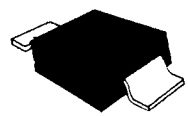
Microsemi Corp.
The diode experts

SANTA ANA, CA

SCOTTSDALE, AZ
For more information call:
(602) 941-6300

SML SERIES
5.0 thru 170.0 Volts
3000 WATTS

UNIDIRECTIONAL AND BIDIRECTIONAL SURFACE MOUNT



DO-215AB

DO-214AB

See Page 3-49 for Package Dimensions.

FEATURES

- UNIDIRECTIONAL AND BIDIRECTIONAL
- 3000 WATTS PEAK POWER
- VOLTAGE RANGE: 5.0 TO 170 VOLTS
- LOW INDUCTANCE
- LOW PROFILE PACKAGE FOR SURFACE MOUNTING

This series of TAZ (transient absorption zeners), available in small outline surface mountable packages, is designed to optimize board space. Packaged for use with surface mount technology automated assembly equipment, these parts can be placed on printed circuit boards and ceramic substrates to protect sensitive components from transient voltage damage.

The SML series, rated for 3000 watts, during a one millisecond pulse, can be used to protect sensitive circuits against transients induced by lightning and inductive load switching. With a response time of 1 x 10^{-12} seconds (theoretical) they are also effective against electrostatic discharge and NEMP.

MAXIMUM RATINGS

3000 watts of Peak Power dissipation (10 x 1000μs)
$t_{clamping}$ (0 volts to $V_{(BR)}$ min): less than 1 x 10^{-12} seconds (theoretical)
Forward surge rating: 200 Amps, 1/120 sec @ 25°C (Excluding Bidirectional)
Operating and Storage Temperature: -65° to +175°C

NOTE: TAZ is normally selected according to the reverse "Stand Off Voltage" (V_{RM}) which should be equal to or greater than the DC or continuous peak operating voltage level.

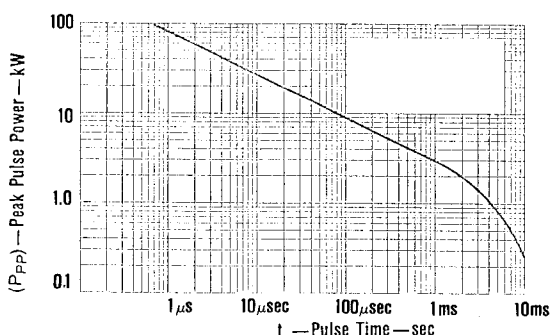


FIGURE 1 PEAK PULSE POWER VS PULSE TIME

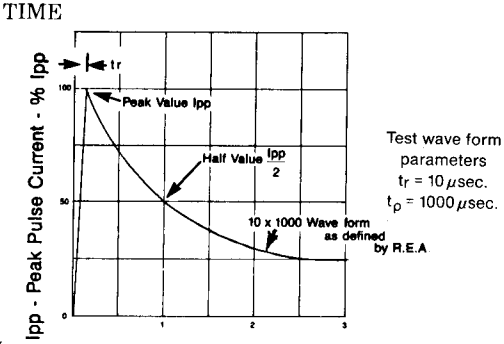


FIGURE 2 PULSE WAVEFORM

MECHANICAL CHARACTERISTICS

CASE: Molded, surface mountable.

TERMINALS: Gull-wing or C-bend (modified J-bend) leads, tin lead plated.

POLARITY: Cathode indicated by band. No marking on bidirectional devices.

PACKAGING: 16mm tape. (See EIA Std. RS-481.)

THERMAL RESISTANCE: 20°C/W (typical) junction to lead (tab) at mounting plane.

SML 5.0 thru 170.0 Volts

ELECTRICAL CHARACTERISTICS @ 25°C

MICROSEMI CORP. PART NUMBER		REVERSE STAND-OFF VOLTAGE (See Note)	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T VOLTS			MAXIMUM CLAMPING VOLTAGE @ I_{PP}	PEAK PULSE CURRENT (See Fig. 2)	MAXIMUM REVERSE LEAKAGE @ V_{WM}
GULL-WING LEAD	MODIFIED "J" BEND LEAD	V_{WM} VOLTS	MIN.	MAX.	I_T mA	VOLTS	I_{PP} AMPS	I_D μA
SMLG5.0	SMLJ5.0	5.0	6.40	7.30	10	9.6	312.5	1000
SMLG5.0A	SMLJ5.0A	5.0	6.40	7.00	10	9.2	326.0	1000
SMLG6.0	SMLJ6.0	6.0	6.67	8.15	10	11.4	263.2	1000
SMLG6.0A	SMLJ6.0A	6.0	6.67	7.37	10	10.3	291.3	1000
SMLG6.5	SMLJ6.5	6.5	7.22	8.82	10	12.3	243.9	500
SMLG6.5A	SMLJ6.5A	6.5	7.22	7.98	10	11.2	267.9	500
SMLG7.0	SMLJ7.0	7.0	7.78	9.51	10	13.3	225.6	200
SMLG7.0A	SMLJ7.0A	7.0	7.78	8.60	10	12.0	250.0	200
SMLG7.5	SMLJ7.5	7.5	8.33	10.2	1	14.3	209.8	100
SMLG7.5A	SMLJ7.5A	7.5	8.33	9.21	1	12.9	232.6	100
SMLG8.0	SMLJ8.0	8.0	8.89	10.9	1	15.0	200.0	50
SMLG8.0A	SMLJ8.0A	8.0	8.89	9.83	1	13.6	220.6	50
SMLG8.5	SMLJ8.5	8.5	9.44	11.5	1	15.9	188.6	25
SMLG8.5A	SMLJ8.5A	8.5	9.44	10.4	1	14.4	208.4	25
SMLG9.0	SMLJ9.0	9.0	10.0	12.2	1	16.9	177.4	10
SMLG9.0A	SMLJ9.0A	9.0	10.0	11.1	1	15.4	194.8	10
SMLG10	SMLJ10	10	11.1	13.6	1	18.8	159.6	5
SMLG10A	SMLJ10A	10	11.1	12.3	1	17.0	176.4	5
SMLG11	SMLJ11	11	12.2	14.9	1	20.1	149.2	5
SMLG11A	SMLJ11A	11	12.2	13.5	1	18.2	164.8	5
SMLG12	SMLJ12	12	13.3	16.3	1	22.0	136.4	5
SMLG12A	SMLJ12A	12	13.3	14.7	1	19.9	150.6	5
SMLG13	SMLJ13	13	14.4	17.6	1	23.8	126.0	5
SMLG13A	SMLJ13A	13	14.4	15.9	1	21.5	139.4	5
SMLG14	SMLJ14	14	15.6	19.1	1	25.8	116.2	5
SMLG14A	SMLJ14A	14	15.6	17.2	1	23.2	129.4	5
SMLG15	SMLJ15	15	16.7	20.4	1	26.9	111.6	5
SMLG15A	SMLJ15A	15	16.7	18.5	1	24.4	123.0	5
SMLG16	SMLJ16	16	17.8	21.8	1	28.8	104.2	5
SMLG16A	SMLJ16A	16	17.8	19.7	1	26.0	115.4	5
SMLG17	SMLJ17	17	18.9	23.1	1	30.5	98.4	5
SMLG17A	SMLJ17A	17	18.9	20.9	1	27.6	106.6	5
SMLG18	SMLJ18	18	20.0	24.4	1	32.2	93.2	5
SMLG18A	SMLJ18A	18	20.0	22.1	1	29.2	102.8	5
SMLG20	SMLJ20	20	22.2	27.1	1	35.8	83.8	5
SMLG20A	SMLJ20A	20	22.2	24.5	1	32.4	92.6	5
SMLG22	SMLJ22	22	24.4	29.8	1	39.4	76.2	5
SMLG22A	SMLJ22A	22	24.4	26.9	1	35.5	84.4	5
SMLG24	SMLJ24	24	26.7	32.6	1	43.0	69.8	5
SMLG24A	SMLJ24A	24	26.7	29.5	1	38.9	77.2	5
SMLG26	SMLJ26	26	28.9	35.3	1	46.6	64.4	5
SMLG26A	SMLJ26A	26	28.9	31.9	1	42.1	71.2	5
SMLG28	SMLJ28	28	31.1	38.0	1	50.0	60.0	5
SMLG28A	SMLJ28A	28	31.1	34.4	1	45.4	66.0	5
SMLG30	SMLJ30	30	33.3	40.7	1	53.5	56.0	5
SMLG30A	SMLJ30A	30	33.3	36.8	1	48.4	62.0	5
SMLG33	SMLJ33	33	36.7	44.9	1	59.0	50.4	5
SMLG33A	SMLJ33A	33	36.7	40.6	1	53.3	56.2	5
SMLG36	SMLJ36	36	40.0	48.9	1	64.3	46.6	5
SMLG36A	SMLJ36A	36	40.0	44.2	1	58.1	51.6	5
SMLG40	SMLJ40	40	44.4	54.3	1	71.4	42.0	5
SMLG40A	SMLJ40A	40	44.4	49.1	1	64.5	46.4	5
SMLG43	SMLJ43	43	47.8	58.4	1	76.7	39.2	5
SMLG43A	SMLJ43A	43	47.8	52.8	1	69.4	43.2	5
SMLG45	SMLJ45	45	50.0	61.1	1	80.3	37.4	5
SMLG45A	SMLJ45A	45	50.0	55.3	1	72.7	41.2	5
SMLG48	SMLJ48	48	53.3	65.1	1	85.5	35.0	5
SMLG48A	SMLJ48A	48	53.3	58.9	1	77.4	38.8	5
SMLG51	SMLJ51	51	56.7	69.3	1	91.1	37.0	5
SMLG51A	SMLJ51A	51	56.7	62.7	1	82.4	36.4	5
SMLG54	SMLJ54	54	60.0	73.3	1	96.3	31.2	5
SMLG54A	SMLJ54A	54	60.0	66.3	1	87.1	34.4	5
SMLG58	SMLJ58	58	64.4	78.7	1	103.0	39.2	5
SMLG58A	SMLJ58A	58	64.4	71.2	1	93.6	32.0	5
SMLG60	SMLJ60	60	66.7	81.5	1	107.0	28.0	5
SMLG60A	SMLJ60A	60	66.7	73.7	1	96.8	31.0	5
SMLG64	SMLJ64	64	71.1	86.9	1	114.0	26.4	5
SMLG64A	SMLJ64A	64	71.1	78.6	1	103.0	29.2	5

SML 5.0 thru 170 Volts

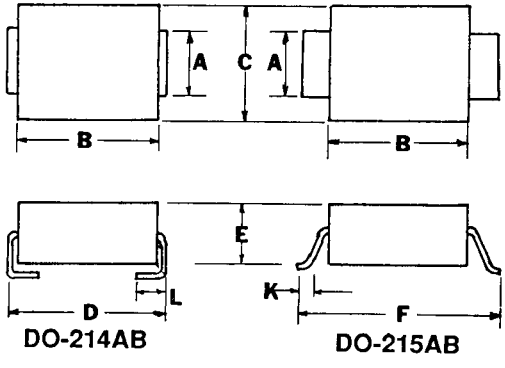
ELECTRICAL CHARACTERISTICS @ 25°C

MICROSEMI CORP. PART NUMBER		REVERSE STAND-OFF VOLTAGE (See Note)	BREAKDOWN VOLTAGE $V_{(BR)}$ @ I_T VOLTS			MAXIMUM CLAMPING VOLTAGE	PEAK PULSE CURRENT (See Fig. 2)	MAXIMUM REVERSE LEAKAGE
GULL-WING LEAD	MODIFIED "J" BEND LEAD	V_{WM} VOLTS	MIN.	MAX.	I_T mA	@ I_{PP} VOLTS	I_{PP} AMPS	@ V_{WM} I_D μA
SMLG70	SMLJ70	70	77.8	95.1	1	125	24.0	5
SMLG70A	SMLJ70A	70	77.8	86.0	1	113	26.6	5
SMLG75	SMLJ75	75	83.3	102.0	1	134	22.4	5
SMLG75A	SMLJ75A	75	83.3	92.1	1	121	24.8	5
SMLG78	SMLJ78	78	86.7	106.0	1	139	21.6	5
SMLG78A	SMLJ78A	78	86.7	95.8	1	126	22.8	5
SMLG85	SMLJ85	85	94.4	115.0	1	151	19.8	5
SMLG85A	SMLJ85A	85	94.4	104.0	1	137	20.8	5
SMLG90	SMLJ90	90	100	122	1	160	18.8	5
SMLG90A	SMLJ90A	90	100	111	1	146	20.6	5
SMLG100	SMLJ100	100	111	136	1	179	16.8	5
SMLG100A	SMLJ100A	100	111	123	1	162	18.6	5
SMLG110	SMLJ110	110	122	149	1	196	15.4	5
SMLG110A	SMLJ110A	110	122	135	1	177	16.8	5
SMLG120	SMLJ120	120	133	163	1	214	14.0	5
SMLG120A	SMLJ120A	120	133	147	1	193	15.6	5
SMLG130	SMLJ130	130	144	176	1	231	13.0	5
SMLG130A	SMLJ130A	130	144	159	1	209	14.4	5
SMLG150	SMLJ150	150	167	204	1	268	11.2	5
SMLG150A	SMLJ150A	150	167	185	1	243	12.4	5
SMLG160	SMLJ160	160	178	218	1	287	10.4	5
SMLG160A	SMLJ160A	160	178	197	1	259	11.6	5
SMLG170	SMLJ170	170	189	231	1	304	9.8	5
SMLG170A	SMLJ170A	170	189	209	1	275	11.0	5

For Bidirectional indicate a C or CA suffix after the part number. (i.e.: SMLG170CA or SMLJ170C)

Microsemi Corp.'s SML Series (3000W) surface mountable packages are designed specifically for transient voltage suppression. The wide leads assure a large surface contact for good heat dissipation, and a low resistance path for surge current flow to ground. These high speed transient voltage suppressors can be used to effectively protect sensitive components such as integrated circuits and MOS devices.

PACKAGE DIMENSIONS



DO-214AB DO-215AB

DIMENSIONS IN INCHES

	A	B	C	D	E	F	K	L
MIN.	.115	.260	.220	.305	.075	.380	.025	.030
MAX.	.121	.280	.245	.320	.095	.400	.040	.060
DIMENSIONS IN MILLIMETERS								
MIN.	2.92	6.60	5.59	7.75	1.90	9.65	0.635	0.760
MAX.	3.07	7.11	6.22	8.13	2.41	10.16	1.016	1.520

Typical Standoff Height: 0.004"-0.008" (0.1mm-0.2mm)

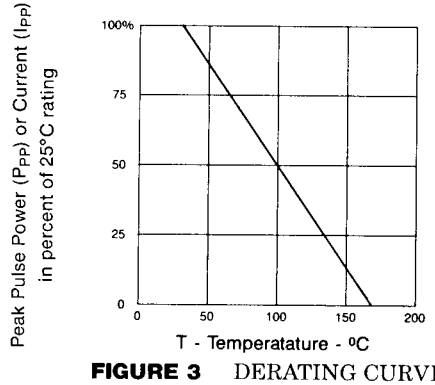


FIGURE 3 DERATING CURVE

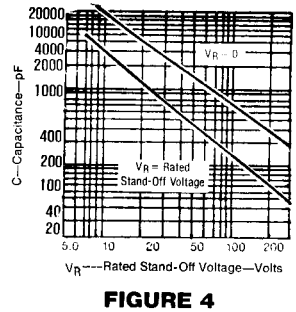


FIGURE 4
TYPICAL CAPACITANCE VS STAND-OFF VOLTAGE