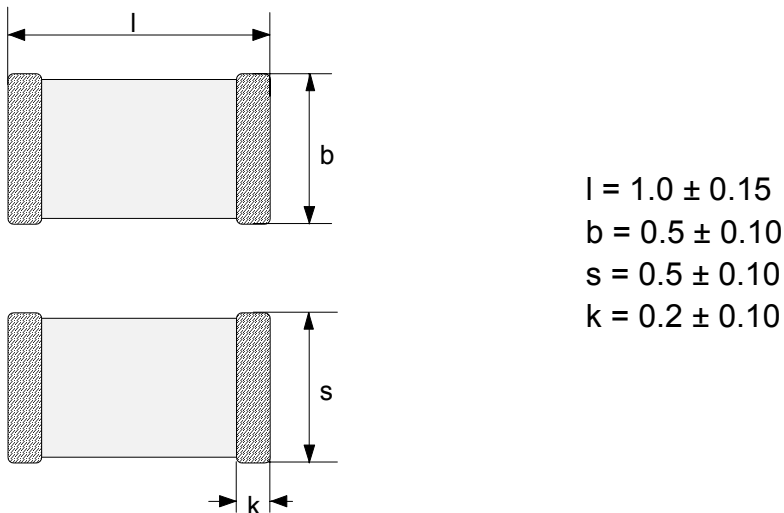


Designation system

- CT = Chip with three-layer-termination (Ag/Ni/Sn)
 0402 = Dimensions of the device **04 x 02** (length x width in 1/100 inch)
 S...A = Special tolerance of the varistor voltage
 14 = Maximum operating voltage
 HS = Designed for protection of high speed data lines
 G = Taped version (cardboard tape, 7" reel, 10000 pieces/reel)

Figure

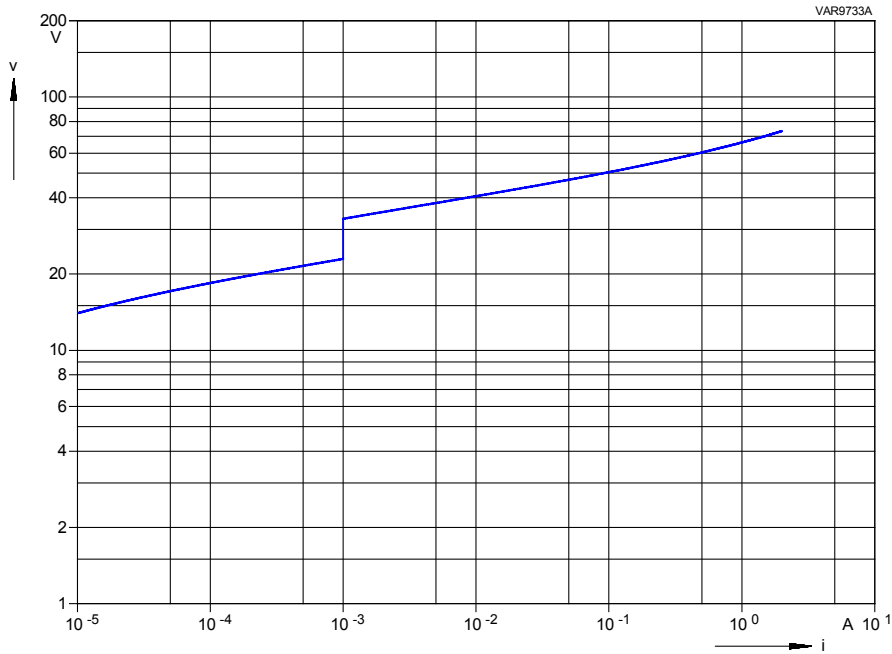


(all dimensions in mm)

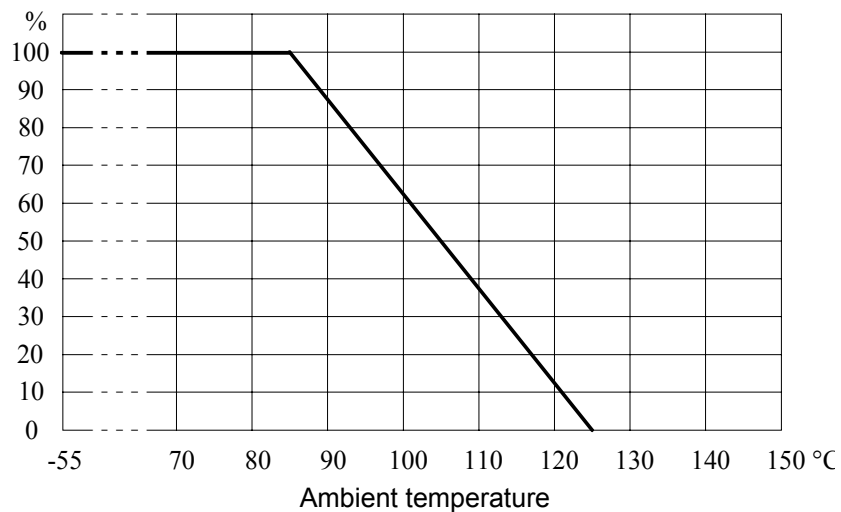
As far as patents or other rights of third parties are concerned, liability is only assumed for components per se, not for applications, processes and circuits implemented within components or assemblies. The information describes the type of component and shall not be considered as assured characteristics. Terms of delivery and rights to change design reserved.

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V-I-characteristic



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



Electrical data

Maximum operating voltage

RMS voltage

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

DC voltage

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

Varistor voltage (@ 1 mA)

$V_V = 23 \text{ up to } 33 \text{ V}$

Maximum clamping voltage (@ 1 A)

$V_C = 66 \text{ V}$

Maximum average power dissipation

$P_{max} = 3 \text{ mW}$

Maximum surge current (8/20 μs)

$I_{max} = 1 \times 2 \text{ A}$

Maximum energy absorption (ESD)

$E_{max} = 30 \text{ mJ}$

(@ ESD according to IEC 61000-4-2, 15 kV air discharge)

Capacitance (@ 1 MHz, 1V, 25 °C, typical value)

$C = 10 \text{ pF}$

Response time

$< 0.5 \text{ ns}$

Operating temperature

$-40 \dots +85 \text{ °C}$

Storage temperature (mounted parts)

$-40 \dots +125 \text{ °C}$

Termination material

Ag/Ni/Sn

Part weight

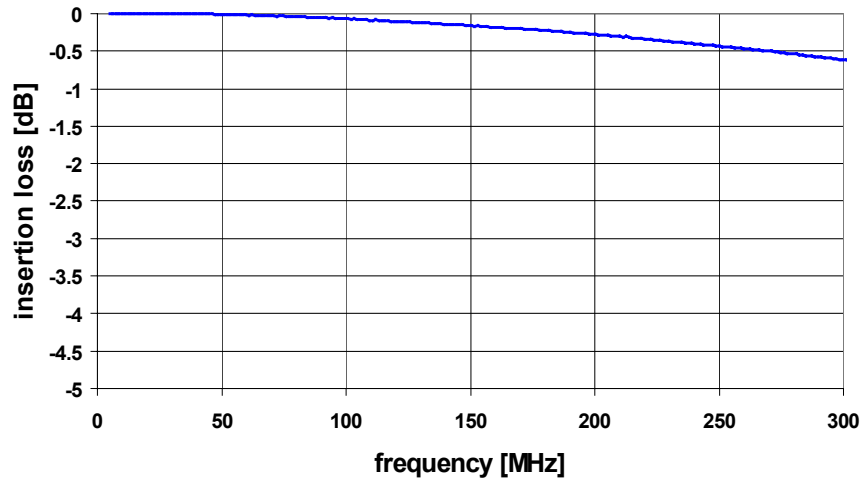
0.002 g

(thickness not specified, adjusted to fulfill wettability specification according to **IEC 60068-2-58**)

Application note

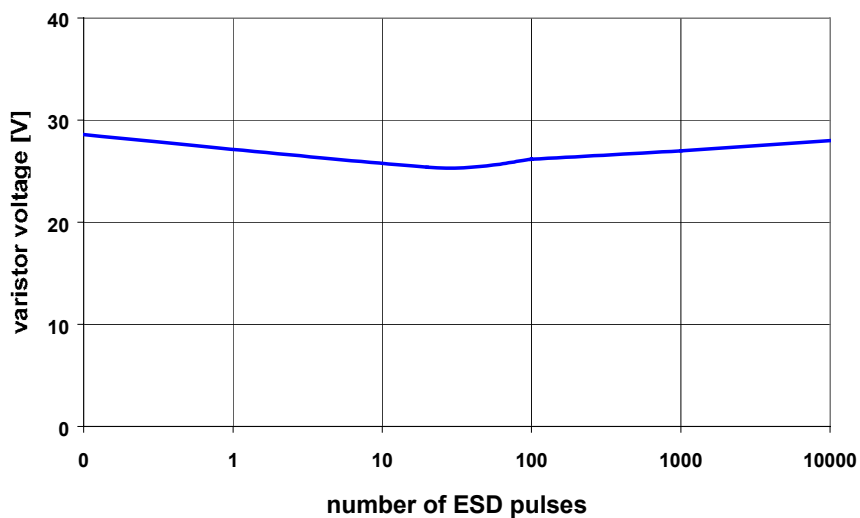
The described component is designed to meet ESD level 4 requirements according to IEC 61000-4-2 (8 kV contact discharge, 150 pF, 330 Ω)

Signal insertion loss¹⁾



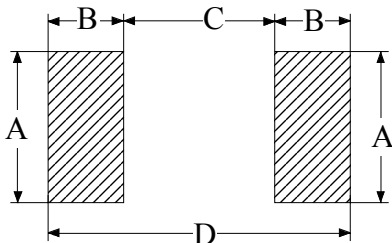
¹⁾ typical values, measured with network analyzer HP8753 E/S containing S-parameter test set.

Stability to multiple ESD discharges²⁾



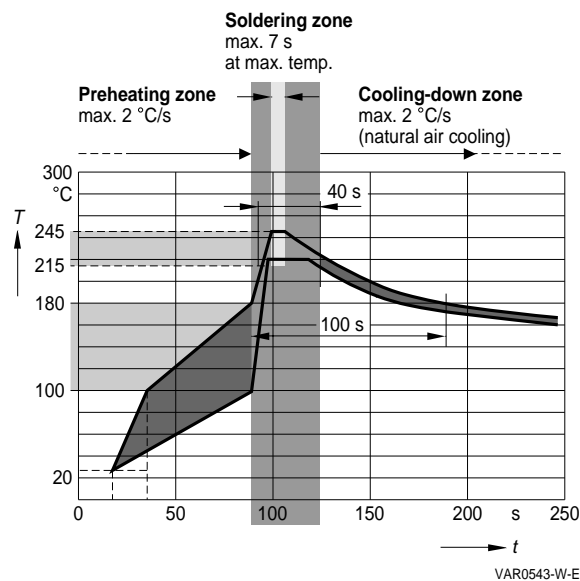
²⁾ 8 kV contact discharge, 150 pF, 330 Ω, according to IEC 61000-4-2.

Recommended geometry of solder pad



$A = 0.6 \text{ mm}$
 $B = 0.6 \text{ mm}$
 $C = 0.5 \text{ mm}$
 $E = 1.7 \text{ mm}$

Recommended soldering temperature profile



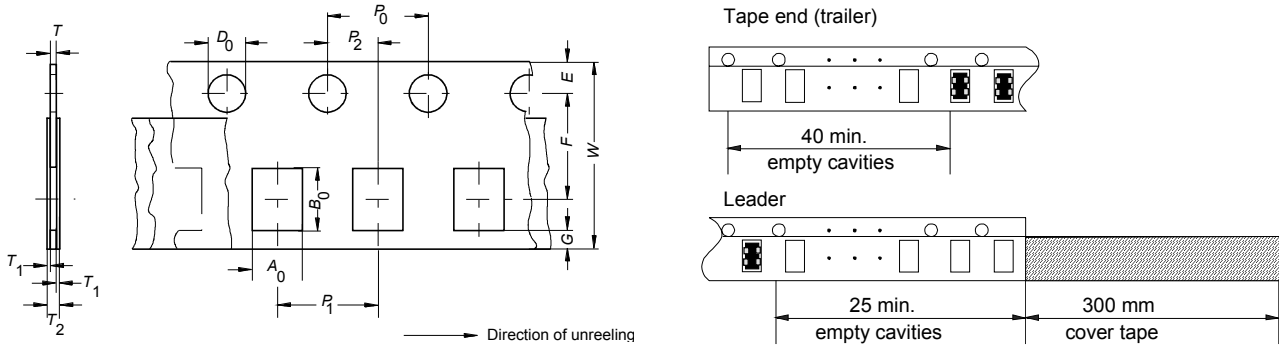
This component should be soldered within 12 months after delivery from EPCOS. They should be left in their original packings to avoid soldering problems due to oxidized terminals. Storage temperature: -25 to 45°C
 Relative humidity: $< 75\%$ annual average, $< 95\%$ on maximum 30 days in a year.

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

The components are suited for Pb-free soldering.

Taping according to IEC 60286-3

Tape material: cardboard



Dimensions and tolerances:

Definition	Symbol	Dimension [mm]	Tolerance [mm]
Compartment width	A ₀	0.6	± 0.2
Compartment length	B ₀	1.15	± 0.2
Sprocket hole diameter	D ₀	1.5	± 0.1
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	2.0	± 0.1
Tape width	W	8.0	± 0.3
Distance edge to center of hole	E	1.75	± 0.1
Distance center hole to center compartment	F	3.5	± 0.05
Distance compartment to edge	G	0.75	min
Thickness of cardboard tape	T	0.6	max.
Overall thickness	T ₂	0.7	max.

¹⁾ ≤ ± 0.2 mm over any 10 pitches

Packing

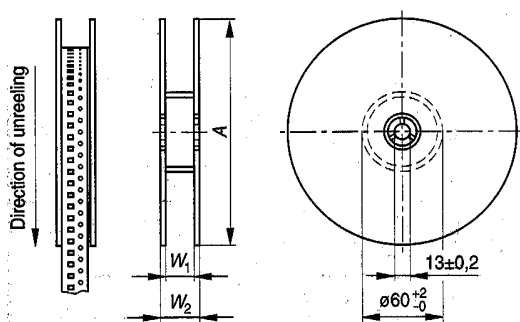
Each reel in airtight plastic bag with desiccant bag.
Dimensions approx. 220 x 220 mm. Weight approx. 170 g.

6 bags in cardboard box, dimensions approx. 250 x 220 x 130 mm. Weight approx. 1 kg.

Reel material: plastic

Packing unit: 10000 pcs./reel

Reel dimensions:



Definition	Symbol	Dimension [mm]	Tolerance [mm]
Reel diameter	A	180	+0/ -3
Reel width (inside)	W_1	8.4	+1.5/ -0
Reel width (outside)	W_2	14.4	max.

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