

SMD Varistors

Monolithic; Automotive Series

SMD

Construction

- Cylindrical varistor element, encapsulated
- Encapsulation: thermoplast, flame-retardant to UL 94 V-0
- Termination: tinned copper alloy

Features

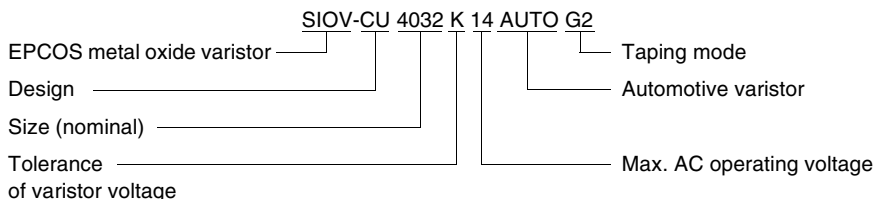
- High energy absorption, particularly in case of load dump
- Jump-start strength
- Stable protection level, minimum leakage current
- High resistance to cyclic temperature stress
- Good solderability
- Low inductance
- PSpice models

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

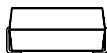
Detailed description of coding system on page 39, chapter "General Technical Information"



General technical data

Climatic category	40/85/56	in accordance with IEC 60068-1
LCT	– 40 °C	
UCT	+ 85 °C	
Damp heat, steady state (93 % r.h., 40 °C)	56 days	in accordance with IEC 60068-2-3
Operating temperature	– 40 ... + 85 °C	in accordance with CECC 42 000
Storage temperature	– 40 ... + 125 °C	
Electric strength	≥ 2,5 kV _{RMS}	in accordance with CECC 42 000
Insulation resistance	≥ 1,0 GΩ	in accordance with CECC 42 000
Response time	< 10 ns	
Solderability	235 °C, 2 s	in accordance with IEC 60068-2-58
Resistance to soldering heat	260 °C, 10 s	in accordance with IEC 60068-2-20

Note: Contact EPCOS for consultancy if solvents on water-base are used for cleaning.


SMD Varistors
Monolithic; Automotive Series
Maximum ratings ($T_A = 85\text{ °C}$)

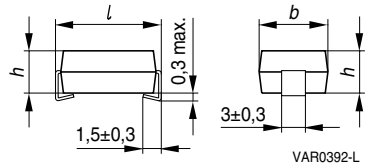
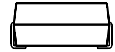
Type	Ordering code	V_{RMS}	V_{DC}	i_{max} 8/20 μ s	W_{max} (2 ms)	P_{max}	W_{LD} (10x)
		V	V	A	J	W	J
12-V supply systems							
CU3225K14AUTOG2	B72650M1140K072	14	16	100	0,4	0,01	6
CU4032K14AUTOG2	B72660M1140K072	14	16	250	0,9	0,02	12
CU3225K17AUTOG2	B72650M1170K072	17	20	100	0,5	0,01	6
CU4032K17AUTOG2	B72660M1170K072	17	20	250	1,1	0,02	12
24-V supply systems							
CU3225K30AUTOG2	B72650M1300K072	30	34	100	0,9	0,01	6
CU4032K30AUTOG2	B72660M1300K072	30	34	250	2,0	0,02	12

Characteristics ($T_A = 25\text{ °C}$)

Type	V_{Jump} (5 min)	V_V (1 mA)	ΔV_V (1 mA)	Max. clamping voltage		C_{typ} (1 kHz)	Derating curve	V/I char- acteristic
				v	i			
	V	V	%	V	A	nF	Page	Page
12-V supply systems								
CU3225K14AUTOG2	25	22	± 10	43	1,0	1,4	246	274
CU4032K14AUTOG2	25	22	± 10	43	2,5	2,3	246	275
CU3225K17AUTOG2	30	27	± 10	53	1,0	1,2	246	274
CU4032K17AUTOG2	30	27	± 10	53	2,5	1,9	246	275
24-V supply systems								
CU3225K30AUTOG2	50	47	± 10	93	1,0	0,6	246	274
CU4032K30AUTOG2	50	47	± 10	93	2,5	1,1	246	275

Notes

- If the maximum loads specified for load dump and jump start are fully utilized, subsequent polarity reversal of the AUTO varistors is inadmissible.
- If the load remains under the maximum ratings, polarity reversal may be admissible. Contact EPCOS for consultancy on this kind of problem.
- Load dump or jump start can decrease the varistor voltage in load direction by max. 15 %.
- Load dump: min. time of energy input 40 ms, interval 60 s.



Weight:

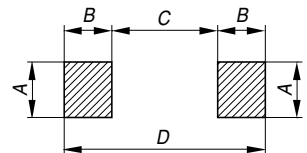
CU3225: approx. 0,5 g

CU4032: approx. 0,8 g

Dimensions

Type	<i>l</i> mm	<i>b</i> mm	<i>h</i> mm
SIOV-CU3225K14...30	$8,0 \pm 0,3$	$6,3 \pm 0,3$	$3,2 \pm 0,3$
SIOV-CU4032K14...30	$10,2 \pm 0,3$	$8,0 \pm 0,3$	$3,2 \pm 0,3$

Termination: tinned copper alloy



VAR0391-D

Recommended solder pad layout

Type	<i>A</i> mm	<i>B</i> mm	<i>C</i> mm	<i>D</i> mm
SIOV-CU3225K14...30	3,5	2,8	4,5	10,1
SIOV-CU4032K14...30	3,5	2,8	6,5	12,1

Herausgegeben von EPCOS AG

Unternehmenskommunikation, Postfach 80 17 09, 81617 München, DEUTSCHLAND

☎ ++49 89 636 09, FAX (0 89) 636-2 26 89

© EPCOS AG 2002. Vervielfältigung, Veröffentlichung, Verbreitung und Verwertung dieser Broschüre und ihres Inhalts ohne ausdrückliche Genehmigung der EPCOS AG nicht gestattet.

Bestellungen unterliegen den vom ZVEI empfohlenen Allgemeinen Lieferbedingungen für Erzeugnisse und Leistungen der Elektroindustrie, soweit nichts anderes vereinbart wird.

Diese Broschüre ersetzt die vorige Ausgabe.

Fragen über Technik, Preise und Liefermöglichkeiten richten Sie bitte an den Ihnen nächstgelegenen Vertrieb der EPCOS AG oder an unsere Vertriebsgesellschaften im Ausland. Bauelemente können aufgrund technischer Erfordernisse Gefahrstoffe enthalten. Auskünfte darüber bitten wir unter Angabe des betreffenden Typs ebenfalls über die zuständige Vertriebsgesellschaft einzuholen.

Published by EPCOS AG

Corporate Communications, P.O. Box 80 17 09, 81617 Munich, GERMANY

☎ ++49 89 636 09, FAX (0 89) 636-2 26 89

© EPCOS AG 2002. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.