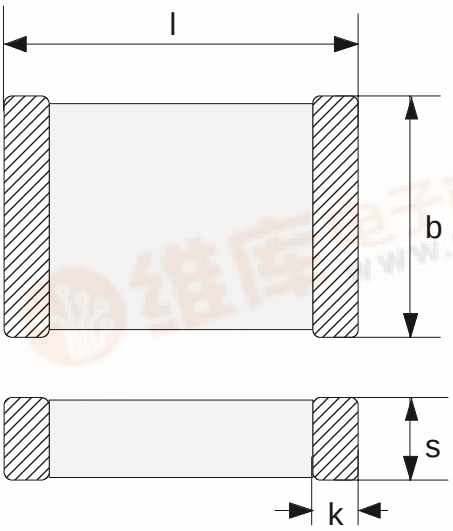
EPCOS

Designation system:

CN = **C**hip **N**ot molded
2220 = Dimensions of the device **22**x**20** (length x width in 1/100 inch)
S...B = **S**pecial tolerance **B** of the varistor voltage
14 = Max. RMS operating voltage
AUTO = Suited for **AUTO**motive application
G = Taped version, blister tape, 7" reel (1500 pcs/reel)

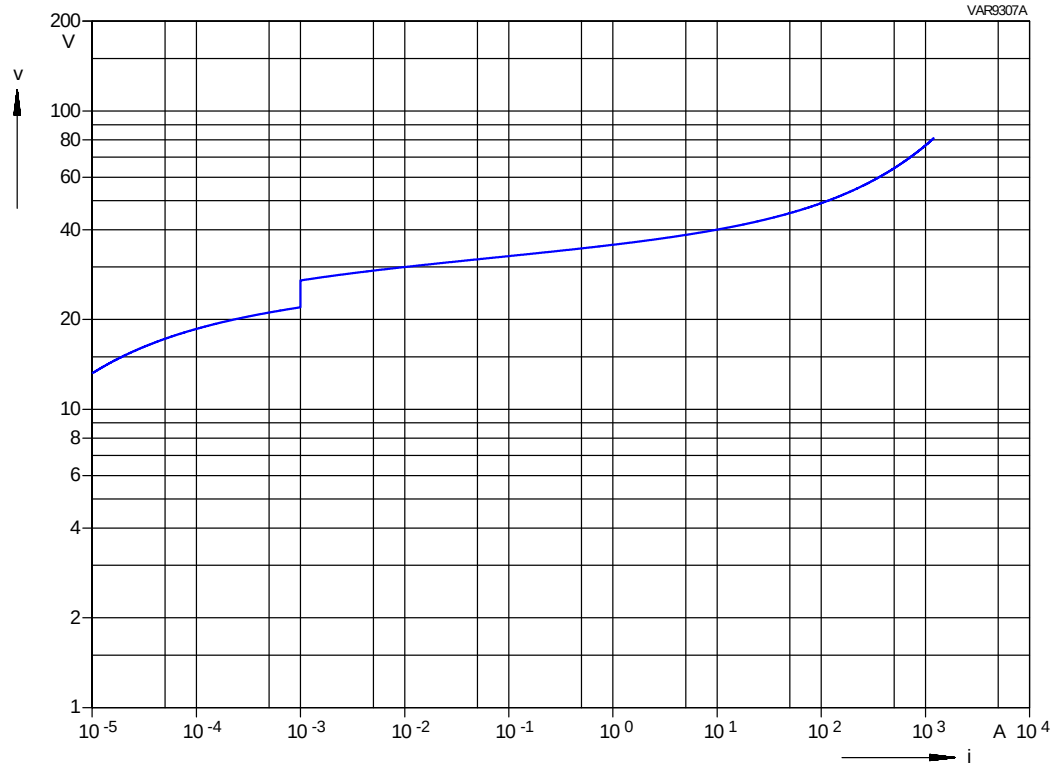
Part Dimensions:

(All dimensions in mm)

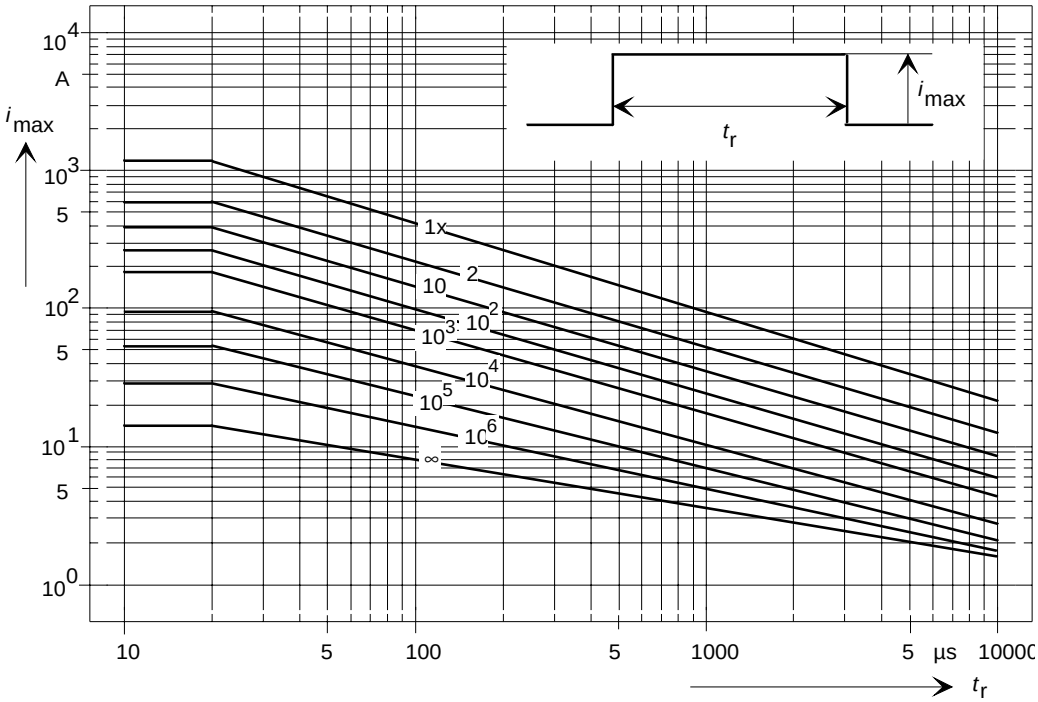


l = 5,7 ± 0,4
b = 5,0 ± 0,4
s = 1,3 max.
k = 0,25 - 1,0

V-I-Characteristic



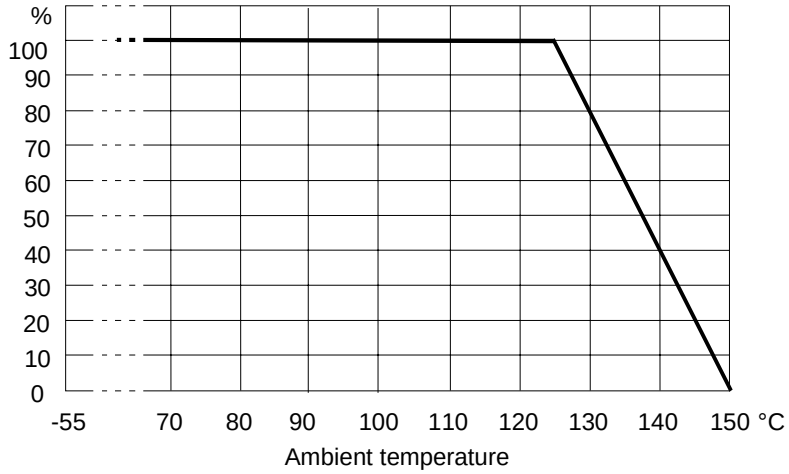
Derating Field



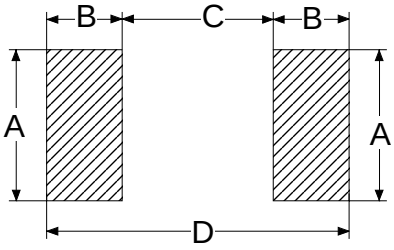
Electrical Data

Max. operating voltage	
RMS voltage	V_{eff} = 14 V
DC voltage	V_{DC} = 16 V
Varistor voltage (@ 1 mA)	Vv = 22 - 27 V
Max. clamping voltage (@ 10 A)	V_C = 40 V
Max. average power dissipation	P_{max} = 30 mW
Max. surge current (8/20 µs)	$\hat{I}_{max}$ = 1 x 1200 A
Max. energy absorption (2 ms)	E_{max} = 1 x 5.8 J
Load Dump	E_{max} = 10 x 12 J
Jump Start	24.5 V, 5 min.
Capacitance (@ 1kHz, 1 V), typically	9.5 nF
Response time	< 0.5 ns
Operating temperature	-55 ... +125 °C
Storage temperature (mounted parts)	-55 ... +150 °C
Termination material	Ag/Pd

Max. current, energy, operating voltage and average power dissipation depending on ambient temperature



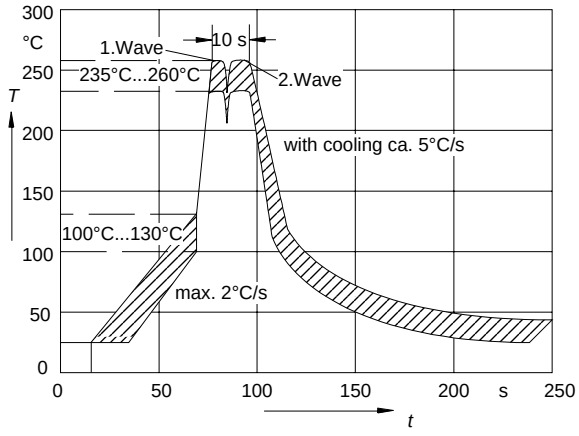
Recommended solder pad layout



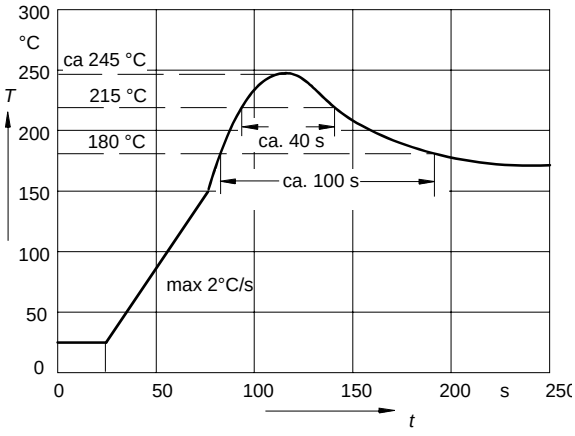
A = 5,5 mm
B = 1,5 mm
C = 4,2 mm
D = 7,2 mm

Recommended soldering temperature profiles

Wave soldering



IR reflow soldering



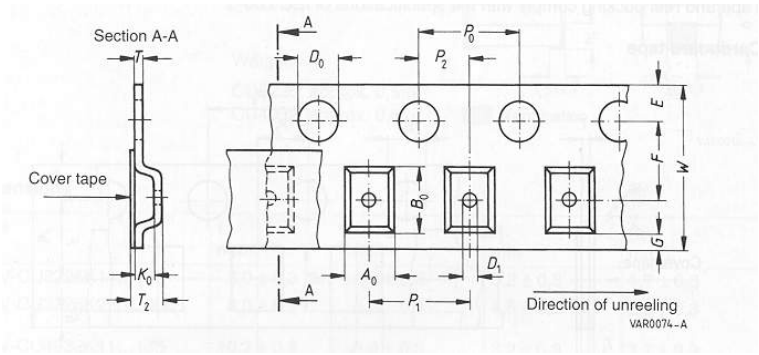
The components should be soldered within 6 months after delivery from EPCOS. The parts are to be left in the original packing in order to avoid any soldering problems caused by oxidized terminals.
Storage temperature: -25 to 45°C
Relative humidity: <75% annual average, <95% on max. 30 days in a year.

The usage of mild, non activated fluxes for soldering is recommended, as well as a proper cleaning of the PCB.

Taping and Packaging:

Taping: Tape and reel packing according to IEC 60286-3

Tape material: Blister



Dimensions and tolerances:

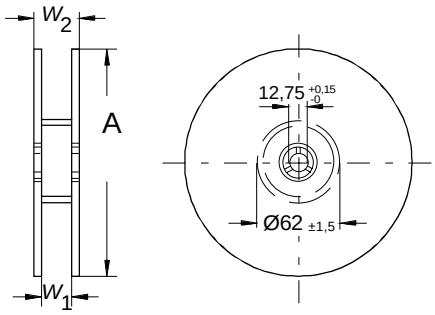
Definition	Symbol	Dimension [mm]	Tolerance [mm]
Compartment width	A_0	5.1	± 0.2
Compartment length	B_0	6.0	± 0.2
Compartment height	K_0	1.3	max.
Sprocket hole diameter	D_0	1.5	+0.1 /-0
Compartment hole diameter	D_1	1.5	min.
Sprocket hole pitch	P_0	4.0	± 0.1 1)
Distance center hole to center compartment	P_2	2.0	± 0.05
Pitch of the component compartments	P_1	8.0	± 0.1
Tape width	W	12.0	± 0.3
Distance edge to center of hole	E	1.75	± 0.1
Distance center hole to center compartment	F	5.5	± 0.05
Distance compartment to edge	G	0.75	min.
Overall thickness	T_2	2.5	max.
Thickness tape	T	0.3	max.

1) ≤ ± 0.2 mm over any 10 pitches

Package: 12 mm tape:

Packing:

Packing material: Plastic



Reel Dimensions:

Definition	Symbol	Dimension [mm]	Tolerance [mm]
Reel diameter	A	180	-2
Reel width (inside)	W_1	12.4	+1.5 /-0
Reel width (outside)	W_2	18.4	max.

Packing unit: 1500 pcs / reel