

Disk Varistors Automotive Models

Maximum ratings ($T_A = 85\text{ }^{\circ}\text{C}$)

Type	Ordering code	Operating voltage		Surge current	Energy absorption	Power dissipation	Load dump
		V_{RMS}	V_{DC}	i_{max} 8/20 μs	W_{max} (2 ms)	P_{max}	W_{LD} (10 $\times$)
SIOV-		V	V	A	J	W	J
12-V supply systems							
SR1210S14BAUTOS	Q69535-R1140-S200	14	16	250	0.8	0.01	3
SR1812S14BAUTOS	Q69585-R1140-S200	14	16	500	1.7	0.015	6
SR2220S14BAUTOS	Q69545-R1140-S200	14	16	1000	3.6	0.03	12
S10K14AUTO	Q69X3859	14	16	500	2	0.05	25
S14K14AUTO	Q69X4482	14	16	1000	4	0.1	50
S20K14AUTO	Q69X3625	14	16	2000	12	0.2	100
S10K17AUTO	Q69X4570	17	20	500	2.5	0.05	25
S14K17AUTO	Q69X4325	17	20	1000	5	0.1	50
S20K17AUTO	Q69X4569	17	20	2000	14	0.2	100
24-V supply systems							
S20K25AUTO	Q69X4885	25	28	2000	22	0.2	100
S14K30AUTO	Q69X3889	30	34	1000	9	0.1	50
S20K30AUTO	Q69X3803	30	34	2000	26	0.2	100

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 S+M Components 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 30 ms, interval 60 s.

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

Jump start	Varistor voltage	Tolerance	Max. clamping voltage		Capacitance, typ.	Derating curves	V/I characteristic
V_{JUMP} (max. 5 minutes) V	V_V (1 mA) V	ΔV_V (1 mA) %	v V	i A	C (1 kHz) nF	Page	Page
24.5	22 ... 27	$SB^1) = +23/-0$	40	2.5	1.7	129	136
24.5	22 ... 27	$SB^1) = +23/-0$	40	5	5.6	130	137
24.5	22 ... 27	$SB^1) = +23/-0$	40	10	9.5	131	137
25	22	$K = \pm 10$	43	5	5.2	130	138
25	22	$K = \pm 10$	43	10	9.0	131	139
25	22	$K = \pm 10$	43	20	15.0	134	140
30	27	$K = \pm 10$	53	5	4.0	130	138
30	27	$K = \pm 10$	53	10	7.0	131	139
30	27	$K = \pm 10$	53	20	13.0	134	140
40	39	$K = \pm 10$	77	20	10	134	140
50	47	$K = \pm 10$	93	10	3.5	131	139
50	47	$K = \pm 10$	93	20	9	134	140

¹⁾ Special tolerance "B", here 22 ... 27 V