MDE Semiconductor, Inc.

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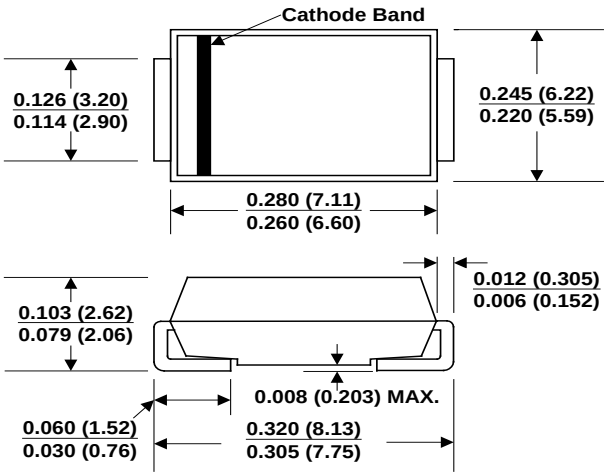
SMLJ SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE-5.0 TO 170 Volts
3000 Watt Peak Pulse Power

FEATURES

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition rate (duty cycle):0.01%
- Fast response time: typically less than 1.0 ps from 0 volts to BV for unidirectional types
- Typical IR less than 1μA above 10V
- High temperature soldering: 250°C/10 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability Classification 94 V-O

DO-214AB (SMC J-Bend)



Dimensions in inches and(millimeters)

MECHANICAL DATA

Case: JEDEC DO214AB. Molded plastic over glass passivated junction
Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
Polarity: Color band denoted positive end (cathode) except Bidirectional
Standard Packaging: 12mm tape (EIA STD RS-481)
Weight: 0.007 ounces, 0.21 grams)

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types SMLJ5.0 thru types SMLJ170 (e.g. SMLJ5.0C, SMLJ170CA)
Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μs waveform (NOTE 1, 2, Fig.1)	P_{PPM}	Minimum 3000	Watts
Peak Pulse Current of on 10/1000 μs waveform (Note 1,Fig 3)	I_{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load, (JEDEC Method)(Note2, 3)	I_{FSM}	300	Amps
Operatings and Storage Temperature Range	T_J, T_{STG}	-55 +150	°C

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above Ta=25 °C per Fig.2.
2. Mounted on Copper Pad area of 8.0mm x 8.0mm (20x20mm) per Fig.5.
3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle=4 pulses per minutes maximum.

Certified RoHS Compliant

UL File # E223026

11/13/2013

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RATING AND CHARACTERISTIC CURVES SMLJ SERIES

Fig. 1 - Peak Pulse Power Rating Curve

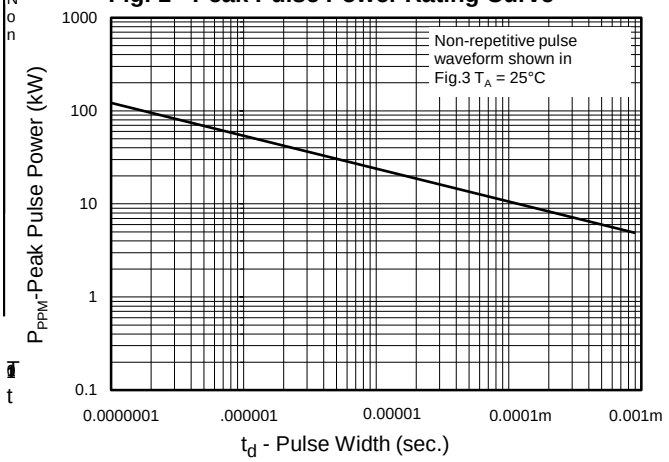


Fig.2 - Pulse Derating

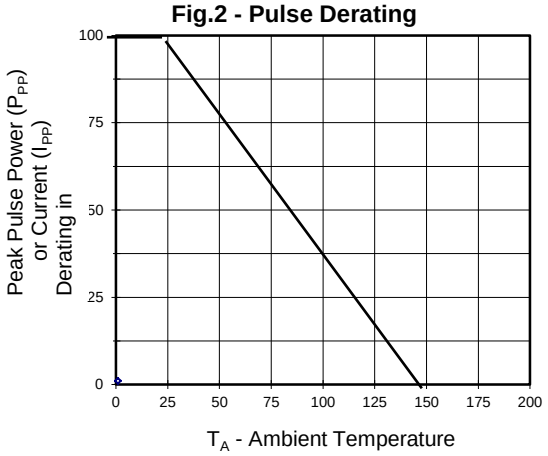


Fig.3 - Pulse Waveform

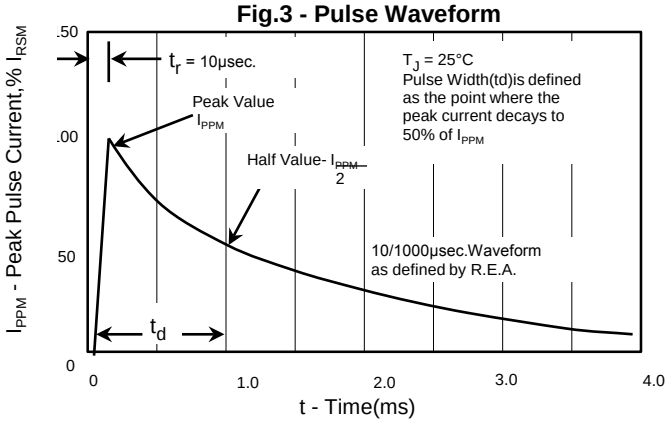


Fig. 4 - Typical Junction Capacitance

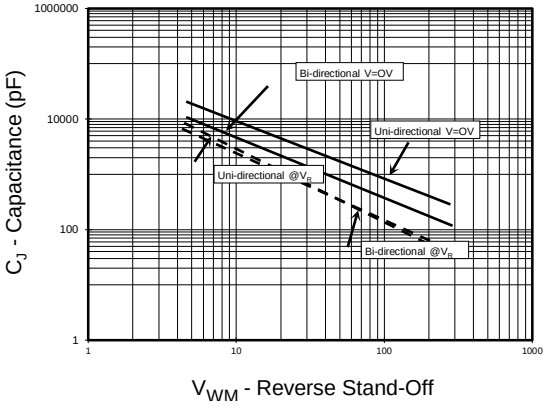


Fig. 5 - Steady State Power Derating Curve

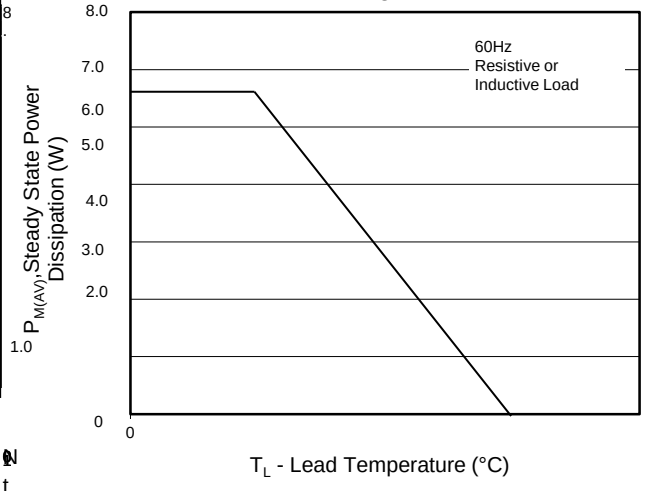
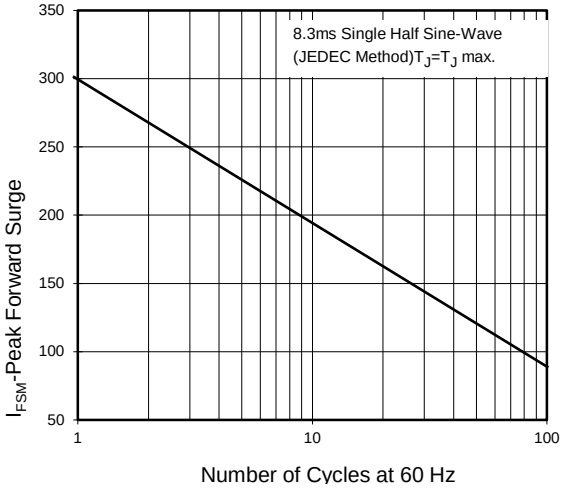


Fig.6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



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3000 Watt Surface Mount TVS

UNI-POLAR	BI-POLAR	DEVICE MARKING CODE		REVERSE STANDOFF VOLTAGE V_{RWM} (V)	BREAKDOWN VOLTAGE V_{BR} (V) MIN. @ I_T	BREAKDOWN VOLTAGE V_{BR} (V) MAX. @ I_T	TEST CURRENT (I_T) mA	MAXIMUM CLAMPING VOLTAGE @I_{PP} V_C (V)	PEAK PULSE CURRENT I_{PP} (A)	REVERSE LEAKAGE @ V_{RWM} I_R (µA)
		UNI	BI							
SMLJ5.0A	SMLJ5.0CA	RDE	DDE	5.00	6.40	7.00	10	9.2	326.1	800
SMLJ6.0A	SMLJ6.0CA	RDG	DDG	6.00	6.67	7.37	10	10.3	291.3	800
SMLJ6.5A	SMLJ6.5CA	RDK	DDK	6.50	7.22	7.98	10	11.2	267.9	500
SMLJ7.0A	SMLJ7.0CA	PDM	DDM	7.00	7.78	8.60	10	12.0	250.0	200
SMLJ7.5A	SMLJ7.5CA	PDP	DDP	7.50	8.33	9.21	1	12.9	232.6	100
SMLJ8.0A	SMLJ8.0CA	PDR	DDR	8.00	8.89	9.83	1	13.6	220.6	50
SMLJ8.5A	SMLJ8.5CA	PDT	DDT	8.50	9.44	10.40	1	14.4	208.3	20
SMLJ9.0A	SMLJ9.0CA	PDV	DDV	9.00	10.00	11.10	1	15.4	194.8	10
SMLJ10A	SMLJ10CA	PDX	DDX	10.00	11.10	12.30	1	17.0	176.5	5
SMLJ11A	SMLJ11CA	PDZ	DDZ	11.00	12.20	13.50	1	18.2	164.8	5
SMLJ12A	SMLJ12CA	PEE	DEE	12.00	13.30	14.70	1	19.9	150.8	5
SMLJ13A	SMLJ13CA	PEG	DEG	13.00	14.40	15.90	1	21.5	139.5	5
SMLJ14A	SMLJ14CA	PEK	DEK	14.00	15.60	17.20	1	23.2	129.3	2
SMLJ15A	SMLJ15CA	PEM	DEM	15.00	16.70	18.50	1	24.4	123.0	2
SMLJ16A	SMLJ16CA	PEP	DEP	16.00	17.80	19.70	1	26.0	115.4	2
SMLJ17A	SMLJ17CA	PER	DER	17.00	18.90	20.90	1	27.6	108.7	2
SMLJ18A	SMLJ18CA	PET	DET	18.00	20.00	22.10	1	29.2	102.7	2
SMLJ20A	SMLJ20CA	PEV	DEV	20.00	22.20	24.50	1	32.4	92.6	2
SMLJ22A	SMLJ22CA	PEX	DEX	22.00	24.40	26.90	1	35.5	84.5	2
SMLJ24A	SMLJ24CA	PEZ	DEZ	24.00	26.70	29.50	1	38.9	77.1	2
SMLJ26A	SMLJ26CA	PFE	DFE	26.00	28.90	31.90	1	42.1	71.3	2
SMLJ28A	SMLJ28CA	PFG	DFG	28.00	31.10	34.40	1	45.4	66.1	2
SMLJ30A	SMLJ30CA	PFK	DFK	30.00	33.30	36.80	1	48.4	62.0	2
SMLJ33A	SMLJ33CA	PFM	DFM	33.00	36.70	40.60	1	53.3	56.3	2
SMLJ36A	SMLJ36CA	PFP	DFP	36.00	40.00	44.20	1	58.1	51.6	2
SMLJ40A	SMLJ40CA	PFR	DFR	40.00	44.40	49.10	1	64.5	46.5	2
SMLJ43A	SMLJ43CA	PFT	DFT	43.00	47.80	52.80	1	69.4	43.2	2
SMLJ45A	SMLJ45CA	PFV	DFV	45.00	50.00	55.30	1	72.7	41.3	2
SMLJ48A	SMLJ48CA	PFX	DFX	48.00	53.30	58.90	1	77.4	38.8	2
SMLJ51A	SMLJ51CA	PFZ	DFZ	51.00	56.70	62.70	1	82.4	36.4	2
SMLJ54A	SMLJ54CA	PGE	DGE	54.00	60.00	66.30	1	87.1	34.4	2
SMLJ58A	SMLJ58CA	PGG	DGG	58.00	64.40	71.20	1	93.6	32.1	2
SMLJ60A	SMLJ60CA	PGK	DGK	60.00	66.70	73.70	1	96.8	31.0	2
SMLJ64A	SMLJ64CA	PGM	DGM	64.00	71.10	78.60	1	103.0	29.1	2
SMLJ70A	SMLJ70CA	PGP	DGP	70.00	77.80	86.00	1	113.0	26.5	2
SMLJ75A	SMLJ75CA	PGR	DGR	75.00	83.30	92.10	1	121.0	24.8	2
SMLJ78A	SMLJ78CA	PGT	DGT	78.00	86.70	95.80	1	126.0	23.8	2
SMLJ85A	SMLJ85CA	PGV	DGV	85.00	94.40	104.00	1	137.0	21.9	2
SMLJ90A	SMLJ90CA	PGX	DGX	90.00	100.00	111.00	1	146.0	20.5	2
SMLJ100A	SMLJ100CA	PGZ	DGZ	100.00	111.00	123.00	1	162.0	18.5	2
SMLJ110A	SMLJ110CA	PHE	DHE	110.00	122.00	135.00	1	177.0	16.9	2
SMLJ120A	SMLJ120CA	PHG	DHG	120.00	133.00	147.00	1	193.0	15.5	2
SMLJ130A	SMLJ130CA	PHK	DHK	130.00	144.00	159.00	1	209.0	14.4	2
SMLJ150A	SMLJ150CA	PHM	DHM	150.00	167.00	185.00	1	243.0	12.3	2
SMLJ160A	SMLJ160CA	PHP	DHP	160.00	178.00	197.00	1	259.0	11.6	2
SMLJ170A	SMLJ170CA	PHR	DHR	170.00	189.00	209.00	1	275.0	10.9	2

For bidirectional type having Vrwm of 10 volts and less, the IR limit is double
For parts without A, the VBR is ± 10%

Certified RoHS Compliant
UL File # E223026

11/13/2013