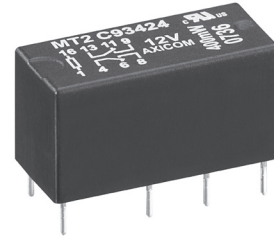


## MT2 Relay

- Telecom/signal relay (dry circuit, test access, ringing)
- Slim line 20x10mm (.795x.393")
- Switching current 2A
- 2 form C contacts (2 CO, 2 changeover contacts)
- Bifurcated contacts
- Meets FCC Part 68 and ITU-T K20

### Typical applications

Communications equipment, linecard application – analog, ISDN, xDSL, PABX, voice over IP, office and business equipment, measurement and control equipment, consumer electronics, set top boxes, HiFi, medical equipment, automotive Equipment

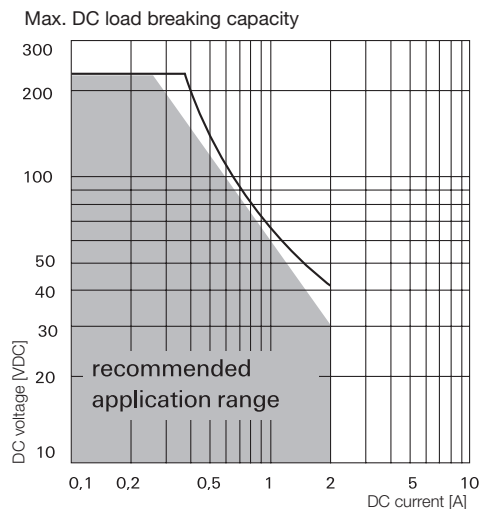


### Approvals

UL 508 File No. E 111441  
Technical data of approved types on request

### Contact Data

|                                           |                                                                                                             |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Contact arrangement                       | 2 form C (2 CO)                                                                                             |
| Max. switching voltage                    | 220VDC, 250VAC                                                                                              |
| Rated current                             | 2A                                                                                                          |
| Limiting continuous current, 85°C         | 2A                                                                                                          |
| Contact material                          | AgNi, gold-covered                                                                                          |
| Contact style                             | bifurcated contacts                                                                                         |
| Min. recommended contact load             | 10mA at 20mV                                                                                                |
| Minimum switching voltage                 | 100µV                                                                                                       |
| Initial contact resistance                | < 70mΩ at 10mA, 20mV                                                                                        |
| Frequency of operation, without load max. | 50 operations/s                                                                                             |
| Operate / release time max.               | 5ms/3ms                                                                                                     |
| Bounce time max.                          | 5ms                                                                                                         |
| Electrical endurance                      |                                                                                                             |
| contact application 0 (≤30mV/≤10mA)       | min. 5x10 <sup>6</sup> operations                                                                           |
| cable load open end                       | min. 2.5x10 <sup>6</sup> operations                                                                         |
| resistive load 150V/0.2A - 30W            | min. 2x10 <sup>5</sup> operations                                                                           |
| 24V/1.25A - 30W                           | min. 2x10 <sup>5</sup> operations                                                                           |
| Contact ratings, UL                       | 220VDC/0.24A - 60W<br>125VDC/0.24A - 30W<br>250VAC/0.25A - 62.5VA<br>125VAC/0.5A - 62.5VA<br>30VDC/2A - 60W |
| Mechanical endurance                      | typ. 100x10 <sup>6</sup> operations                                                                         |



### Coil Data

|                       |            |
|-----------------------|------------|
| Magnetic system       | neutral    |
| Coil voltage range    | 3 to 48VDC |
| Max. coil temperature | 115°C      |
| Thermal resistance    | < 85K/W    |

### Coil versions, monostable

| Coil code                            | Rated voltage VDC | Operate voltage VDC <sub>min.</sub> | Limiting Voltage VDC <sub>max.</sub> | Release voltage VDC <sub>min.</sub> | Coil resistance Ω±10% | Rated coil power mW |
|--------------------------------------|-------------------|-------------------------------------|--------------------------------------|-------------------------------------|-----------------------|---------------------|
| <b>High sensitive version, 150mW</b> |                   |                                     |                                      |                                     |                       |                     |
| 00                                   | 3                 | 2.1                                 | 8.1                                  | 0.3                                 | 60                    | 150                 |
| 07                                   | 3.3               | 2.3                                 | 8.8                                  | 0.33                                | 72                    | 150                 |
| 06                                   | 4.5               | 3.2                                 | 12.2                                 | 0.45                                | 136                   | 150                 |
| 01                                   | 5                 | 3.6                                 | 13.5                                 | 0.5                                 | 168                   | 150                 |
| 27                                   | 6                 | 4.3                                 | 16.2                                 | 0.6                                 | 240                   | 150                 |
| 05                                   | 9                 | 6.4                                 | 24.3                                 | 0.9                                 | 544                   | 150                 |
| 02                                   | 12                | 8.6                                 | 32.4                                 | 1.2                                 | 968                   | 150                 |
| 03                                   | 24                | 17.1                                | 64.8                                 | 2.4                                 | 3872                  | 150                 |
| 04                                   | 48                | 34.1                                | 129.6                                | 4.8                                 | 15468                 | 150                 |

### Sensitive version, 200mW

|    |     |      |      |      |       |     |
|----|-----|------|------|------|-------|-----|
| 14 | 3   | 2    | 7    | 0.3  | 45    | 200 |
| 15 | 4.5 | 2.9  | 10.5 | 0.45 | 101   | 200 |
| 16 | 5   | 3.3  | 11.6 | 0.5  | 125   | 200 |
| 28 | 6   | 3.9  | 14   | 0.6  | 180   | 200 |
| 17 | 9   | 5.9  | 21   | 0.9  | 405   | 200 |
| 18 | 12  | 7.8  | 28   | 1.2  | 720   | 200 |
| 19 | 24  | 15.6 | 59.9 | 2.4  | 2880  | 200 |
| 20 | 48  | 31.2 | 112  | 4.8  | 11520 | 200 |

### Sensitive version, 300mW

|    |     |      |      |      |      |     |
|----|-----|------|------|------|------|-----|
| 33 | 4.5 | 3.1  | 8.9  | 0.45 | 73   | 300 |
| 34 | 5   | 3.4  | 9.9  | 0.5  | 90   | 300 |
| 12 | 12  | 8.25 | 23.6 | 1.2  | 515  | 300 |
| 35 | 24  | 16.5 | 47.3 | 2.4  | 2060 | 300 |
| 36 | 48  | 32.5 | 54.6 | 4.8  | 8240 | 300 |

### Standard version, 400mW

|    |     |      |      |      |      |     |
|----|-----|------|------|------|------|-----|
| 21 | 4.5 | 2.9  | 8.9  | 0.45 | 50   | 400 |
| 22 | 5   | 3.3  | 9.9  | 0.5  | 63   | 400 |
| 29 | 6   | 3.9  | 11.8 | 0.6  | 90   | 400 |
| 23 | 9   | 5.9  | 17.7 | 0.9  | 203  | 400 |
| 24 | 12  | 7.8  | 23.6 | 1.2  | 360  | 400 |
| 25 | 24  | 15.6 | 47.3 | 2.4  | 1440 | 400 |
| 26 | 48  | 31.2 | 94.6 | 4.8  | 5760 | 400 |

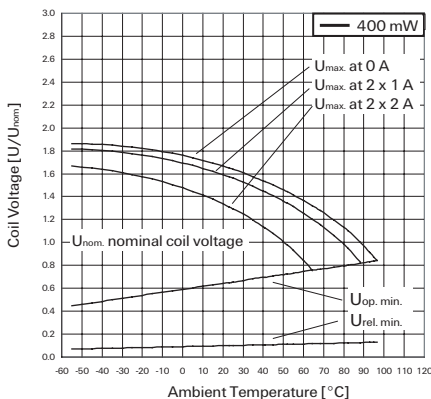
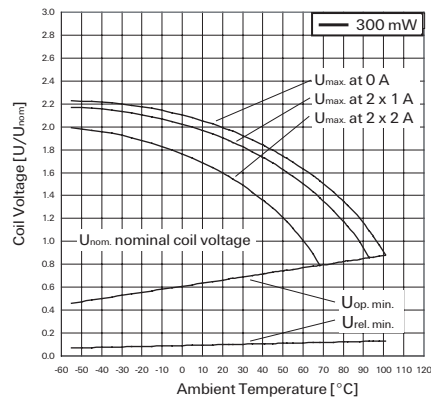
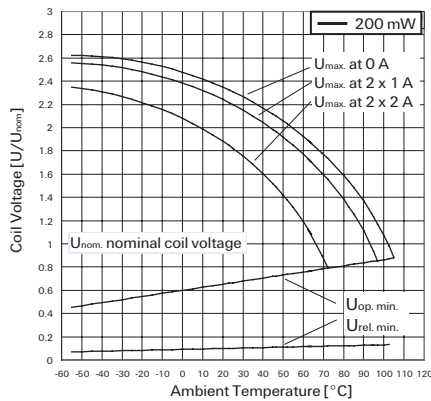
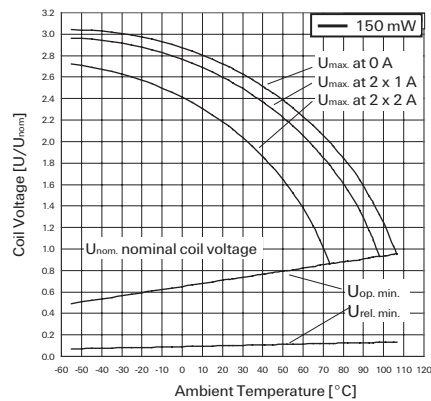
### Standard version, 550mW

|    |     |      |      |      |      |     |
|----|-----|------|------|------|------|-----|
| 38 | 4.5 | 2.9  | 6.3  | 0.45 | 36   | 550 |
| 50 | 5   | 3.3  | 7    | 0.5  | 45   | 550 |
| 37 | 6   | 3.9  | 8.4  | 0.6  | 66   | 550 |
| 32 | 12  | 7.8  | 16.8 | 1.2  | 280  | 550 |
| 31 | 24  | 15.6 | 33.6 | 2.4  | 1050 | 550 |
| 30 | 48  | 31.2 | 67.2 | 4.8  | 4100 | 550 |

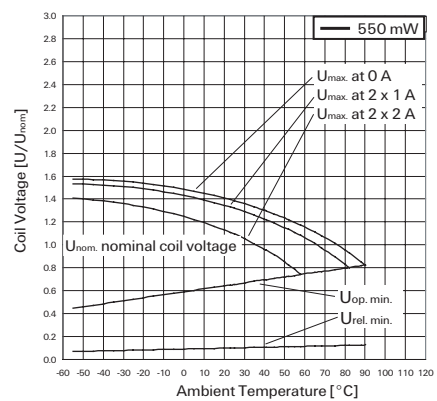
All figures are given for coil without pre-energization, at ambient temperature +23°C.  
Other coil voltages on request.

MT2 Relay (Continued)

Coil Data (continued)



Coil Data (continued)



Coil operative range graphs

- $U_{nom}$  Nominal coil voltage
- $U_{max}$  Upper limit of the operative range of the coil voltage (limiting voltage) when coils are continuously energized
- $U_{op. min.}$  Lower limit of the operative range of the coil voltage (reliable operate voltage)
- $U_{rel. min.}$  Lower limit of the operative range of the coil voltage (reliable release voltage)

Insulation Data

|                                         |                      |
|-----------------------------------------|----------------------|
| Initial dielectric strength             |                      |
| between open contacts                   | 750V <sub>rms</sub>  |
| between contact and coil                | 1050V <sub>rms</sub> |
| between adjacent contacts               | 750V <sub>rms</sub>  |
| Initial surge withstand voltage         |                      |
| between open contacts                   | 1500V                |
| between contact and coil                | 1500V                |
| between adjacent contacts               | 1500V                |
| Initial insulation resistance at 500VDC | > 10 <sup>9</sup> Ω  |
| Capacitance                             |                      |
| between open contacts                   | max. 2pF             |
| between contact and coil                | max. 4pF             |
| between adjacent contacts               | max. 2 pF            |

RF Data

|                                                        |                 |
|--------------------------------------------------------|-----------------|
| Isolation at 100MHz/900MHz                             | -31.8dB/-14.2dB |
| Insertion loss at 100MHz/900MHz                        | -0.02dB/-0.97dB |
| Voltage standing wave ratio (VSWR)<br>at 100MHz/900MHz | 1.03/1.31       |

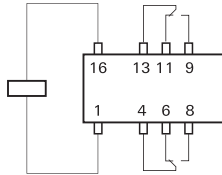
Other Data

|                                                                                                                                                                                                                                         |                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at <a href="http://www.te.com/customer-support/rohssupportcenter">www.te.com/customer-support/rohssupportcenter</a> |                              |
| Ambient temperature                                                                                                                                                                                                                     | -55 to +85°C                 |
| Category of environmental protection                                                                                                                                                                                                    | RT III - immersion cleanable |
| IEC 61810                                                                                                                                                                                                                               | IP 67                        |
| Degree of protection, IEC 60529                                                                                                                                                                                                         | 10g, 10 to 500Hz             |
| Vibration resistance (functional)                                                                                                                                                                                                       |                              |
| Shock resistance (functional)                                                                                                                                                                                                           |                              |
| IEC 60068-2-27 (half sine)                                                                                                                                                                                                              | 10g/30g                      |
| Shock resistance (destructive)                                                                                                                                                                                                          | 500g                         |
| Terminal type                                                                                                                                                                                                                           | PCB-THT                      |
| Weight                                                                                                                                                                                                                                  | max. 5g                      |
| Resistance to soldering heat THT                                                                                                                                                                                                        |                              |
| IEC 60068-2-20                                                                                                                                                                                                                          | 265 °C / 10 s                |
| Ultrasonic cleaning                                                                                                                                                                                                                     | not recommended              |
| Packaging unit                                                                                                                                                                                                                          | 1000 pcs.                    |

## MT2 Relay (Continued)

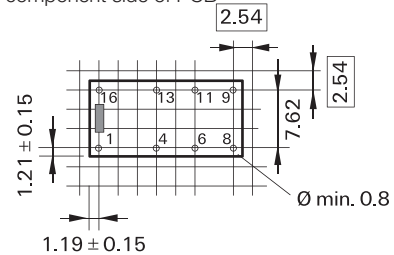
### Terminal assignment

TOP view on component side of PCB



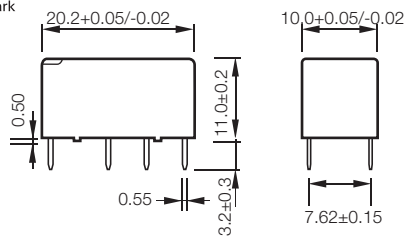
### PCB layout

TOP view on component side of PCB

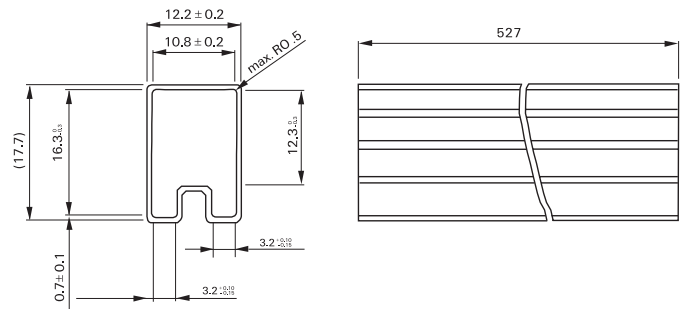


### Dimensions

Orientation mark



### Packing



### Product code structure

Typical product code **C934** **22**

#### Type

**C934** MT2 Series Signal Relay  
2 form C, 2 CO, AgNi +Au contacts

#### Coil

Coil code: please refer to coil versions table

**MT2 Relay** (Continued)

| Product code | Version                               | Coil              | Coil power | Coil voltage | Part number |
|--------------|---------------------------------------|-------------------|------------|--------------|-------------|
| C93400       | 2 form C (2CO)<br>AgNi+Au<br>contacts | High<br>sensitive | 150mW      | 3VDC         | 1-1462001-2 |
| C93407       |                                       |                   |            | 3.3VDC       | 1-1462001-3 |
| C93406       |                                       |                   |            | 4.5VDC       | 2-1462000-2 |
| C93401       |                                       |                   |            | 5VDC         | 1462000-1   |
| C93427       |                                       |                   |            | 6VDC         | 5-1462000-6 |
| C93405       |                                       |                   |            | 9VDC         | 2-1462000-0 |
| C93402       |                                       |                   |            | 12VDC        | 1462000-7   |
| C93403       |                                       |                   |            | 24VDC        | 1-1462000-3 |
| C93404       |                                       |                   |            | 48VDC        | 1-1462000-8 |
| C93414       |                                       | Sensitive         | 200mW      | 3VDC         | 1-1462001-1 |
| C93415       |                                       |                   |            | 4.5VDC       | 3-1462000-0 |
| C93416       |                                       |                   |            | 5VDC         | 3-1462000-1 |
| C93428       |                                       |                   |            | 6VDC         | 5-1462000-7 |
| C93417       |                                       |                   |            | 9VDC         | 3-1462000-6 |
| C93418       |                                       |                   |            | 12VDC        | 3-1462000-7 |
| C93419       |                                       |                   |            | 24VDC        | 4-1462000-1 |
| C93420       |                                       |                   |            | 48VDC        | 4-1462000-5 |
| C93433       |                                       | Sensitive         | 300mW      | 4.5VDC       | 6-1462000-6 |
| C93434       |                                       |                   |            | 5VDC         | 6-1462000-8 |
| C93412       |                                       |                   |            | 12VDC        | 2-1462000-6 |
| C93435       |                                       |                   |            | 24VDC        | 7-1462000-0 |
| C93436       |                                       |                   |            | 48VDC        | 7-1462000-2 |
| C93421       |                                       | Standard          | 400mW      | 4.5VDC       | 4-1462000-7 |
| C93422       |                                       |                   |            | 5VDC         | 4-1462000-8 |
| C93423       |                                       |                   |            | 9VDC         | 5-1462000-0 |
| C93424       |                                       |                   |            | 12VDC        | 5-1462000-1 |
| C93425       |                                       |                   |            | 24VDC        | 5-1462000-3 |
| C93426       |                                       |                   |            | 48VDC        | 5-1462000-5 |
| C93438       |                                       | Standard          | 550mW      | 4.5VDC       | 7-1462000-7 |
| C93450       |                                       |                   |            | 5VDC         | 8-1462000-5 |
| C93437       |                                       |                   |            | 6VDC         | 7-1462000-6 |
| C93432       |                                       |                   |            | 12VDC        | 6-1462000-2 |
| C93431       |                                       |                   |            | 24VDC        | 6-1462000-1 |
| C93430       |                                       |                   |            | 48VDC        | 5-1462000-9 |