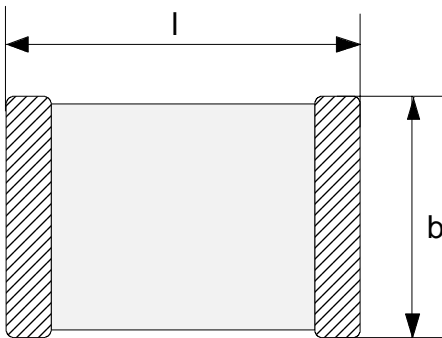


### Designation system:

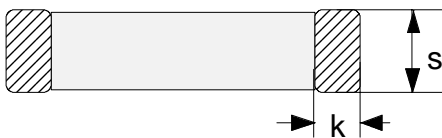
- CN = **C**hip **N**ot molded  
 2220 = Dimensions of the device **22x20** (length x width in 1/100 inch)  
 S...B = **S**pecial tolerance **B** of the varistor voltage  
 14 = Max. RMS operating voltage  
 AUTO = Suited for **AUTO**motive application  
 G = Taped version, blister tape, 7" reel (1500 pcs/reel)

### Part Dimensions:

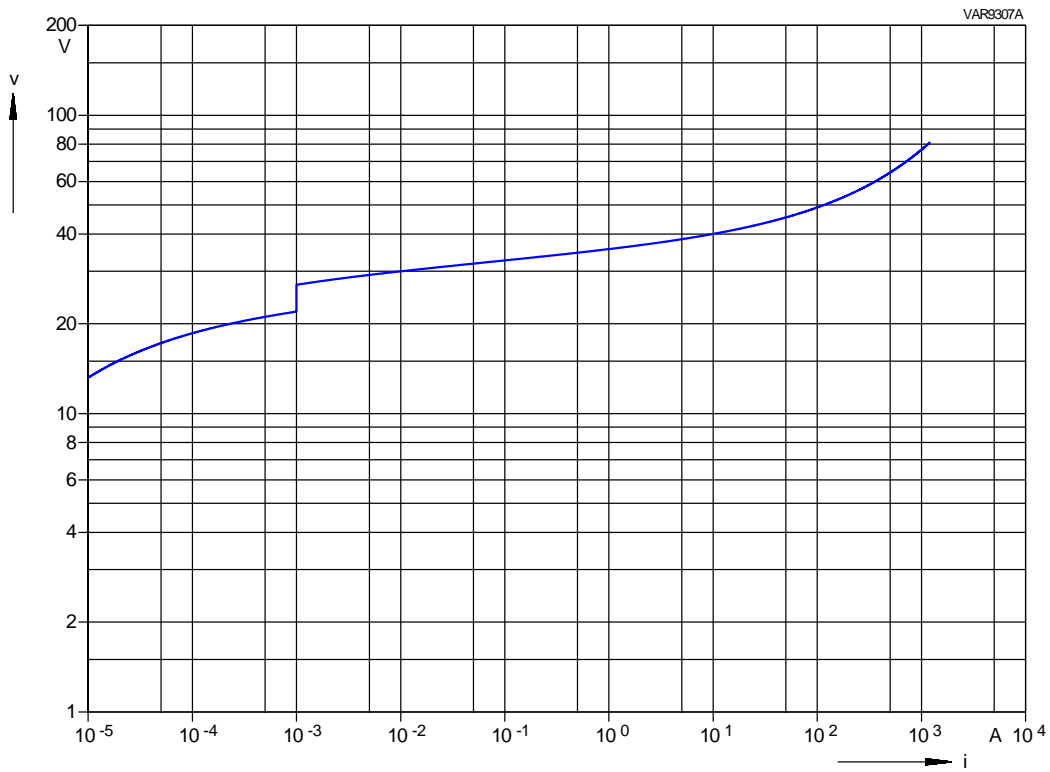
(All dimensions in mm)



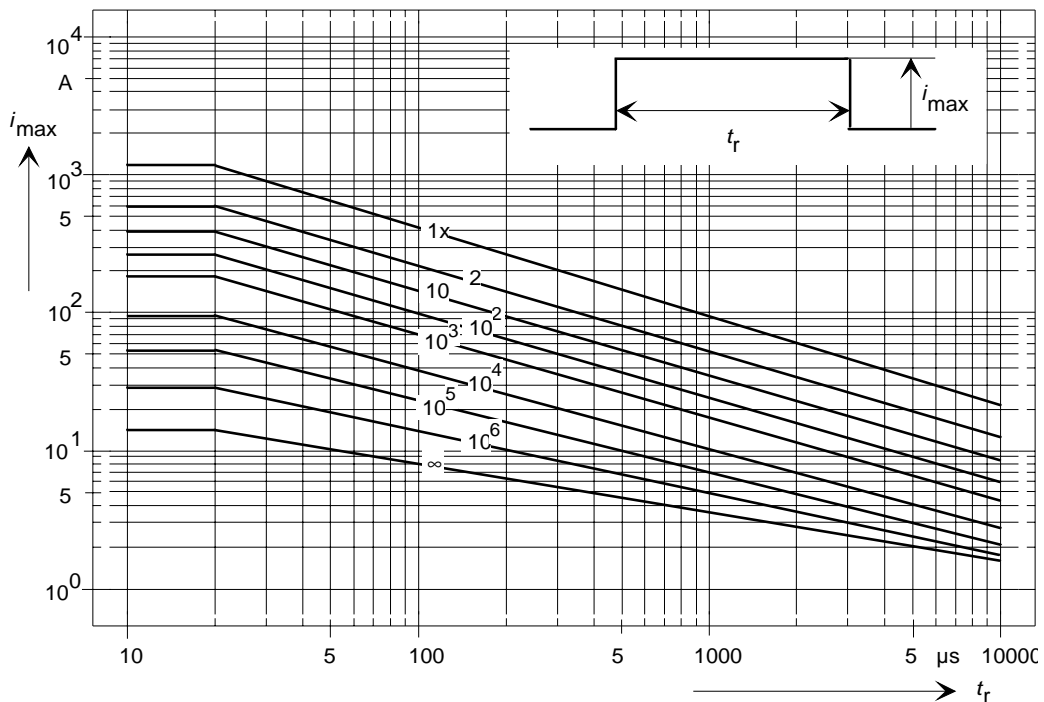
$$\begin{aligned}
 l &= 5,7 \pm 0,4 \\
 b &= 5,0 \pm 0,4 \\
 s &= 1,3 \text{ max.} \\
 k &= 0,25 - 1,0
 \end{aligned}$$



### V-I-Characteristic



### Derating Field





### Electrical Data

Max. operating voltage

RMS voltage

$V_{eff} = 14 \text{ V}$

DC voltage

$V_{DC} = 16 \text{ V}$

Varistor voltage (@ 1 mA)

$V_v = 22 - 27 \text{ V}$

Max. clamping voltage (@ 10 A)

$V_C = 40 \text{ V}$

Max. average power dissipation

$P_{max} = 30 \text{ mW}$

Max. surge current (8/20  $\mu\text{s}$ )

$\hat{I}_{max} = 1 \times 1200 \text{ A}$

Max. energy absorption (2 ms)

$E_{max} = 1 \times 5.8 \text{ J}$

Load Dump

$E_{max} = 10 \times 12 \text{ J}$

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

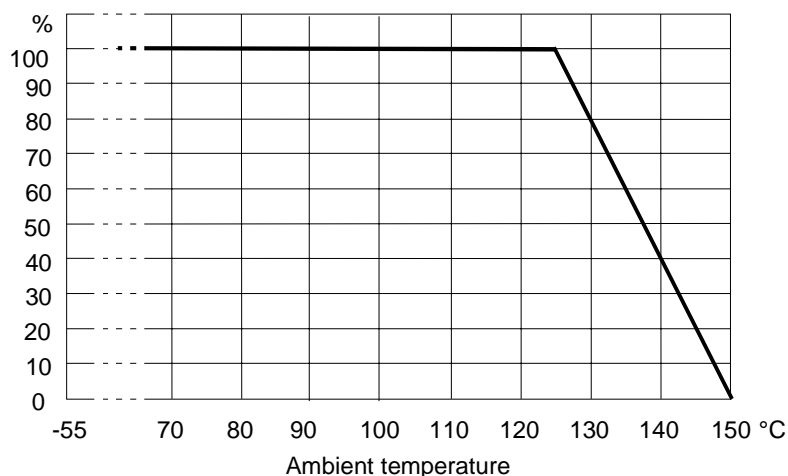
Storage temperature (mounted parts)

-55 ... +150 °C

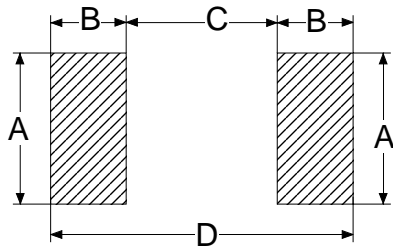
Termination material

Ag/Pd

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



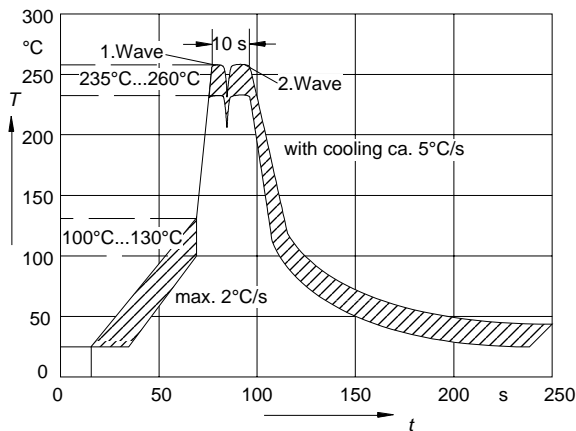
**Recommended solder pad layout**



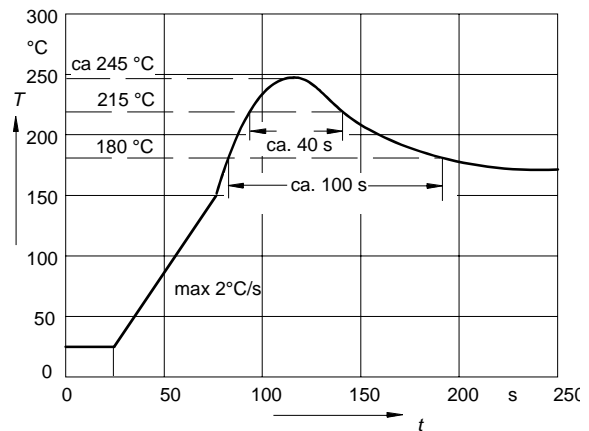
A = 5,5 mm  
 B = 1,5 mm  
 C = 4,2 mm  
 D = 7,2 mm

**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.

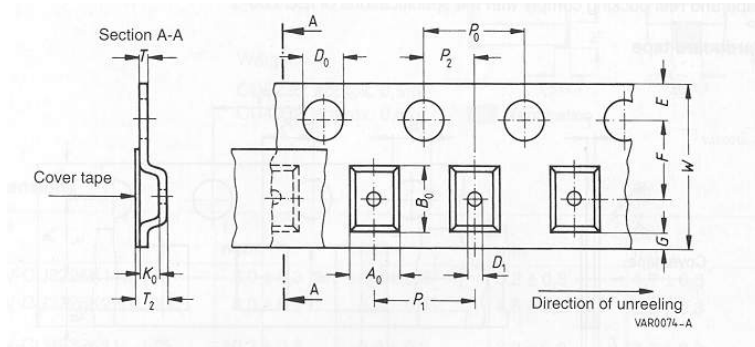
The usage of mild, non activated fluxes for soldering is recommended, as well as a proper cleaning of the PCB.

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## Taping and Packaging:

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

**Tape material:** Blister



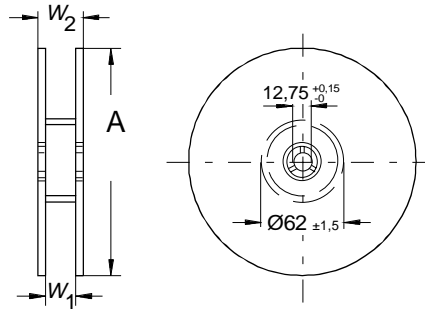
## Dimensions and tolerances:

Definition	Symbol	Dimension [mm]	Tolerance [mm]
Compartment width	$A_0$	5.1	$\pm 0.2$
Compartment length	$B_0$	6.0	$\pm 0.2$
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	$\pm 0.1$ <sup>1)</sup>
Distance center hole to center compartment	$P_2$	2.0	$\pm 0.05$
Pitch of the component compartments	$P_1$	8.0	$\pm 0.1$
Tape width	$W$	12.0	$\pm 0.3$
Distance edge to center of hole	$E$	1.75	$\pm 0.1$
Distance center hole to center compartment	$F$	5.5	$\pm 0.05$
Distance compartment to edge	$G$	0.75	min.
Overall thickness	$T_2$	2.5	max.
Thickness tape	$T$	0.3	max.

<sup>1)</sup>  $\leq \pm 0.2$  mm over any 10 pitches

Package: 12 mm tape:

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**Data Sheet**
**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

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