



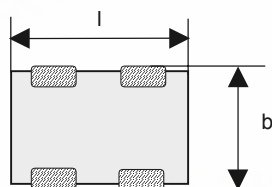
Metal Oxide Varistors	CA04P2S14THSG
SMD Multilayer Varistor Array with Ni-Barrier Termination	B72762A8140S160

Preliminary data sheet
(parameters may be changed if necessary)

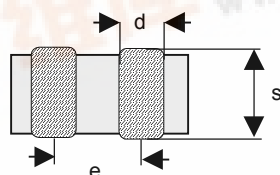
Designation System

- CA = **C**hip **A**rray
 04 = Dimensions of the device **04**x**05** (Length x width in 1/100 inch)
 P = Design (**P**arallel internal structure)
 2 = Number of elements
 S = Special Tolerance of the varistor voltage
 14 = Max. operating voltage
 T = **T**hree layer termination (Ni-barrier)
 HS = Designed for protection of **H**igh **S**peed data lines
 G = Taped version, cardboard tape, 7" reel (5000 pcs/reel)

Figure



$$\begin{aligned} l &= 1,37 \pm 0,15 \\ b &= 1,0 + 0 / -0,15 \\ s &= 0,70 \text{ max.} \\ d &= 0,36 \pm 0,1 \\ e_{\text{Ref}} &= 0,64 \end{aligned}$$



(All dimensions in mm)

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ISSUE DATE	08.07.02	ISSUE	c	PUBLISHER	KB VS PE	PAGE	1/7
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Metal Oxide Varistors

CA04P2S14THSG

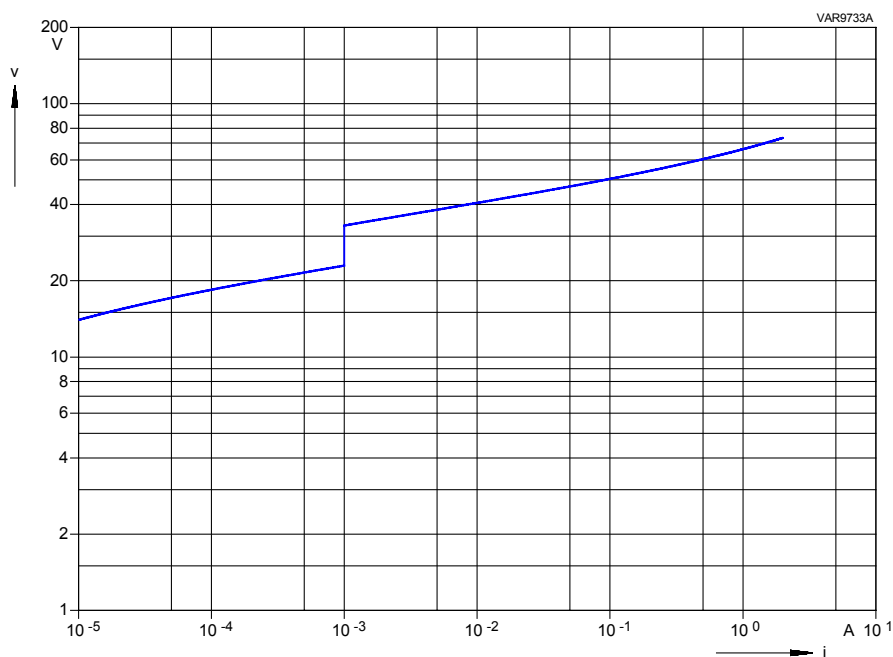
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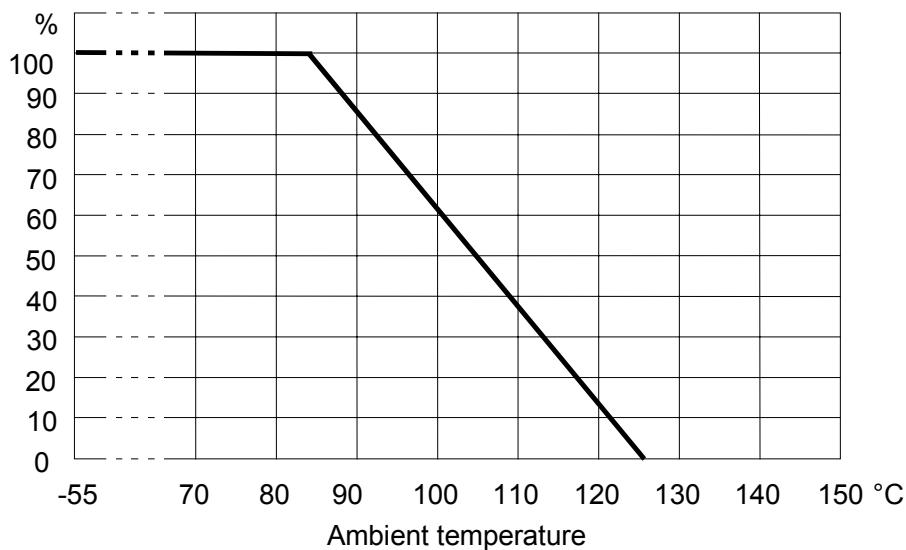
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V-I-Characteristic



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



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Electrical Data

Max. operating voltage

RMS voltage

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

DC voltage

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

Varistor voltage (@ 1 mA)

 $V_{\text{V}} = 23 - 33 \text{ V}$

Max. clamping voltage (@ 1 A)

 $V_{\text{C}} = 66 \text{ V}$

Max. average power dissipation

 $P_{\text{max}} = 3 \text{ mW}$ Max. surge current (8/20 μs) **$\hat{I}_{\text{max}} = 1 \times 2 \text{ A}$**

Max. energy absorption (ESD)

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

(@ ESD acc. IEC61000-4-2;

15kV Air Discharge, 150pF, 330 Ω)

Capacitance

 $C = 10 \text{ pF}^1$ ¹measured @ 1 MHz, 1 V, 25°C, typical value

Response time

 $< 0.5 \text{ ns}$

Operating temperature

 $-40 \dots +85 \text{ }^\circ\text{C}$

Storage temperature (mounted parts)

 $-40 \dots +125 \text{ }^\circ\text{C}$

Termination material

Ag/Ni/Sn(thickness not specified, adjusted to fulfill wettability specification acc. to **IEC 60068-2-58**)**Application Note**

The described component is designed to meet ESD level 4 requirements acc. IEC61000-4-2 (8kV contact discharge 150pF, 330 Ω).

ISSUE DATE	08.07.02	ISSUE	c	PUBLISHER	KB VS PE	PAGE	3/7
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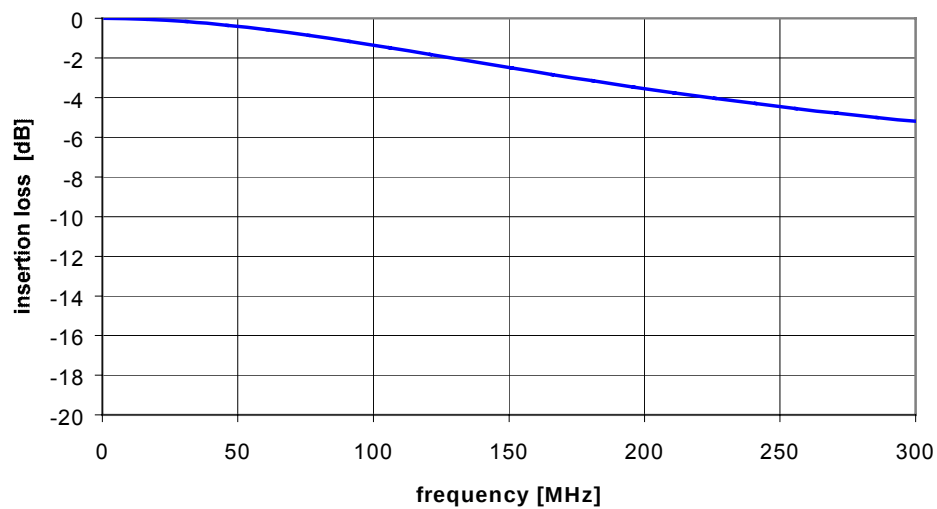
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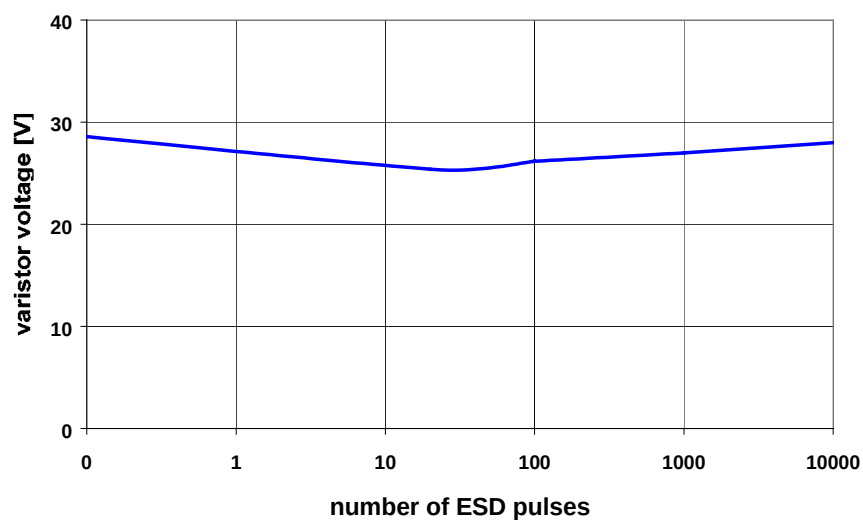
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Signal Insertion Loss¹



¹ typical values; measured with network analyzer HP8753 E/S containing s-parameter test set

Stability to Multiple ESD-Discharges²



²(8kV contact discharge; 150pF, 330 Ω ; acc. IEC 61000-4-2).

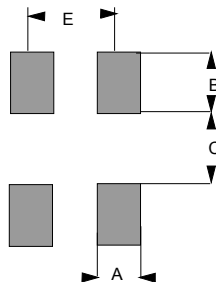
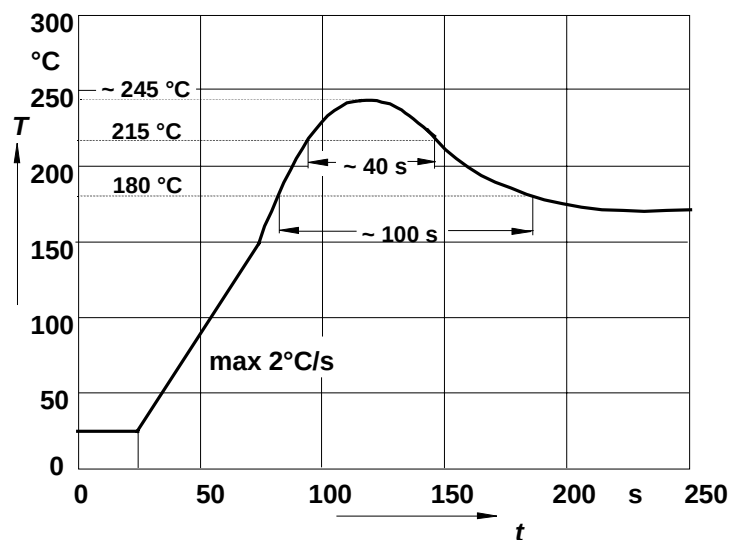
ISSUE DATE	08.07.02	ISSUE	c	PUBLISHER	KB VS PE	PAGE	4/7
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Preliminary data sheet

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Recommended Geometry of Solder Pads

$A = 0,4 \text{ mm}$
 $B = 0,55 \text{ mm}$
 $C = 0,28 \text{ mm}$
 $E = 0,64 \text{ mm}$


Recommended Soldering Temperature Profiles


This component is suited for IR-soldering.

Max. reflow cycles: 2x

As far as possible, the components shall be employed within 6 months. They should be left in their original packings to avoid soldering problems due to oxidized contacts.

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 proper cleaning of the PCB.

ISSUE DATE	08.07.02	ISSUE	c	PUBLISHER	KB VS PE	PAGE	5/7
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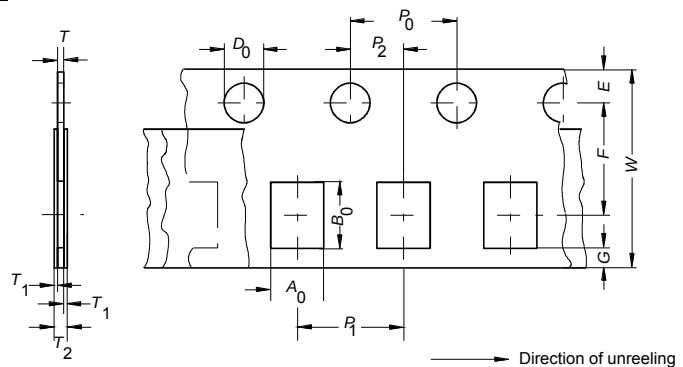
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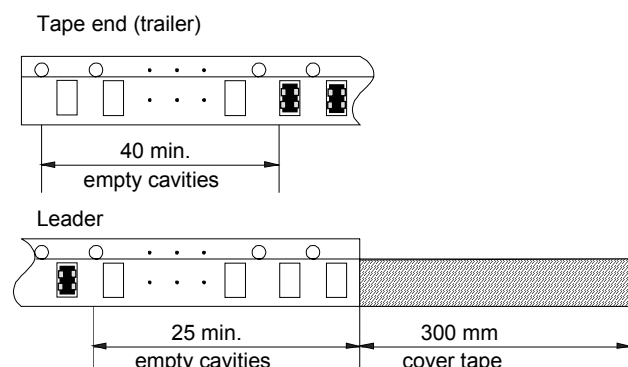
Taping According to IEC 60286-3

Dimensions and tolerances

Tape material: cardboard



Definition	Symbol	Dim.	Tolerance
Compartment width	A_0	1.05	± 0.05
Compartment length	B_0	1.57	± 0.05
Sprocket hole diameter	D_0	1.5	$+0.1 / -0$
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	4.0	± 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	0.75	± 0.2
Overall thickness	T_2	0.9	max.

¹⁾ $\leq \pm 0.2$ mm over any 10 pitches


ISSUE DATE	08.07.02	ISSUE	c	PUBLISHER	KB VS PE	PAGE	6/7
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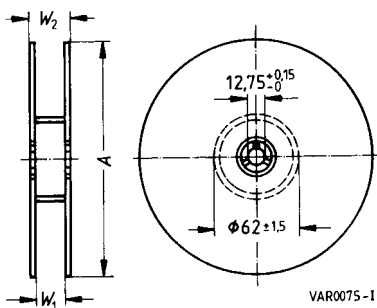
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Package

Each reel in airtight plastic bag with desiccant bag.
Dimensions approx. 220 x 200 mm. Weight approx. 170 g

Package: 8 mm tape

Reel material: plastic



Definition	Symbol	Dim.	Tol.
Reel diameter	A	180	-2
Reel width (inside)	W_1	8.4	+1.5 /-0
Reel width (outside)	W_2	14.4	max.

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ISSUE DATE	08.07.02	ISSUE	c	PUBLISHER	KB VS PE	PAGE	7/7
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