Description

The 6.6SMDJ series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.



Features

- 6600W peak pulsepower capability at 10 x 1000μs waveform, repetition rate (duty cycle): 0.01%
- Glass Passivated chip junction
- For surface mounted applications to optimize board space
- Low profile package
- Built-in strain relief
- Low incremental surge resistance
- Excellent clamping capability
- Plastic package has UL flammability classification 94V-O
- Fast response time: typically less than 1.0ps from 0 Volts to BV min
- Typical IR less than 5uA above 22V
- High temperature soldering: 260°C/40 seconds at terminals
- IEC-61000-4-2 ESD 15KV(Air),8KV(Contact)
- ESD protection of data lines in accordance with IEC 61000-4-2(IEC801-2)
- EFT protection of data lines in accordance with IEC61000-4-4(IEC801-4)
- AEC -Q101 qualified.

Applications

TVS devices are ideal for the protection of I/O Interfaces, V_{CC} bus and other vulnerable circuits used in Telecom, Computer, Industrial and Consumer electronic applications.

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Maximum Ratings and Electrical Characteristics

(TA=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at TA=25℃ by 10x1000μs waveform (Fig.2)(Note 1) (Note 2)	P_{PPM}	6600	W
Power Dissipation on infinite heat sink at TA=50℃	P_D	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Unidirectional only(Note 3)	I_{FSM}	300	A
Maximum Instantaneous Forward Voltage at 100A for Unidirectional only	V_F	3.5V/5.0	V
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to ＋150	℃
Typical Thermal Resistance Junction to Lead	R_{uJL}	15	℃/W
Typical Thermal Resistance Junction to Ambient	R_{uJA}	75	℃/W

Notes:

1. Non-repetitive current pulse, per Fig.3and derated above TA=25℃ per Fig. 2.

2. Mounted on copper pad area of 0.31x0.31” (8.0 x 8.0mm) to each terminal.

3. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum.

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Electrical Characteristics

PART NUMBER		REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE VBR(V)MAX.@I T		TEST CURRENT	REVERSE LEAKAGE @VRWM	PEAK PULSE CURRENT	MAXIMUM CLAMPING VOLTAGE @Ipp
BI- POLAR	UNI-POLAR	VRWM (V)	VBR MIN(V)	VBR MAX(V)	IT (mA)	IR (μA)	Ipp (A)	Vc (v)
6.6SMDJ12CA	6.6SMDJ12A	12.0	13.30	14.70	5	5	331.7	19.9
6.6SMDJ13CA	6.6SMDJ13A	13.0	14.40	16.50	5	5	307.0	21.5
6.6SMDJ14CA	6.6SMDJ14A	14.0	15.60	17.20	5	5	284.5	23.2
6.6SMDJ15CA	6.6SMDJ15A	15.0	16.70	19.20	5	5	270.5	24.4
6.6SMDJ16CA	6.6SMDJ16A	16.0	17.80	19.70	5	5	253.8	26.0
6.6SMDJ17CA	6.6SMDJ17A	17.0	18.90	21.70	5	5	239.1	27.6
6.6SMDJ18CA	6.6SMDJ18A	18.0	20.00	23.30	5	5	226.0	29.2
6.6SMDJ20CA	6.6SMDJ20A	20.0	22.20	25.50	5	5	203.7	32.4
6.6SMDJ22CA	6.6SMDJ22A	22.0	24.40	28.00	5	5	185.9	35.5
6.6SMDJ24CA	6.6SMDJ24A	24.0	26.70	30.70	5	5	169.7	38.9
6.6SMDJ26CA	6.6SMDJ26A	26.0	28.90	33.20	5	5	156.8	42.1
6.6SMDJ28CA	6.6SMDJ28A	28.0	31.10	35.80	5	5	145.4	45.4
6.6SMDJ30CA	6.6SMDJ30A	30.0	33.30	38.30	5	5	136.4	48.4
6.6SMDJ33CA	6.6SMDJ33A	36.0	36..7	40.60	5	5	123.8	53.3
6.6SMDJ36CA	6.6SMDJ36A	36.0	40.00	46.00	5	5	113.6	58.1
6.6SMDJ40CA	6.6SMDJ40A	40.0	44.40	51.10	5	5	102.3	64.5
6.6SMDJ43CA	6.6SMDJ43A	43.0	47.8	52.8	5	5	95.1	69.4
6.6SMDJ45CA	6.6SMDJ45A	45.0	50.00	57.50	5	5	90.8	72.7
6.6SMDJ48CA	6.6SMDJ48A	48.0	53.30	58.90	5	5	85.3	77.4
6.6SMDJ51CA	6.6SMDJ51A	51.0	56.70	65.20	5	5	80.1	82.4
6.6SMDJ54CA	6.6SMDJ54A	54.0	60.00	69.00	5	5	75.8	87.1
6.6SMDJ58CA	6.6SMDJ58A	58.0	64.4	71.2	5	5	70.5	93.6
6.6SMDJ60CA	6.6SMDJ60A	60.0	66.7	73.7	5	5	68.2	96.8
6.6SMDJ60CA	6.6SMDJ60A	60.0	66.7	73.7	5	5	68.2	96.8

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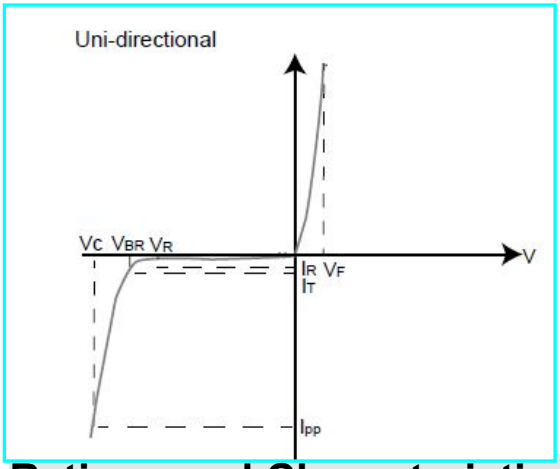
Electrical Characteristics

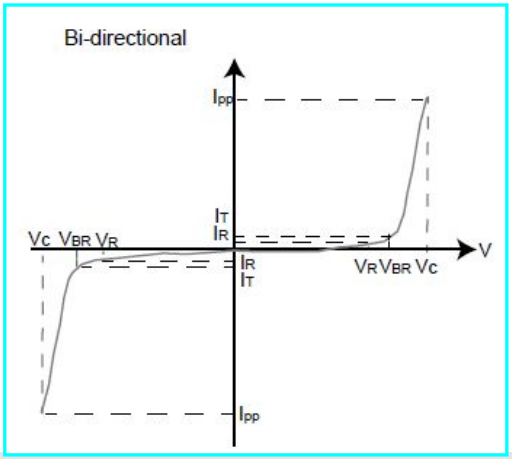
PART NUMBER		REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE @IT VBR(V)MAX.		TEST CURRENT	REVERSE LEAKAGE @VRWM	PEAK PULSE CURRENT	MAXIMUM CLAMPING VOLTAGE @Ipp
BI- POLAR	UNI-POLAR	VRWM (V)	VBR MIN(V)	VBR MAX(V)	IT (mA)	IR (μA)	Ipp (A)	Vc (v)
6.6SMDJ64CA	6.6SMDJ64A	64.0	71.10	81.80	5	5	64.1	103.0
6.6SMDJ70CA	6.6SMDJ70A	70.0	77.8	95.1	5	5	58.4	113.0
6.6SMDJ75CA	6.6SMDJ75A	75.0	83.3	92.1	5	5	54.5	121.0
6.6SMDJ78CA	6.6SMDJ78A	78.0	86.70	99.70	5	5	52.4	126.0
6.6SMDJ85CA	6.6SMDJ85A	85.0	94.40	108.20	5	5	48.2	137.0
6.6SMDJ90CA	6.6SMDJ90A	90.0	100.0	111.0	5	5	45.2	146.0
6.6SMDJ100CA	6.6SMDJ100A	100.0	111.0	123.00	5	5	40.7	162.0
6.6SMDJ110CA	6.6SMDJ110A	110.0	122.0	135.00	5	5	37.3	177.0
6.6SMDJ120CA	6.6SMDJ120A	120.0	133.0	147.00	5	5	34.2	193.0
6.6SMDJ130CA	6.6SMDJ110A	130.0	144.0	159.00	5	5	31.6	209.0
6.6SMDJ150CA	6.6SMDJ150A	150.0	167.0	185.00	5	5	27.2	243.0
6.6SMDJ160CA	6.6SMDJ160A	160.0	178.0	197.00	5	5	25.5	259.0
6.6SMDJ170CA	6.6SMDJ170A	170.0	189.0	209.00	5	5	24.0	275.0
6.6SMDJ180CA	6.6SMDJ180A	180.0	201.0	222.0	5	5	22.6	292.0
6.6SMDJ190CA	6.6SMDJ190A	190.0	211.0	233.00	5	5	21.4	308.0
6.6SMDJ200CA	6.6SMDJ200A	200.0	224.0	247.00	5	5	20.4	324.0
6.6SMDJ210CA	6.6SMDJ220A	210.0	237.0	263.00	5	5	18.5	356.0
6.6SMDJ220CA	6.6SMDJ220A	220.0	246.0	272.00	5	5	18.5	356.0
6.6SMDJ250CA	6.6SMDJ250A	250.0	279.0	309.00	5	5	16.3	405.0
6.6SMDJ300CA	6.6SMDJ300A	300.0	335.0	371.00	5	5	13.6	486.0
6.6SMDJ350CA	6.6SMDJ350A	350.0	391.0	432.00	5	5	11.6	567.0
6.6SMDJ400CA	6.6SMDJ400A	400.0	447.0	494.00	5	5	10.2	648.0
6.6SMDJ440CA	6.6SMDJ440A	440.0	492.0	543.00	5	5	9.3	713.0

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Notes:
For bidirectional type having V_{RWM} of 20 volts and less, the I_R limit is double.
For parts without A (V_{BR} is ± 10% and V_C is 5% higher than A parts

I-V Curve Characteristics

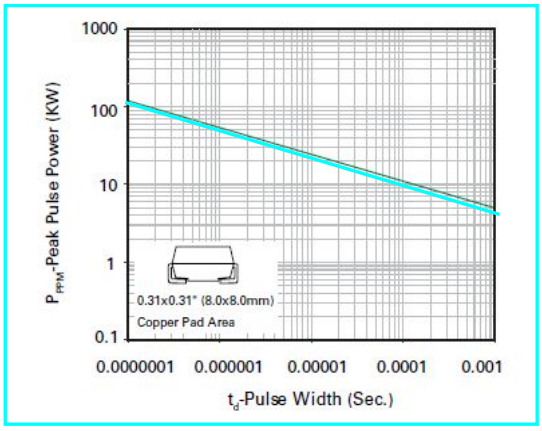




Ratings and Characteristic Curves (TA=25°C unless otherwise noted)

Figure 1 - Peak Pulse Power Rating Curve

Figure 2 - Pulse Derating Curve



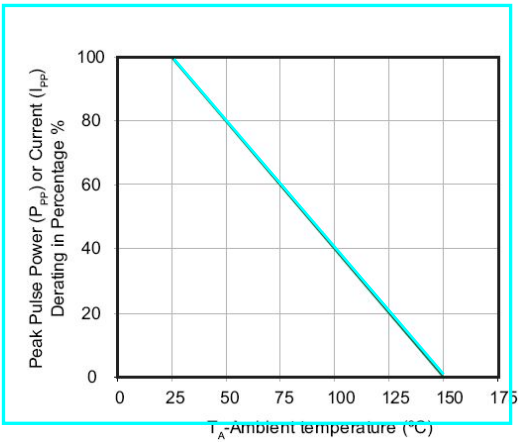
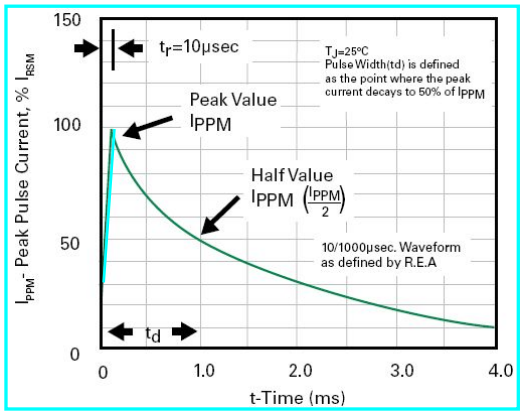
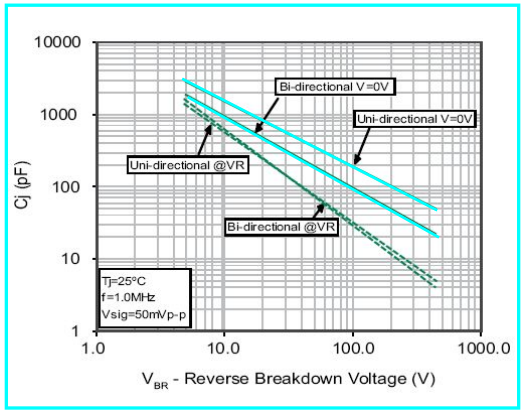


Figure 3 - Pulse Waveform

Figure 4 - Typical Junction Capacitance

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Ratings and Characteristic Curves (TA=25°C unless otherwise noted)

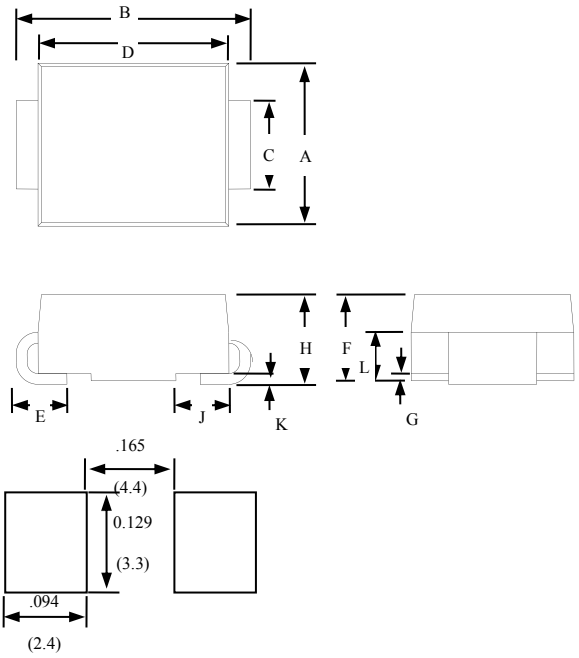
Figure 5 - Steady State Power Dissipation Derating Curve

Figure 6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

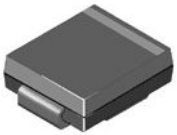
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Product Dimensions

Dime-nsion	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.220	0.245	5.59	6.22
B	0.305	0.320	7.75	8.13
C	0.114	0.126	2.90	3.20
D	0.260	0.280	6.60	7.11
E	0.030	0.060	0.76	1.52
F	0.077	0.094	1.95	2.40
G	-	0.008	-	0.203
H	0.79	0.103	2.06	2.62
J	0.030	0.060	0.76	1.52
K	0.008	0.014	0.20	0.35
L	0.039	0.049	0.99	1.24



Summary of Packing Options

Package Type	Packaging Option	Packing Quantity	Industry Standard
DO-214AB(SMC) 	Tape&Reel-16mm/13" tape	2500PCS	EIA STD RS-481

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