



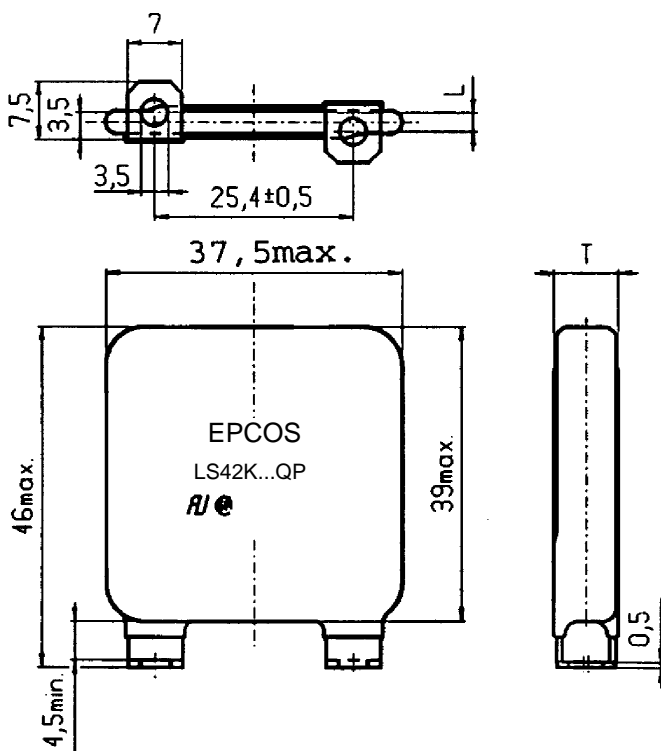
Metal oxide varistors

Strap type

Series/Type: SIOV- LS42K250 ... 460QP
Ordering code: B72242L0***K100
Date: 2007-04-05
Version: c

SIOV nomenclature

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

Dimensional drawing in mm


Type	L ± 1.0	T _{max}
LS42K250QP	-2.6	9.2
LS42K275QP	-2.4	9.4
LS42K320QP	-1.9	9.9
LS42K385QP	-1.3	10.6
LS42K420QP	-1.0	10.9
LS42K440QP	-0.9	11.1
LS42K460QP	-0.9	11.4

Electrical data

Maximum ratings (85 °C)

Type	Max. operating voltage		Surge current to IEC 61643-1		Max. energy absorption (2 ms) W_{max}	Average power dissipation P_{max}
	V_{RMS}	V_{DC}	I_{max}	I_n		
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 (25 °C)

Type	Varistor-voltage $V_V \pm 10\%$ (1 mA)	Max. clamping voltage V (300 A)	Typical capacitance C_{typ} (1 kHz)	Ordering code
SIOV-	[V]	[V]	[pF]	
LS42K250QP	390	650	3350	B72242L0251K100
LS42K275QP	430	710	3050	B72242L0271K100
LS42K320QP	510	840	2550	B72242L0321K100
LS42K385QP	620	1025	2100	B72242L0381K100
LS42K420QP	680	1120	1900	B72242L0421K100
LS42K440QP	715	1180	1850	B72242L0441K100
LS42K460QP	750	1240	1800	B72242L0461K100

Ratings to IEC 61643-331: 2003

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

Maximum ratings (85 °C)

Type	Max. continuous a. c. voltages $V_{M(AC)}$ [V]	Max. continuous d. c. voltages $V_{M(DC)}$ [V]	Single-pulse max. energy (2 ms) W_{TM} [J]	Single-pulse peak current (8/20 μ s) I_{TM} [A]
SIOV-				
LS42K250QP	225	290	490	65000
LS42K275QP	250	318	550	65000
LS42K320QP	290	381	640	65000
LS42K385QP	346	455	800	65000
LS42K420QP	380	505	910	65000
LS42K440QP	396	528	950	65000
LS42K460QP	415	555	960	65000

Characteristics (25 °C)

Type	Nominal varistor voltage at $I_N = 1$ mA duration of $I_N = 0.2 \dots 2$ s $V_N \pm 10\%$ [V]	Clamping voltage at $I_P = 300$ A (8/20 μ s) V_C [V]	Standby current at $V_{M(DC)}$ I_D [μ A]	Typical capacitance at 1 kHz, 1 V_{RMS} C_V [pF]
SIOV-				
LS42K250QP	390	650	800	3350
LS42K275QP	430	710	800	3050
LS42K320QP	510	840	800	2550
LS42K385QP	620	1025	800	2100
LS42K420QP	680	1120	800	1900
LS42K440QP	715	1180	800	1850
LS42K460QP	750	1240	800	1800

Ratings to IEC 61643-331: 2003; Annex A

Type	Surge current class II	
	Max. discharge current (8/20 μ s) I_{max}	Nominal discharge current (8/20 μ s) I_N
	[A]	[A]
SIOV- 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

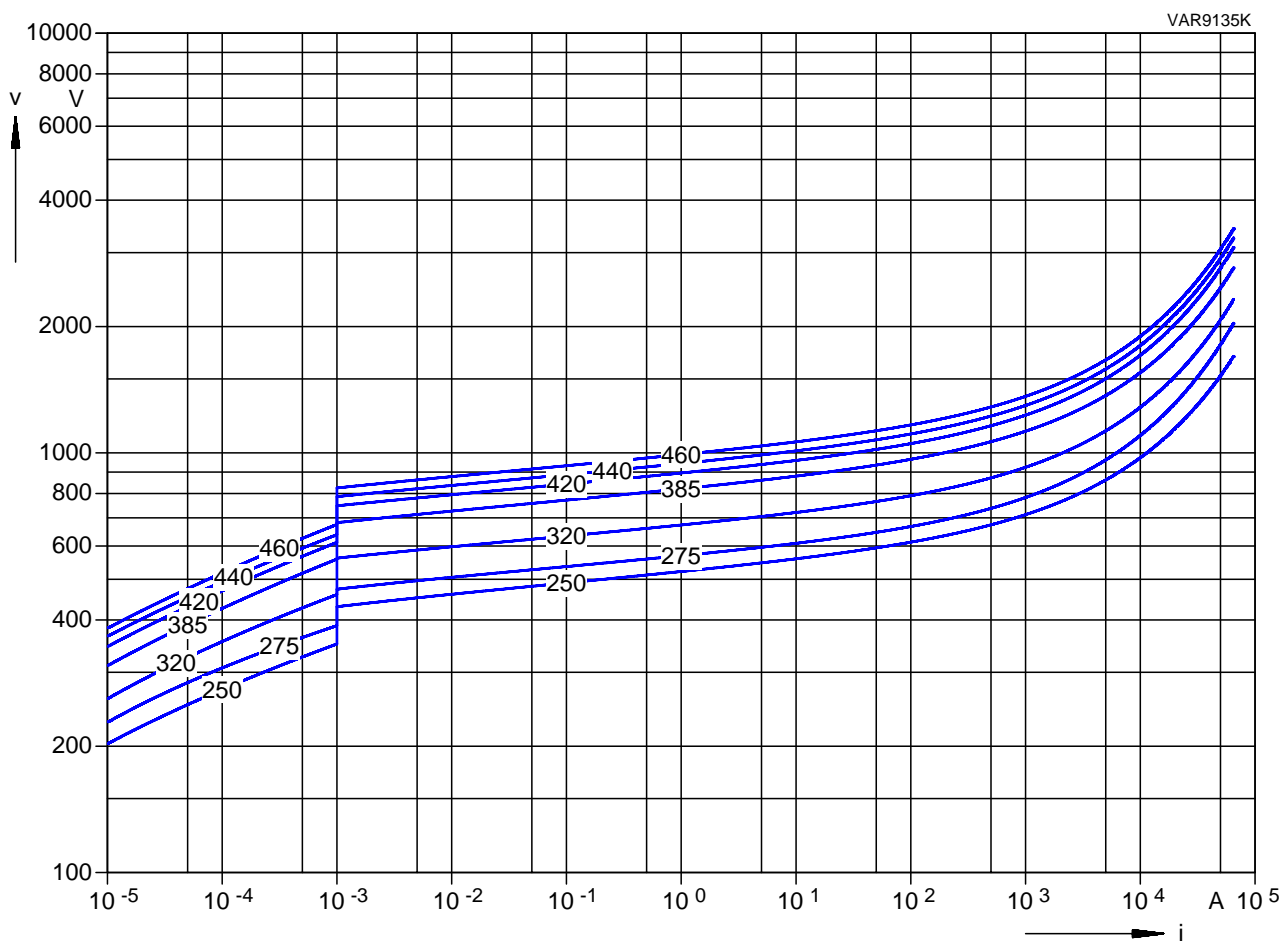
T = 3 · 2 h

f = 10 ... 55 Hz

h = 0.75 mm or a = 98 m/s²

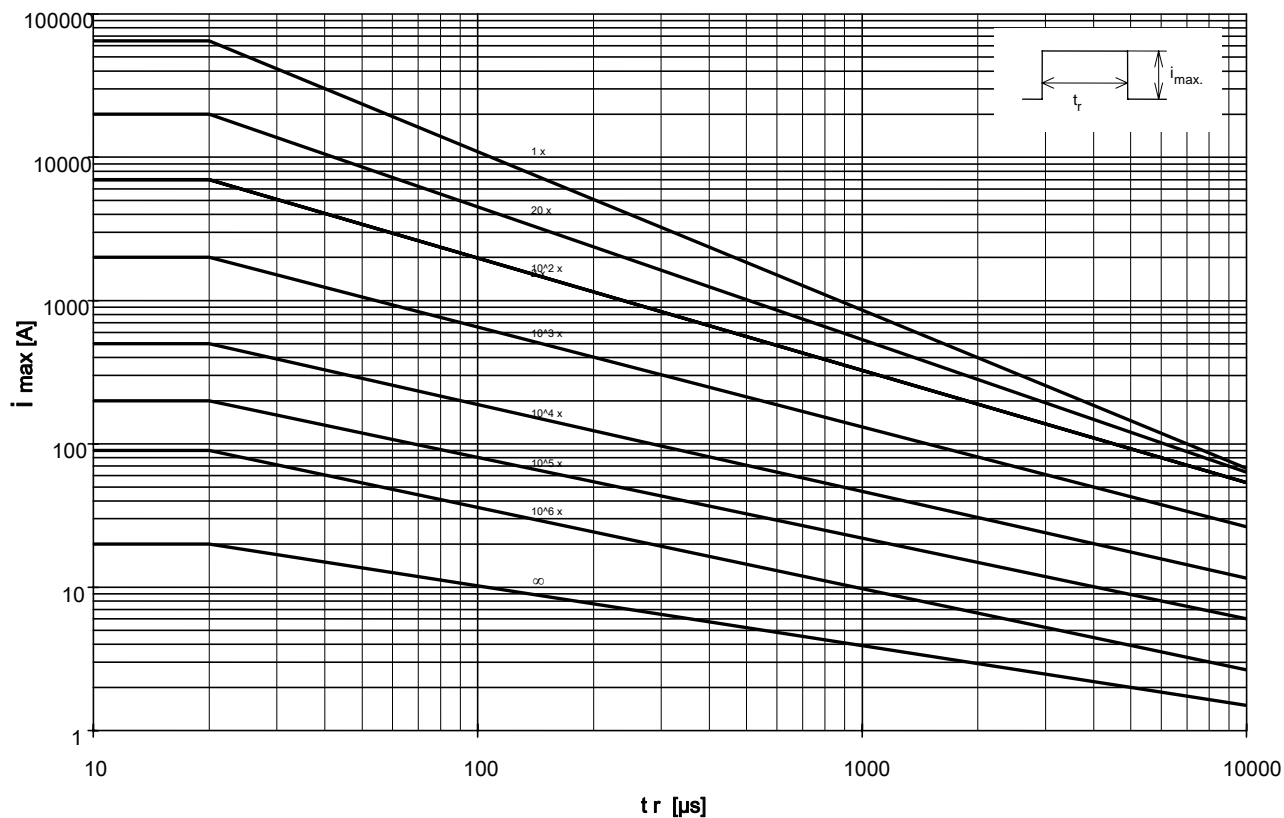
Solvent resistance: IEC 60068-2-45, Test X A (method 2)

v/i characteristic



Derating curve

LS42K250 ... 460QP



Note: For more details refer to the data book 'SIOV Metal Oxide Varistors'.
Ordering No. EPC: 62003-7600

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