 pF          | B37871K5100J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 12 pF          | B37871K5120J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 15 pF          | B37871K5150J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 18 pF          | B37871K5180J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 22 pF          | B37871K5220J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 27 pF          | B37871K5270J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 33 pF          | B37871K5330J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 39 pF          | B37871K5390J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 47 pF          | B37871K5470J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 56 pF          | B37871K5560J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 68 pF          | B37871K5680J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 82 pF          | B37871K5820J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 100 pF         | B37871K5101J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 120 pF         | B37871K5121J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 150 pF         | B37871K5151J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 180 pF         | B37871K5181J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 220 pF         | B37871K5221J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 270 pF         | B37871K5271J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 330 pF         | B37871K5331J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 390 pF         | B37871K5391J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 470 pF         | B37871K5471J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 560 pF         | B37871K5561J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 680 pF         | B37871K5681J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 820 pF         | B37871K5821J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 1.0 nF         | B37871K5102J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 1.2 nF         | B37871K5122J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 1.5 nF         | B37871K5152J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 1.8 nF         | B37871K5182J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 2.2 nF         | B37871K5222J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 2.7 nF         | B37871K5272J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |
| 3.3 nF         | B37871K5332J0** | 0.8 $\pm$ 0.1  | 4000                         | 16000                        |                            |                            |

C0G

## Multilayer ceramic capacitors

C0G

### SMD

#### Ordering codes and packing for C0G, 50 VDC, nickel barrier terminations

##### Case size 1206, 50 VDC

| C <sub>R</sub> | Ordering code   | Chip thickness<br>mm | Cardboard tape, Ø180-mm reel | Cardboard tape, Ø330-mm reel | Blister tape, Ø180-mm reel | Blister tape, Ø330-mm reel |
|----------------|-----------------|----------------------|------------------------------|------------------------------|----------------------------|----------------------------|
|                |                 |                      | ** $\triangle$ 60            | ** $\triangle$ 70            | ** $\triangle$ 62          | ** $\triangle$ 72          |
|                |                 |                      | pcs./reel                    | pcs./reel                    | pcs./reel                  | pcs./reel                  |
| 3.9 nF         | B37871K5392J0** | 0.8 $\pm$ 0.1        | 4000                         | 16000                        |                            |                            |
| 4.7 nF         | B37871K5472J0** | 1.2 $\pm$ 0.1        |                              |                              | 3000                       | 12000                      |
| 5.6 nF         | B37871K5562J0** | 1.2 $\pm$ 0.1        |                              |                              | 3000                       | 12000                      |

#### Ordering codes and packing for C0G, 100 VDC, nickel barrier terminations

##### Case size 1206, 100 VDC

| C <sub>R</sub> | Ordering code   | Chip thickness<br>mm | Cardboard tape, Ø180-mm reel | Cardboard tape, Ø330-mm reel | Blister tape, Ø180-mm reel | Blister tape, Ø330-mm reel |
|----------------|-----------------|----------------------|------------------------------|------------------------------|----------------------------|----------------------------|
|                |                 |                      | ** $\triangle$ 60            | ** $\triangle$ 70            | ** $\triangle$ 62          | ** $\triangle$ 72          |
|                |                 |                      | pcs./reel                    | pcs./reel                    | pcs./reel                  | pcs./reel                  |
| 33 pF          | B37871K1330J0** | 0.8 $\pm$ 0.1        | 4000                         | 16000                        |                            |                            |
| 47 pF          | B37871K1470J0** | 0.8 $\pm$ 0.1        | 4000                         | 16000                        |                            |                            |
| 68 pF          | B37871K1680J0** | 0.8 $\pm$ 0.1        | 4000                         | 16000                        |                            |                            |
| 100 pF         | B37871K1101J0** | 0.8 $\pm$ 0.1        | 4000                         | 16000                        |                            |                            |
| 150 pF         | B37871K1151J0** | 0.8 $\pm$ 0.1        | 4000                         | 16000                        |                            |                            |
| 220 pF         | B37871K1221J0** | 0.8 $\pm$ 0.1        | 4000                         | 16000                        |                            |                            |
| 330 pF         | B37871K1331J0** | 0.8 $\pm$ 0.1        | 4000                         | 16000                        |                            |                            |
| 470 pF         | B37871K1471J0** | 0.8 $\pm$ 0.1        | 4000                         | 16000                        |                            |                            |
| 680 pF         | B37871K1681J0** | 0.8 $\pm$ 0.1        | 4000                         | 16000                        |                            |                            |
| 1.0 nF         | B37871K1102J0** | 0.8 $\pm$ 0.1        | 4000                         | 16000                        |                            |                            |
| 1.5 nF         | B37871K1152J0** | 0.8 $\pm$ 0.1        | 4000                         | 16000                        |                            |                            |
| 2.2 nF         | B37871K1222J0** | 1.2 $\pm$ 0.1        |                              |                              | 3000                       | 12000                      |

| Multilayer ceramic capacitors |     |
|-------------------------------|-----|
|                               | C0G |

### SMD

## Ordering codes and packing for C0G, 50 VDC, nickel barrier terminations

### Case size 1210, 50 VDC

| C <sub>R</sub> | Ordering code   | Chip thickness<br>mm | Blister tape,<br>Ø180-mm reel | Blister tape,<br>Ø330-mm reel |
|----------------|-----------------|----------------------|-------------------------------|-------------------------------|
|                |                 |                      | ** $\triangle$ 62             | ** $\triangle$ 72             |
|                |                 |                      | pcs./reel                     | pcs./reel                     |
| 3.3 nF         | B37949K5332J0** | 0.8 $\pm$ 0.1        | 4000                          | 16000                         |
| 4.7 nF         | B37949K5472J0** | 0.8 $\pm$ 0.1        | 4000                          | 16000                         |
| 6.8 nF         | B37949K5682J0** | 0.8 $\pm$ 0.1        | 4000                          | 16000                         |
| 10 nF          | B37949K5103J0** | 1.2 $\pm$ 0.1        | 3000                          | 12000                         |

C0G

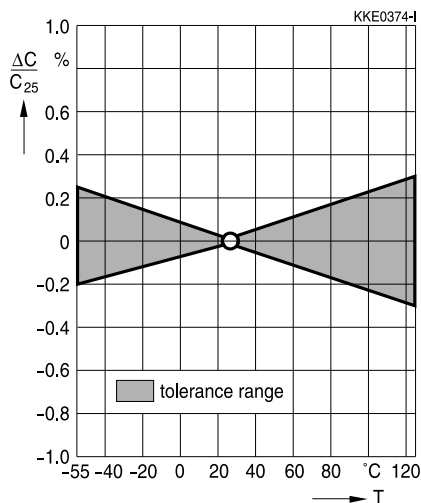
Multilayer ceramic capacitors

C0G

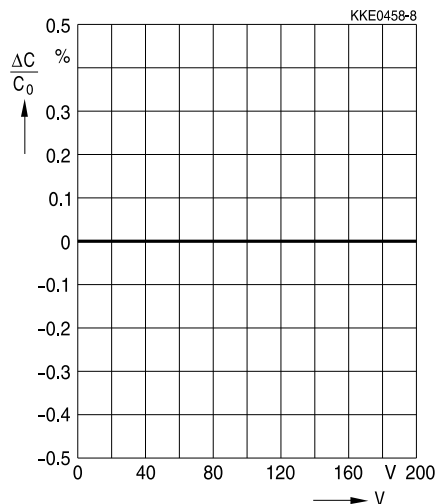
**SMD**

# **Typical characteristics<sup>1)</sup>**

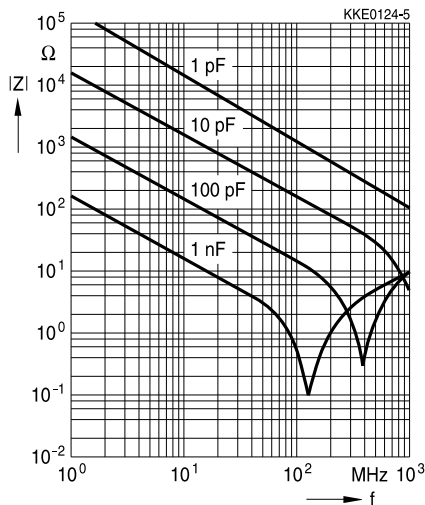
Capacitance change  $\Delta C/C_{25}$  versus temperature T



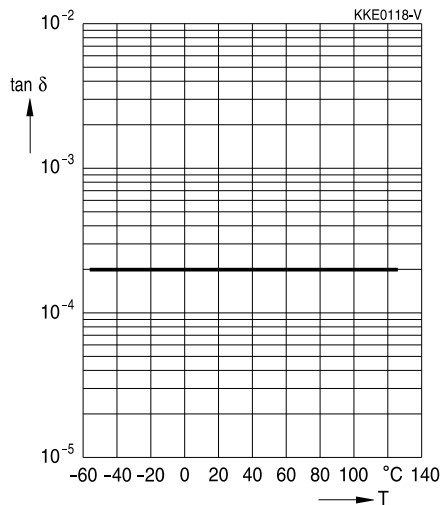
Capacitance change  $\Delta C/C_0$  versus superimposed DC voltage V



Impedance |Z| versus frequency f



Dissipation factor  $\tan \delta$  versus temperature T

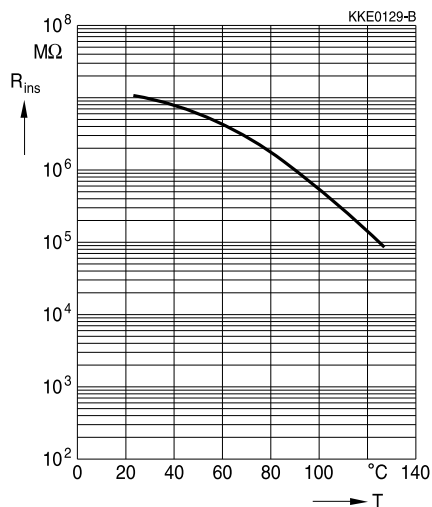


1) For more detailed information on frequency behavior and characteristics see [www.epcos.com/mlcc\\_impedance](http://www.epcos.com/mlcc_impedance).

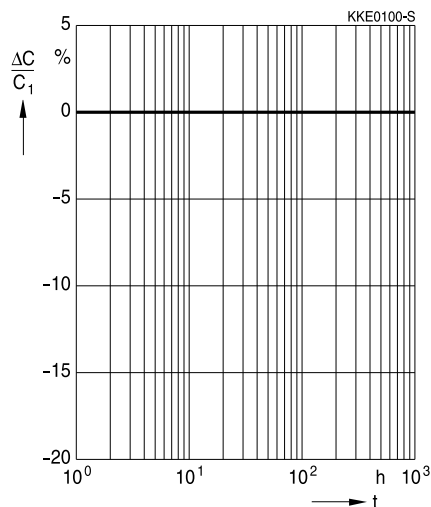
# SMD

## Typical characteristics<sup>1)</sup>

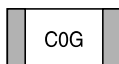
Insulation resistance  $R_{ins}$  versus temperature  $T$



Capacitance change  $\Delta C/C_1$  versus time  $t$



1) For more detailed information on frequency behavior and characteristics see [www.epcos.com/mlcc\\_impedance](http://www.epcos.com/mlcc_impedance).



## **Cautions and warnings**

### **How to select ceramic capacitors**

Remember the following when selecting ceramic capacitors:

1. Ceramic capacitors that must fulfill high quality requirements must be qualified based on AEC-Q200 Rev-C.
2. When ceramic capacitors are used at the connection to a battery or power supply (e.g. clamp 15 or 30 in an automobile) or for safety-relevant applications, two single ceramic capacitors should be connected in series. Alternatively a ceramic capacitor with integrated series circuits should be used in order to reduce the possibility of a short circuit caused by a fracture. The MLSC from EPCOS contains such a series circuit in a single component.
3. The use of multilayer varistors (MLVs) is recommended for ESD protection (see chapter "Effects on mechanical, thermal and electrical stress", section 1.4).
4. Additional stress factors such as continuous operating voltage or application-specific derating must be taken into account in the selection of components (refer to chapter "Reliability").

### **Recommendations for the circuit board design**

1. Components with an optimized geometrical design are preferable where permitted by the application.
2. Use at least FR4 circuit board material.
3. Geometrically optimized circuit boards are preferable, especially those that cannot be deformed.
4. Ceramic capacitors should be placed with a sufficient minimum distance from the edge of a circuit board. High bending forces may be exerted there when boards are separated and during further processing of a board (e.g. when incorporating it in a housing).
5. Ceramic capacitors should always be placed parallel to the possible bending axis of a circuit board.
6. Screw connections should not be used to fix a board or connect several boards. Components should not be placed near screw holes. If screw connections are unavoidable, they should be cushioned, for instance using rubber pads.

### SMD

#### Recommendations for processing

1. Ensure correct positioning of a ceramic capacitor on the solder pad.
2. Be careful when using casting, injection-molded and molding compounds and cleaning agents. They can damage a capacitor.
3. Support a circuit board and reduce placement forces.
4. Do not straighten a board (manually) if it is distorted by soldering.
5. Separate boards with a peripheral saw, or preferably with a milling head (no dicing or breaking).
6. Be careful when subsequently placing heavy or leaded components (e.g. transformers or snap-in components) because of the danger of bending and fracture.
7. When testing, transporting, packing or inserting a board, avoid any deformation of it so that components are not damaged.
8. Avoid excessive force when plugging a connector into a device soldered onto a board.
9. Only mount ceramic capacitors using the soldering process (reflow or wave) that is permissible for them (see chapter "Soldering directions").
10. When soldering, select the softest solder profile possible (heating time, peak temperature, cooling time) to avoid thermal stress and damage.
11. Ensure the correct solder meniscus height and solder quantity.
12. Ensure correct dosing of the cement.
13. Ceramic capacitors with external silver-palladium terminations are intended for conductive adhesion - they are not suited for lead-free soldering processes.

This listing does not claim to be complete, but merely reflects the experience of EPCOS AG.

COG

# Multilayer ceramic capacitors

COG

SMD

## Symbols and terms

| Symbol            | English                                | German                                   |
|-------------------|----------------------------------------|------------------------------------------|
| A                 | Area                                   | Fläche                                   |
| C                 | Capacitance                            | Kapazität                                |
| C <sub>0</sub>    | Initial (original) capacitance         | Anfangskapazität                         |
| C <sub>1</sub>    | Capacitance value after one hour's use | Kapazitätswert nach einer Stunde         |
| C <sub>R</sub>    | Rated capacitance                      | Nennkapazität                            |
| C <sub>20</sub>   | Capacitance at 20 °C                   | Kapazität bei 20 °C                      |
| C <sub>25</sub>   | Capacitance at 25 °C                   | Kapazität bei 25 °C                      |
| ΔC                | Capacitance change                     | Kapazitätsänderung                       |
| D                 | Bending displacement                   | Durchbiegung                             |
| E <sub>a</sub>    | Activation energy                      | Aktivierungsenergie                      |
| ESR               | Equivalent series resistance           | Ersatzserienwiderstand                   |
| F                 | Force                                  | Kraft                                    |
| f                 | Frequency                              | Frequenz                                 |
| f <sub>meas</sub> | Measuring frequency                    | Messfrequenz                             |
| f <sub>res</sub>  | Self-resonant frequency                | Eigenresonanzfrequenz                    |
| I <sub>test</sub> | Test current                           | Prüfstrom                                |
| k                 | Ageing constant                        | Alterungskonstante                       |
| L                 | Inductance                             | Induktivität                             |
| N                 | Quantity (integer values)              | Anzahl (ganzzahliger Wert)               |
| P <sub>loss</sub> | Power dissipation or loss              | Verlustleistung                          |
| Q <sub>el</sub>   | Electrical charge                      | Elektrische Ladung                       |
| Q                 | Quality                                | Güte                                     |
| R <sub>ins</sub>  | Insulation resistance                  | Isolationswiderstand                     |
| R <sub>p</sub>    | Parallel resistance                    | Parallelwiderstand                       |
| R <sub>s</sub>    | Series resistance (circuit resistance) | Serienwiderstand                         |
| S <sub>v</sub>    | Rate of rise of a voltage pulse        | Flankensteilheit eines Spannungsimpulses |
| T                 | Temperature                            | Temperatur                               |
| T <sub>meas</sub> | Measuring temperature                  | Messtemperatur                           |
| T <sub>op</sub>   | Operating temperature                  | Betriebstemperatur                       |
| T <sub>ref</sub>  | Reference temperature                  | Bezugstemperatur                         |
| T <sub>test</sub> | Test temperature                       | Prüftemperatur                           |
| t                 | Time                                   | Zeit                                     |
| t <sub>r</sub>    | Rise time of a voltage pulse           | Anstiegszeit eines Spannungsimpulses     |
| t <sub>test</sub> | Test duration                          | Prüfdauer                                |
| tan δ             | Dissipation factor                     | Verlustfaktor                            |

# SMD

| Symbol            | English                                              | German                                          |
|-------------------|------------------------------------------------------|-------------------------------------------------|
| V                 | Voltage                                              | Spannung                                        |
| V <sub>0</sub>    | Initial (original) voltage (basic voltage level)     | Anfangsspannung<br>(Spannungsgrundpegel)        |
| V <sub>meas</sub> | Measuring voltage                                    | Messspannung                                    |
| V <sub>R</sub>    | Rated voltage                                        | Nennspannung                                    |
| V <sub>S</sub>    | Amplitude of a voltage pulse                         | Hub des Spannungsimpulses                       |
| V <sub>RMS</sub>  | Measuring (root-mean-square or effective) AC voltage | Effektivspannung                                |
| V <sub>test</sub> | Test voltage                                         | Prüfspannung                                    |
| Z                 | Magnitude of impedance (AC resistance)               | Betrag der Impedanz<br>(Wechselstromwiderstand) |
| α                 | Temperature coefficient                              | Temperaturkoeffizient                           |
| ε <sub>0</sub>    | Absolute dielectric constant                         | Absolute Dielektrizitätskonstante               |
| ε <sub>r</sub>    | Relative dielectric constant                         | Relative Dielektrizitätskonstante               |
| λ                 | Failure rate                                         | Ausfallrate                                     |
| τ                 | Time constant                                        | Zeitkonstante                                   |

## Abbreviations / Notes

| Symbol                                                                            | English                                                              | German                                                                     |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------|
|  | Lead spacing (in mm)                                                 | Rastermaß (in mm)                                                          |
| <b>SMD</b>                                                                        | Surface-mounted devices                                              | Oberflächenmontierbares Bauelement                                         |
| *                                                                                 | To be replaced by a number in ordering codes, type designations etc. | Platzhalter für Zahl im Bestellnummern-code oder für die Typenbezeichnung. |
| +                                                                                 | To be replaced by a letter.                                          | Platzhalter für einen Buchstaben.                                          |
|                                                                                   | All dimensions are given in mm.                                      | Alle Maße sind in mm angegeben.                                            |
|                                                                                   | The commas used in numerical values denote decimal points.           | Verwendete Kommas in Zahlenwerten bezeichnen Dezimalpunkte.                |

## Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or lifesaving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet ([www.epcos.com/material](http://www.epcos.com/material)). Should you have any more detailed questions, please contact our sales offices.
5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order. We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available. The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.
6. Unless otherwise agreed in individual contracts, **all orders are subject to the current version of the "General Terms of Delivery for Products and Services in the Electrical Industry" published by the German Electrical and Electronics Industry Association (ZVEI)**.
7. The trade names EPCOS, BAOKE, Alu-X, CeraDiode, CSMP, CSSP, CTVS, DSSP, MiniBlue, MKK, MLSC, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SIMID, SineFormer, SIOV, SIP5D, SIP5K, ThermoFuse, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at [www.epcos.com/trademarks](http://www.epcos.com/trademarks).

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## EPCOS / TDK:

[B37940K5222J062](#) [B37871K5100J60](#) [B37871K5101J60](#) [B37871K5102J60](#) [B37871K5220J60](#) [B37871K5221J60](#)  
[B37871K5222J60](#) [B37871K5330J60](#) [B37871K5331J60](#) [B37871K5332J60](#) [B37871K5470J60](#) [B37871K5471J60](#)  
[B37871K5472J62](#) [B37930K5010C260](#) [B37930K5020C260](#) [B37930K5020C760](#) [B37930K5020C770](#)  
[B37930K5030C960](#) [B37930K5100J60](#) [B37930K5101J60](#) [B37930K5120J60](#) [B37930K5220J60](#) [B37930K5221J60](#)  
[B37930K5330J60](#) [B37930K5331J60](#) [B37930K5470J60](#) [B37930K5471J60](#) [B37940K5030C960](#) [B37940K5040C760](#)  
[B37940K5100J60](#) [B37940K5101J60](#) [B37940K5102J60](#) [B37940K5220J60](#) [B37940K5221J60](#) [B37940K5330J60](#)  
[B37940K5331J60](#) [B37940K5470J60](#) [B37940K5471J60](#) [B37940K5681J60](#) [B37949K5332J62](#) [B37920K5100J060](#)  
[B37920K5120J060](#) [B37920K5180J060](#) [B37920K5220J060](#) [B37920K5330J060](#) [B37920K5470J060](#)  
[B37930K5180J060](#) [B37930K5270J060](#) [B37930K5390J060](#) [B37930K5680J060](#) [B37930K5820J060](#)  
[B37930K5121J060](#) [B37930K5181J060](#) [B37930K5271J060](#) [B37930K5391J060](#) [B37930K5120J070](#)  
[B37930K5150J070](#) [B37930K5220J070](#) [B37930K5270J070](#) [B37930K5470J070](#) [B37930K5101J070](#)  
[B37930K5221J070](#) [B37930K5271J070](#) [B37940K5150J060](#) [B37940K5180J060](#) [B37940K5820J060](#)  
[B37940K5151J060](#) [B37940K5271J060](#) [B37940K5391J060](#) [B37940K5101J070](#) [B37940K5821J060](#)  
[B37940K5821J070](#) [B37940K1680J060](#) [B37940K1221J060](#) [B37871K5150J060](#) [B37871K5681J060](#)  
[B37871K5681J070](#)