



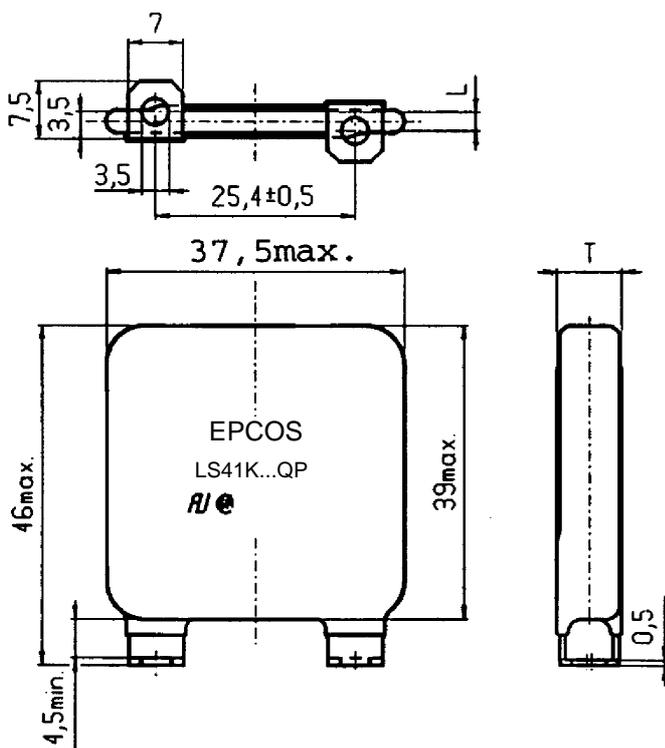
Metal oxide varistors

Strap type

Series/Type: SIOV- LS41K130 ... 460QP
Ordering code: B72241L0***K100
Date: 2007-04-13
Version: f

SIOV nomenclature

- LS = Strap terminals for screw fixing or soldering
- 41 = Rated diameter 40 mm with improved electrical performance
- K = $\pm 10\%$ tolerance of varistor voltage at 1 mA
- 130 ... 460 = Max. AC voltage
- Q = Square disk
- P = Epoxy coating

Dimensional drawing in mm


Type	L ± 1.0	T _{max}
LS41K130QP	-3.5	8.1
LS41K140QP	-3.3	8.2
LS41K150QP	-3.2	8.3
LS41K230QP	-2.0	9.0
LS41K250QP	-1.8	9.2
LS41K275QP	-1.6	9.4
LS41K320QP	-1.1	9.9
LS41K385QP	-0.4	10.6
LS41K420QP	0.0	10.9
LS41K440QP	0.2	11.1
LS41K460QP	0.4	11.4

Electrical data

Maximum ratings (85 °C)

Type	Max. operating voltage		Max. surge current (8/20 μ s) i_{max}	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]	[kA]	[kA]	[kA]	[J]	[W]
LS41K130QP	130	170	50	45	20	310	1.4
LS41K140QP	140	180	50	45	20	340	1.4
LS41K150QP	150	200	50	45	20	360	1.4
LS41K230QP	230	300	50	45	20	460	1.4
LS41K250QP	250	320	50	45	20	490	1.4
LS41K275QP	275	350	50	45	20	550	1.4
LS41K320QP	320	420	50	45	20	640	1.4
LS41K385QP	385	505	50	45	20	800	1.4
LS41K420QP	420	560	50	45	20	910	1.4
LS41K440QP	440	585	50	45	20	950	1.4
LS41K460QP	460	615	50	45	20	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]	
LS41K130QP	205	340	6950	B72241L0131K100
LS41K140QP	220	365	6350	B72241L0141K100
LS41K150QP	240	395	5750	B72241L0151K100
LS41K230QP	360	595	3750	B72241L0231K100
LS41K250QP	390	650	3350	B72241L0251K100
LS41K275QP	430	710	3100	B72241L0271K100
LS41K320QP	510	840	2600	B72241L0321K100
LS41K385QP	620	1025	2150	B72241L0381K100
LS41K420QP	680	1120	2000	B72241L0421K100
LS41K440QP	715	1180	1850	B72241L0441K100
LS41K460QP	750	1240	1750	B72241L0461K100

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-				
LS41K130QP	118	154	310	50000
LS41K140QP	126	165	340	50000
LS41K150QP	136	181	360	50000
LS41K230QP	209	272	460	50000
LS41K250QP	225	290	490	50000
LS41K275QP	250	318	550	50000
LS41K320QP	290	381	640	50000
LS41K385QP	346	455	800	50000
LS41K420QP	380	505	910	50000
LS41K440QP	396	528	950	50000
LS41K460QP	415	555	960	50000

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-				
LS41K130QP	205	340	600	6950
LS41K140QP	220	365	600	6350
LS41K150QP	240	395	600	5750
LS41K230QP	360	595	600	3750
LS41K250QP	390	650	600	3350
LS41K275QP	430	710	600	3100
LS41K320QP	510	840	600	2600
LS41K385QP	620	1025	600	2150
LS41K420QP	680	1120	600	2000
LS41K440QP	715	1180	600	1850
LS41K460QP	750	1240	600	1750

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- LS41K130QP	45000	20000
LS41K140QP	45000	20000
LS41K150QP	45000	20000
LS41K230QP	45000	20000
LS41K250QP	45000	20000
LS41K275QP	45000	20000
LS41K320QP	45000	20000
LS41K385QP	45000	20000
LS41K420QP	45000	20000
LS41K440QP	45000	20000
LS41K460QP	45000	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

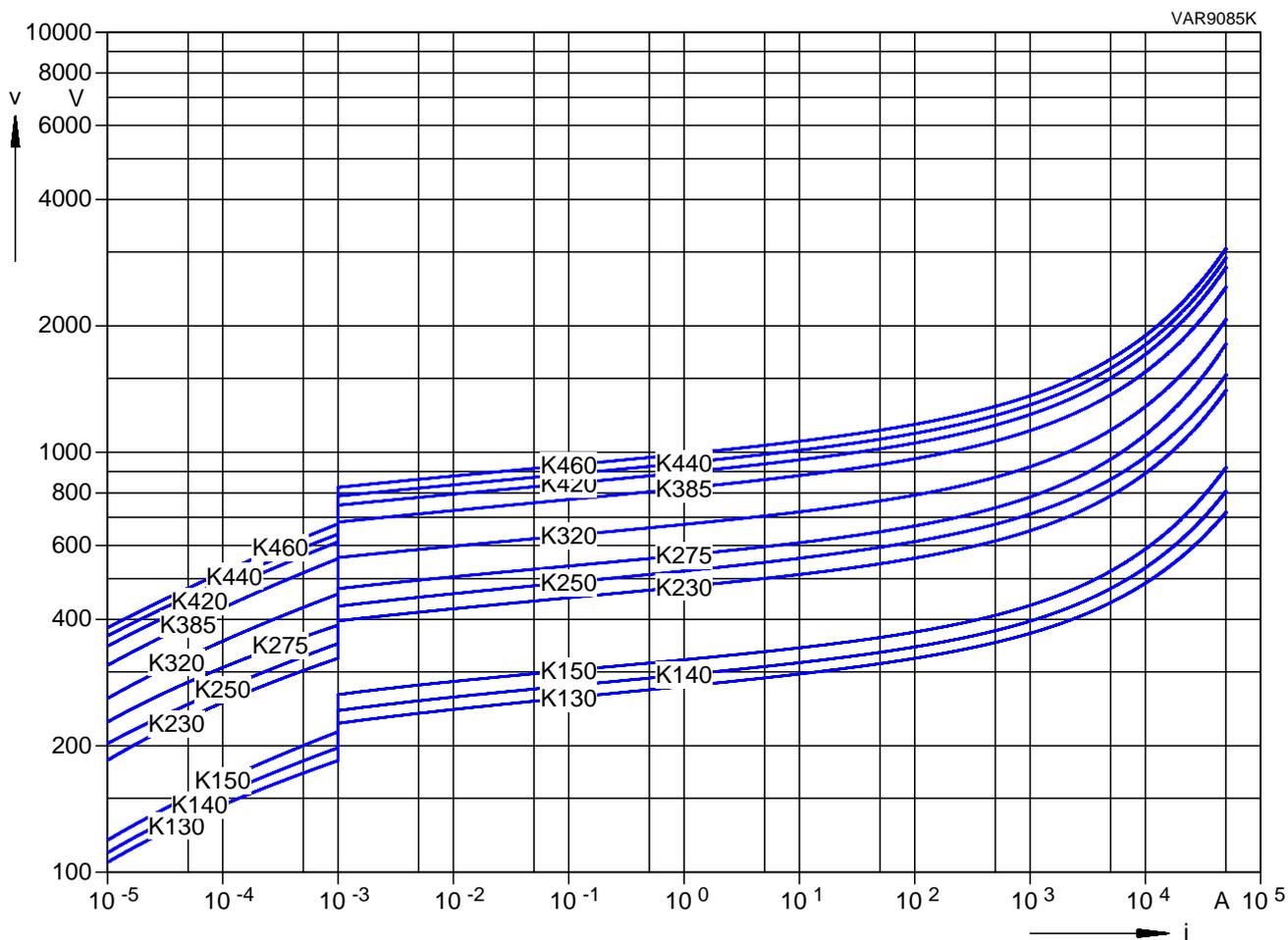
f = 10 ... 55 Hz

h = 0.75 mm or a = 98 m/s²

Solvent resistance:

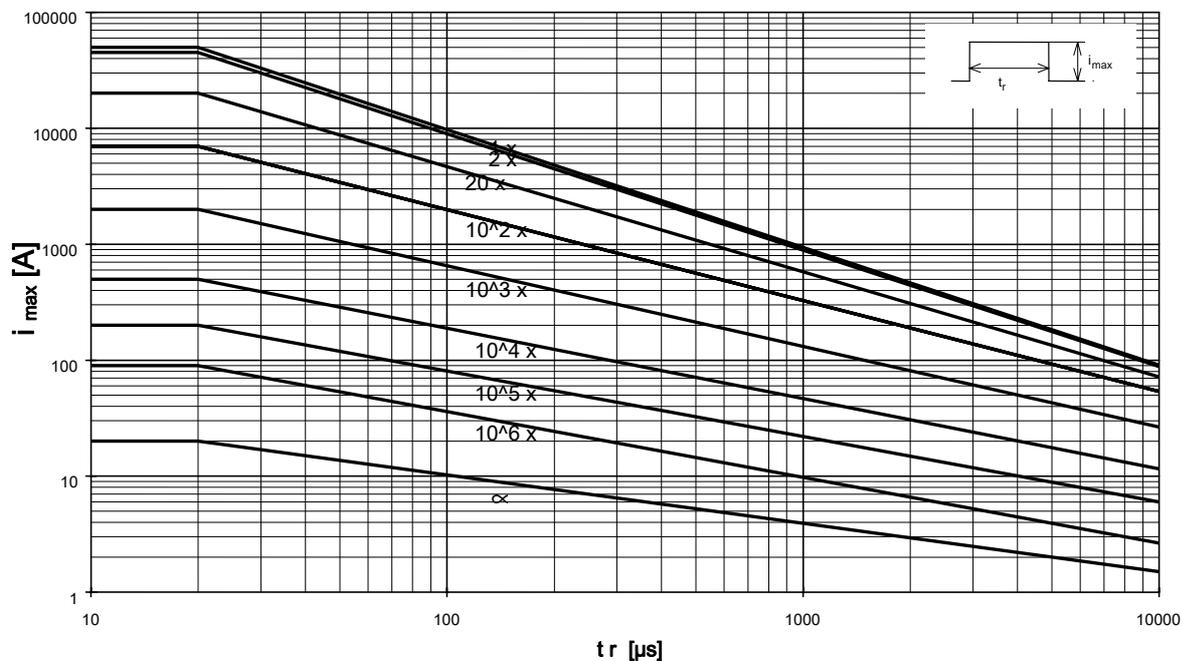
IEC 60068-2-45, Test X A (method 2)

v/i characteristic

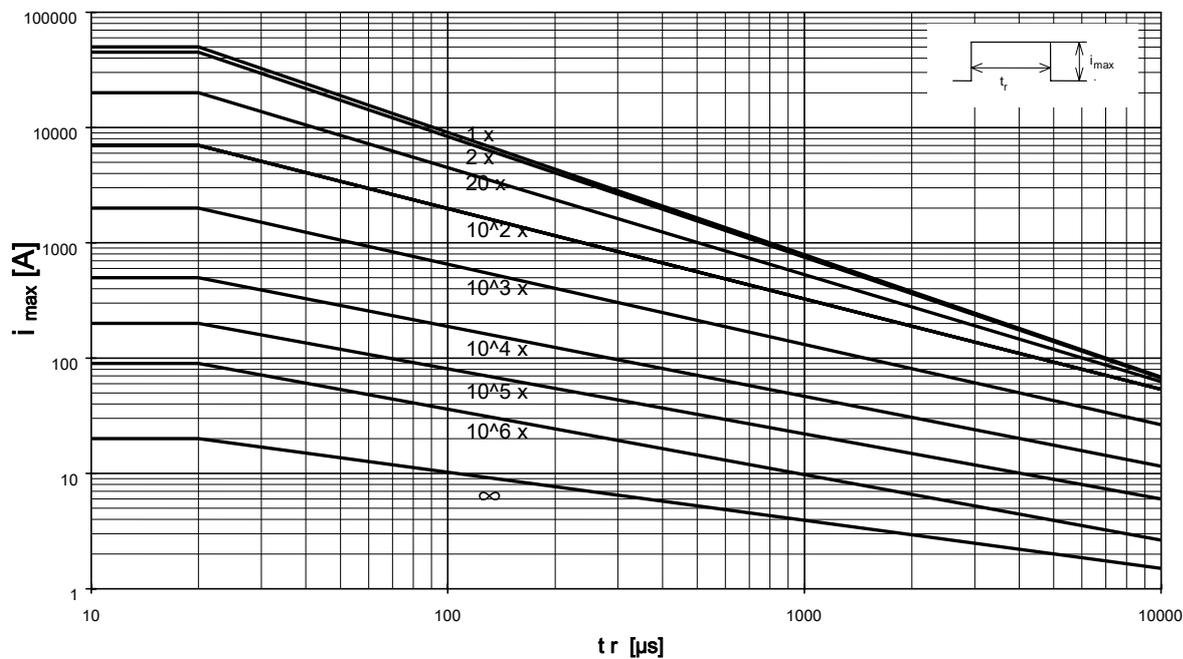


Derating curves

LS41K130 ... 150QP



LS41K230 ... 460QP



Note: For more details refer to the data book 'SIOV Metal Oxide Varistors'.

Ordering No. EPC: 62003-7600

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