



Metal Oxide Varistors

Strap Type

Series/Type: SIOV-LS42K250QP..K460QP
Ordering code: B72242L0***K100
Date: 2006-10-16
Version: b

Identification/Classification 1: (header 1 + top left header bar)
Identification/Classification 2: (header 2 + bottom left header bar)
Ordering code: (top right header bar)
Series/Type: (top right header bar)
Preliminary data (optional): (if necessary)

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B72242L0***K100
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Department:

KB PD

Date:

2006-10-16

Prepared by :

Carson Li

Release signed PD:

Release signed QS:

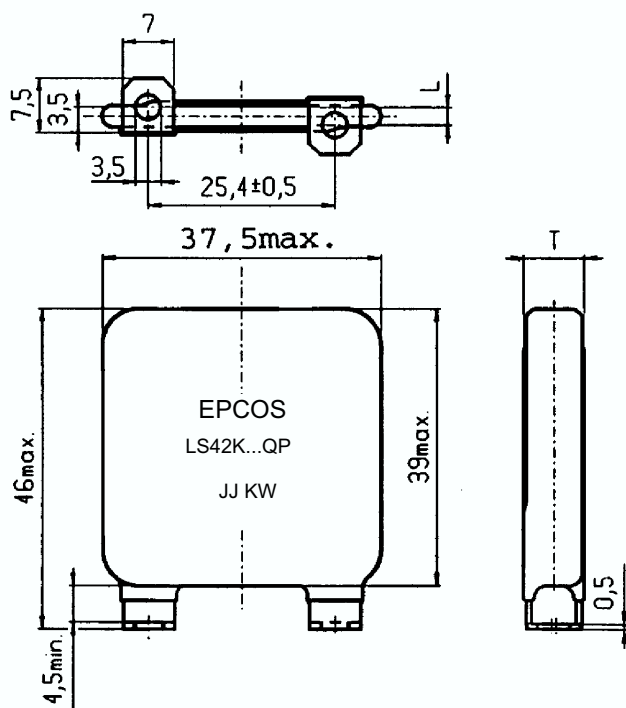
Modifications / Remarks:

Add data for IEC61613-331

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SIOV nomenclature:

LS	= Strap terminals for screw fixing or soldering
42	= rated diameter 40mm with improved electrical performance
K	= $\pm 10\%$ tolerance of varistor voltage at 1mA
250...460	= max. AC voltage
Q	= Square disk
P	= Epoxy coating

Figure: (Dimensions in mm), tolerances ISO 2768-m


Type	$L \pm 1,0$	T_{max}
LS42K250QP	-2,2	9,2
LS42K275QP	-2,0	9,4
LS42K320QP	-1,5	9,9
LS42K385QP	-0,8	10,6
LS42K420QP	-0,5	10,9
LS42K440QP	-0,4	11,1
LS42K460QP	-0,2	11,4

Electrical Data:

Maximum ratings (TA = 85 °C):

Type	max. operating voltages		Surge current acc. to IEC61643-1, class II		max. energy absorption (2ms)	average power dissipation
	RMS-voltage [V]	DC-voltage [V]	I _{max} (8/20) [A]	I _n (8/20) [A]		
SIOV-	[V]	[V]	[A]	[A]	[J]	[W]
LS42K250QP	250	320	65000	20000	490	1,4
LS42K275QP	275	350	65000	20000	550	1,4
LS42K320QP	320	420	65000	20000	640	1,4
LS42K385QP	385	505	65000	20000	800	1,4
LS42K420QP	420	560	65000	20000	910	1,4
LS42K440QP	440	585	65000	20000	950	1,4
LS42K460QP	460	615	65000	20000	960	1,4

Characteristics (TA = 25 °C):

Type	Varistor-Voltage at 1mA ± 10%	max. clamping voltage at 300A	typical capacitance (1kHz)	Ordering code
SIOV-	[V]	[V]	[pF]	
LS42K250QP	390	650	2900	B72242L0251K100
LS42K275QP	430	710	2700	B72242L0271K100
LS42K320QP	510	840	2300	B72242L0321K100
LS42K385QP	620	1025	1900	B72242L0381K100
LS42K420QP	680	1120	1800	B72242L0421K100
LS42K440QP	715	1180	1700	B72242L0441K100
LS42K460QP	750	1240	1600	B72242L0461K100

Rating in accordance to IEC 61643-331: 2003

Components for low-voltage surge protective devices-part 331 : Specification for metal oxide varistors

Rating (85°C)

Type	Max. continuous a.c. voltages $V_{M(AC)}$	Max. continuous d.c. voltages $V_{M(DC)}$	Single-pulse max. energy (2ms) W_{TM}	Single-pulse peak current(8/20) I_{TM}
SIOV-	[V]	[V]	[J]	[A]
LS42K250QP	227	291	490	65000
LS42K275QP	250	318	550	65000
LS42K320QP	291	382	640	65000
LS42K385QP	350	459	800	65000
LS42K420QP	382	509	910	65000
LS42K440QP	400	532	950	65000
LS42K460QP	418	559	960	65000

Characteristics (25°C)

Type	Nominal varistor voltage at $I_n=1\text{mA}$ duration of $I_n=0.2\text{-}2\text{s}$ V_N	Clamping voltage at 300A(8/20) V_C	Standby current at $V_{M(DC)}$ I_D	Typical capacitance at 1 kHz, 1 V_{eff} C_V
SIOV-	[V]	[V]	[μA]	[pF]
LS42K250QP	390	650	50	2900
LS42K275QP	430	710	50	2700
LS42K320QP	510	840	50	2300
LS42K385QP	620	1025	50	1900
LS42K420QP	680	1120	50	1800
LS42K440QP	715	1180	50	1700
LS42K460QP	750	1240	50	1600

Ratings in accordance to IEC 61643-331: 2003 ; Annex A

Type	Surge current class II	
	Max. discharge current (8/20) I_{\max}	Nominal discharge current (8/20 μ s) I_n
SIOV-	[A]	[A]
LS42K250QP	65000	20000
LS42K275QP	65000	20000
LS42K320QP	65000	20000
LS42K385QP	65000	20000
LS42K420QP	65000	20000
LS42K440QP	65000	20000
LS42K460QP	65000	20000

Service conditions :

Operating and storage temperature range:

- extended range:

- 40 °C to + 85 °C

Altitude or atmospheric pressure range:

86 kPa to 106 kPa

Humidity:

< 93% at 25°C

Mechanical shock and vibration:

IEC 60068-2-6, test Fc

T= 3X 2h

f = 10 – 55 Hz

h = 0.75 mm or a = 98 m/s²

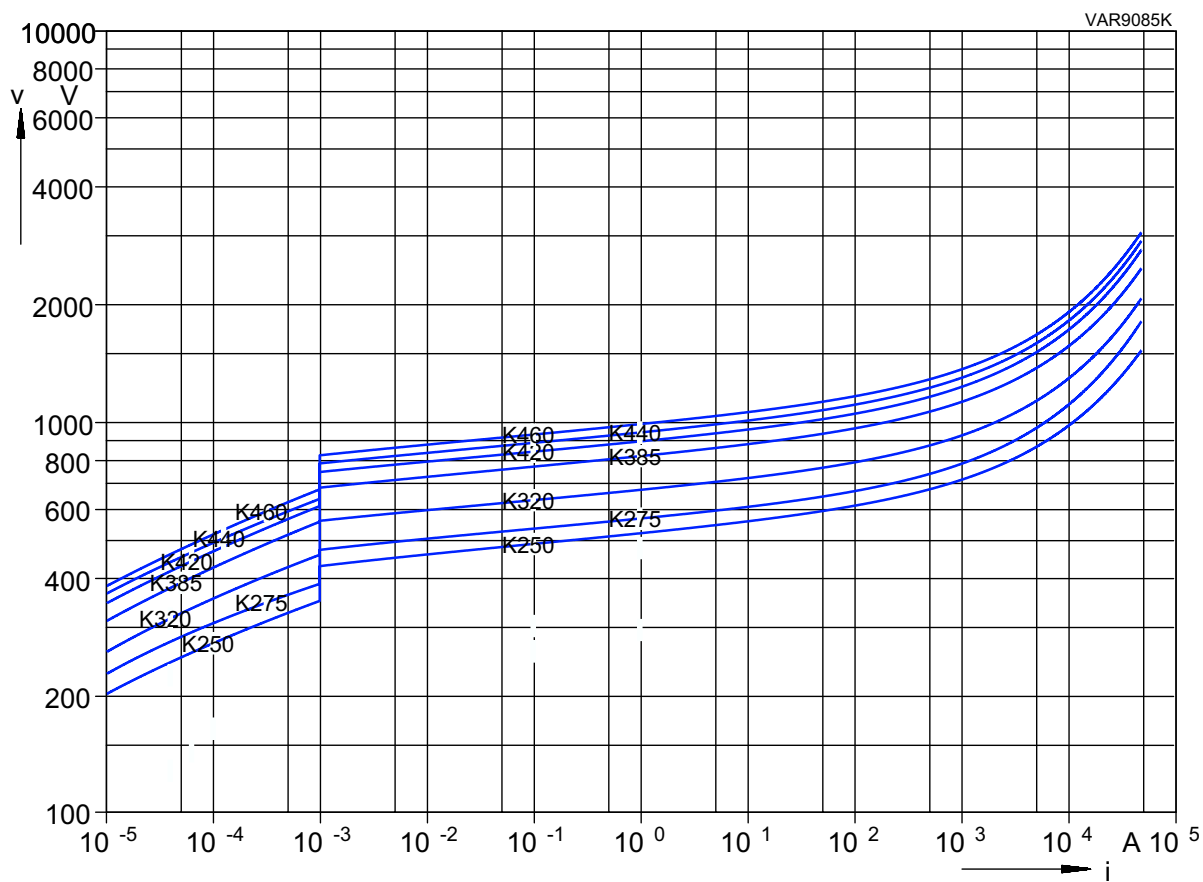
solvent resistance:

IEC 60068-2-45, Test XA(method 2)

solderability:

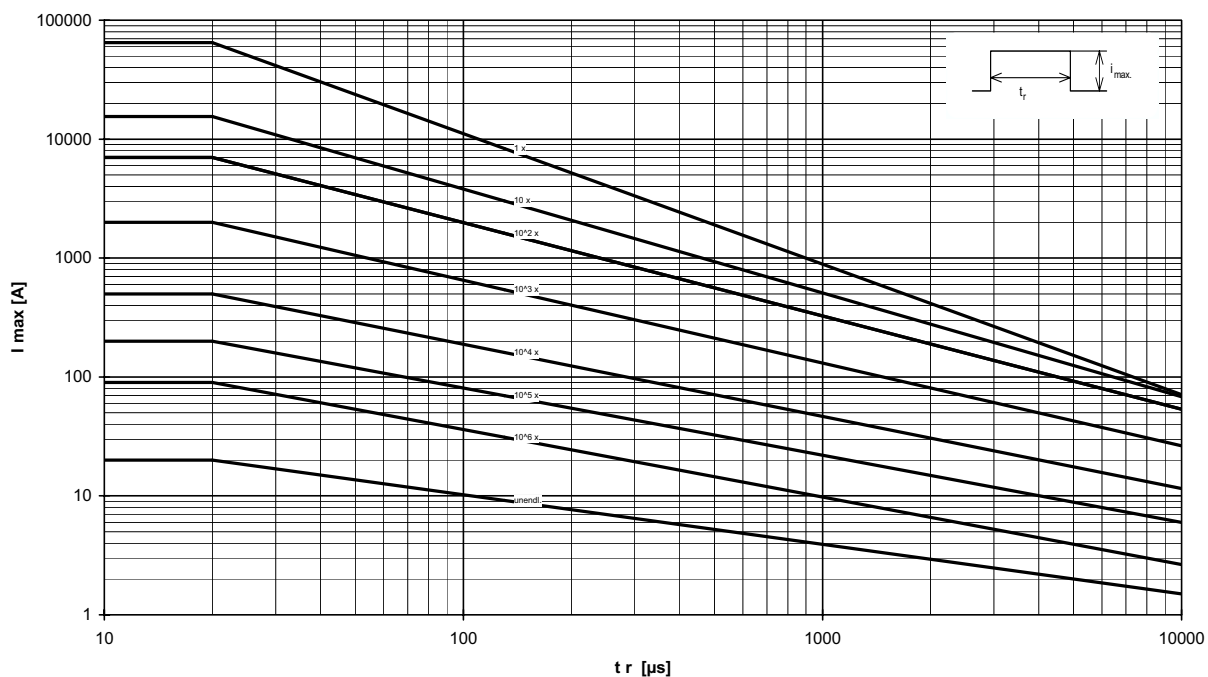
Acc. to IEC60068-2-20

V/I characteristic:



Derating Curves:

LS42K250...460QP:



Note: More details can be found in the data book 'SIOV Metal Oxide Varistors', Ordering No. EPC: 62003-7600

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