



SMD Varistors

MLV; Arrays



Construction

- Multilayer technology
- Multiple elements in one component
- Termination: silver platinum
- No plastic or epoxy encapsulation assures better than UL 94 V-0 flammability rating

Features

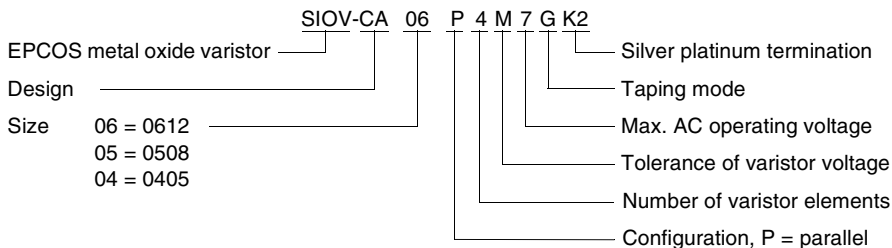
- Sizes 0612, 0508, 0405
- Surge currents up to 30 A
- Operating temperature up to 85 °C
- Good solderability for reflow process
- Suitable for ESD protection
- Bidirectional clamping

Taping

- Supply on 8/12-mm tape, for tape dimensions see pages 154/155, for reel dimensions and packing units see page 157, chapter "SMD Varistors: Taping"

Type designation

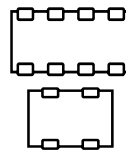
Detailed description of coding system on page 39, chapter "General Technical Information"



General technical data

Climatic category	30/85/56	in accordance with IEC 60068-1
LCT	− 30 °C	
UCT	+ 85 °C	
Damp heat, steady state (93 % r.h., 40 °C)	56 days	in accordance with IEC 60068-2-3
Operating temperature	− 30 ... + 85 °C	in accordance with CECC 42 000
Storage temperature ¹⁾	− 40 ... + 125 °C	
Response time	< 0,5 ns	
Solderability	235 °C, 2 s	in accordance with IEC 60068-2-58

1) For mounted parts (storage conditions for unused parts on reel see page 38, chapter "General Technical Information")



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Arrays – Silver Platinum Termination ($T_A = 85\text{ °C}$)

Maximum ratings

Type	Ordering code	V_{RMS}	V_{DC}	i_{max} 8/20 μ s	W_{max} (2 ms)	P_{max}
		V	V	A	J	W
SIOV-						
CA06P4M7GK2	B72728A0070M062	7	8,5	30	0,075	0,003
CA06P4S17ALCGK2	B72728A2170S162	17	22	30	0,075	0,003
CA05P4S17ALCGK2	B72718A2170S162	17	22	10	0,01	0,003
CA04P2S17TLCG ²⁾	B72766A2170S160	17	22	10	0,01	0,003

Characteristics

Type	V_V (1 mA)	ΔV_V (1 mA)	Max. clamping voltage		C_{typ} (1 kHz)	L_{typ}	Derating Page	V/I char- acteristic Page
			v	i				
	V	%	V	A	pF	nH		
SIOV-								
CA06P4M7GK2	12,5	± 20	30	1,0	200	1,0	238	265
CA06P4S17ALCGK2	32,5	± 23	50	1,0	< 75 ¹⁾	1,0	238	265
CA05P4S17ALCGK2	32,5	± 23	50	1,0	< 75 ¹⁾	1,0	237	265
CA04P2S17TLCG ²⁾	32,5	± 23	50	1,0	< 75 ¹⁾	1,0	237	265

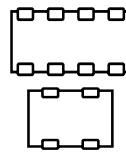
1) C_{typ} (1 MHz)

2) Nickel barrier termination

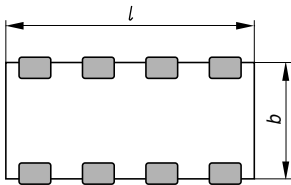


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MLV Arrays CA06P4 and CA05P4



Dimensions

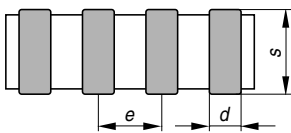


CA06P4

$l = 3,2 \pm 0,2$
 $b = 1,6 \pm 0,15$
 $s = 0,9 \text{ max.}$
 $d = 0,4 \pm 0,15$
 $e = 0,8 \pm 0,15$
 Coplanarity < 0,1

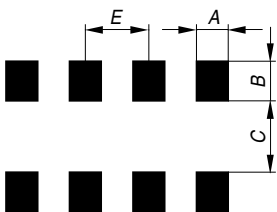
CA05P4

$l = 2,0 \pm 0,2$
 $b = 1,25 \pm 0,15$
 $s = 0,9 \text{ max.}$
 $d = 0,3 \pm 0,10$
 $e = 0,5 \pm 0,10$
 Coplanarity < 0,1



VAR0399-P

Recommended solder pad layout



CA06P4

$A = 0,5 \text{ mm}$
 $B = 0,7 \text{ mm}$
 $C = 1,2 \text{ mm}$
 $E = 0,76 \text{ mm}$

CA05P4

$A = 0,35 \text{ mm}$
 $B = 0,9 \text{ mm}$
 $C = 0,4 \text{ mm}$
 $E = 0,5 \text{ mm}$

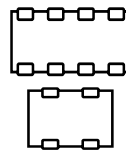
VAR0407-U



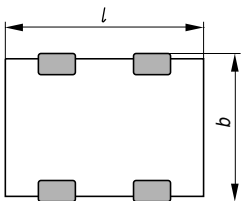


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MLV Array CA04P2



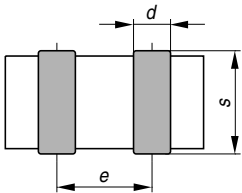
Dimensions



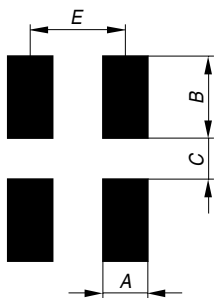
CA04P2

$l = 1,37 \pm 0,15$
 $b = 1,0 \pm 0,15$
 $s = 0,7 \text{ max.}$
 $d = 0,36 \pm 0,1$
 $e_{\text{Ref}} = 0,64$

Coplanarity < 0,1



Recommended solder pad layout



CA04P2

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

VAR0514-J



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