



Micro Commercial Components  
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# SMAJ4728 THRU SMAJ4764

## Silicon 1 Watt Zener Diodes

### Features

- For surface mount application (flat handing surface for Accurate placement)
- 3.3 thru 100 Volt Voltage Range
- High Surge Current Rating
- Higher Voltages Available
- Available on Tape and Reel

### Mechanical Data

- CASE: JEDEC DO-214AC molded plastic body over passivated chip
- Terminals solderable per MIL-STD-750, Method 2026
- Polarity is indicated by cathode band.
- Maximum temperature for soldering: 260°C for 10 seconds.
- For surface mount applications with flame retardant epoxy Meeting UL94V-0

Maximum Ratings @ 25°C Unless Otherwise Specified

<b>Peak Surge Current</b>	<b>I<sub>S</sub></b>	<b>See Table 1</b>	
<b>Maximum Forward Voltage</b>	<b>V<sub>F</sub></b>	<b>1.2V</b>	<b>(Note: 1)</b>
<b>Steady State Power Dissipation</b>	<b>P<sub>(AV)</sub></b>	<b>1.0W</b>	<b>(Note: 2,3)</b>
<b>Operation And Storage Temperature</b>	<b>T<sub>J</sub>, T<sub>STG</sub></b>	<b>-55°C to +150°C</b>	

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#### NOTES:

1. Forward Current @ 200mA.
2. Mounted on 4.0mm<sup>2</sup> copper pads to each terminal.
3. Lead temperature at 100°C or less. Derate linearly above 100°C to zero power at 150°C.

### DO-214AC (SMAJ) (High Profile)

DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.078	.116	1.98	2.95	
B	.067	.089	1.70	2.25	
C	.002	.008	.05	.20	
D	—	.02	—	.51	
E	.035	.055	.89	1.40	
F	.065	.096	1.65	2.45	
G	.205	.224	5.21	5.69	
H	.160	.180	4.06	4.57	
J	.100	.112	2.57	2.84	

**SUGGESTED SOLDER PAD LAYOUT**

# SMAJ4728 thru SMAJ4764

Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC PART NUMBER	ZENER VOLTAGE	TEST CURRENT	MAXIMUM DYNAMIC IMPEDANCE	MAXIMUM REVERSE CURRENT	TEST VOLTAGE	MAXIMUM REGULATOR CURRENT	MAXIMUM KNEE IMPEDANCE	TEST CURRENT	MAXIMUM SURGE CURRENT
	Vz	Izt	Zzt @ Izt	Ir @ Vr	Vr	Izm Ta=50°C	Zzk @ Izk	Izk	Is
	VOLTS	mA	OHMS	uA	VOLTS	mA	OHMS	MA	mA
SMAJ4728	3.3	76	10	100	1	276	400	1.0	1380
SMAJ4729	3.6	69	10	100	1	252	400	1.0	1260
SMAJ4730	3.9	64	9	50	1	234	400	1.0	1190
SMAJ4731	4.3	58	9	10	1	217	400	1.0	1070
SMAJ4732	4.7	53	8	10	1	193	500	1.0	970
SMAJ4733	5.1	49	7	10	1	178	550	1.0	890
SMAJ4734	5.6	45	5	10	2	162	600	1.0	810
SMAJ4735	6.2	41	2	10	3	146	700	1.0	730
SMAJ4736	6.8	37	3.5	10	4	133	700	1.0	660
SMAJ4737	7.5	34	4.0	10	5	121	700	0.5	605
SMAJ4738	8.2	31	4.5	10	6	110	700	0.5	550
SMAJ4739	9.1	28	5.0	10	7	100	700	0.5	500
SMAJ4740	10	25	7	10	7.6	91	700	0.25	454
SMAJ4741	11	23	8	5	8.4	83	700	0.25	414
SMAJ4742	12	21	9	5	9.1	76	700	0.25	380
SMAJ4743	13	19	10	5	9.9	69	700	0.25	344
SMAJ4744	15	17	14	5	11.4	61	700	0.25	304
SMAJ4745	16	15.5	16	5	12.2	57	700	0.25	285
SMAJ4746	18	14	20	5	13.7	50	750	0.25	250
SMAJ4747	20	12.5	22	5	15.2	45	750	0.25	225
SMAJ4748	22	11.5	23	5	16.7	41	750	0.25	205
SMAJ4749	24	10.5	25	5	18.2	38	750	0.25	190
SMAJ4750	27	9.5	35	5	20.6	34	750	0.25	170
SMAJ4751	30	8.5	40	5	22.8	30	1000	0.25	150
SMAJ4752	33	7.5	45	5	25.1	27	1000	0.25	135
SMAJ4753	36	7.0	50	5	27.4	25	1000	0.25	125
SMAJ4754	39	6.5	60	5	29.7	23	1000	0.25	115
SMAJ4755	43	6.0	70	5	32.7	22	1500	0.25	110
SMAJ4756	47	5.5	80	5	35.8	19	1500	0.25	95
SMAJ4757	51	5.0	95	5	38.8	18	1500	0.25	90
SMAJ4758	56	4.5	110	5	42.6	16	2000	0.25	80
SMAJ4759	62	4.0	125	5	47.1	14	2000	0.25	70
SMAJ4760	68	3.7	150	5	51.7	13	2000	0.25	65
SMAJ4761	75	3.3	175	5	56.0	12	2000	0.25	60
SMAJ4762	82	3.0	200	5	62.2	11	3000	0.25	55
SMAJ4763	91	2.8	250	5	69.2	10	3000	0.25	50
SMAJ4764	100	2.5	350	5	76.0	9	3000	0.25	45

NOTE 1 The JEDEC type numbers shown have A 5% tolerance on nominal zener voltage.

No suffix signifies A 10% tolerance, C signifies 2%, and D signifies 1% tolerance.

NOTE 2 The zener impedance is derived from the 60Hz AC voltage, which results when an AC current having an rms value equal to 10% of the DC zener current (Izt or Izk) is superimposed on Izt or Izk. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and eliminate unstable units.

NOTE 3 The reverse surge current is measured at 25°C ambient using a 1/2 square wave or equivalent sine wave pulse 1/120 second duration superimposed on Izt

NOTE 4 Voltage measurements to be performed 90 seconds after application of DC current.

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## Ratings and Characteristic Curves (T<sub>A</sub> = 25°C unless otherwise noted)

### Admissible power dissipation versus ambient temperature

Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case

