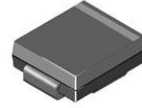




Description

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



DO214AB

Features

- ◆ 6600W peak pulsepower capability at 10 x 1000 μ s 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)

Applications

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



Maximum Ratings and Electrical Characteristics

(TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at TA=25°C by 10x1000µs waveform (Fig.2) (Note 1) (Note 2)	P _{PPM}	6600	W
Power Dissipation on infinite heat sink at TA=50°C	P _D	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Unidirectional only(Note 3)	I _{FSM}	500	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	°C
Typical Thermal Resistance Junction to Lead	R _{θJL}	15	°C/W
Typical Thermal Resistance Junction to Ambient	R _{θJA}	75	°C/W

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 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.



Electrical Characteristics

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Reverse Leakage @ V_{RWM}	Peak Pulse Current	Maximum Clamping Voltage@ I_{PP}
Uni-polar	Bi-Polar	Uni	Bi	V_{RWM} (V)	V_{BR} Min(V)	V_{BR} Max(V)	I_T (mA)	I_R (μ A)	I_{PP} (A)	V_C (V)
6.6SMDJ17A	6.6SMDJ17CA	6PEP	6BEP	17.0	18.90	20.90	5	5	239.1	27.6
6.6SMDJ18A	6.6SMDJ18CA	6PER	6BER	18.0	20.00	22.10	5	5	226.0	29.2
6.6SMDJ20A	6.6SMDJ20CA	6PEV	6BEV	20.0	22.20	24.50	5	5	203.7	32.4
6.6SMDJ22A	6.6SMDJ22CA	6PEX	6BEX	22.0	24.40	26.90	5	5	185.9	35.5
6.6SMDJ24A	6.6SMDJ24CA	6PEZ	6BEZ	24.0	26.70	29.50	5	5	169.7	38.9
6.6SMDJ26A	6.6SMDJ26CA	6PFE	6BFE	26.0	28.90	31.90	5	5	156.8	42.1
6.6SMDJ28A	6.6SMDJ28CA	6PFG	6BFG	28.0	31.10	34.40	5	5	145.4	45.4
6.6SMDJ30A	6.6SMDJ30CA	6PFK	6BFK	30.0	33.30	36.80	5	5	136.4	48.4
6.6SMDJ33A	6.6SMDJ33CA	6PFM	6BFM	33.0	36.70	40.60	5	5	123.8	53.3
6.6SMDJ36A	6.6SMDJ36CA	6PFP	6BFP	36.0	40.00	44.20	5	5	113.6	58.1
6.6SMDJ40A	6.6SMDJ40CA	6PFR	6BFR	40.0	44.40	49.10	5	5	102.3	64.5
6.6SMDJ43A	6.6SMDJ43CA	6PFT	6BFT	43.0	47.80	52.80	5	5	95.1	69.4
6.6SMDJ45A	6.6SMDJ45CA	6PFV	6BFV	45.0	50.00	55.30	5	5	90.8	72.7
6.6SMDJ48A	6.6SMDJ48CA	6PFX	6BFX	48.0	53.30	58.90	5	5	85.3	77.4
6.6SMDJ51A	6.6SMDJ51CA	6PFZ	6BFZ	51.0	56.70	62.70	5	5	80.1	82.4
6.6SMDJ54A	6.6SMDJ54CA	6PGE	6BGE	54.0	60.00	66.30	5	5	75.8	87.1
6.6SMDJ58A	6.6SMDJ58CA	6PGG	6BGG	58.0	64.40	71.20	5	5	70.5	93.6
6.6SMDJ60A	6.6SMDJ60CA	6PGK	6BGK	60.0	66.70	73.70	5	5	68.2	96.8
6.6SMDJ64A	6.6SMDJ64CA	6PGM	6BGM	64.0	71.10	78.60	5	5	64.1	103.0
6.6SMDJ70A	6.6SMDJ70CA	6PGP	6BGP	70.0	77.80	86.00	5	5	58.4	113.0
6.6SMDJ75A	6.6SMDJ75CA	6PGR	6BGR	75.0	83.30	92.10	5	5	54.5	121.0
6.6SMDJ78A	6.6SMDJ78CA	6PGT	6BGT	78.0	86.70	95.80	5	5	52.3	126.0
6.6SMDJ80A	6.6SMDJ80CA	6PGB	6BGB	80.0	88.80	97.60	5	5	51.1	129.6
6.6SMDJ85A	6.6SMDJ85CA	6PGV	6BGV	85.0	94.40	104.00	5	5	48.2	137.0

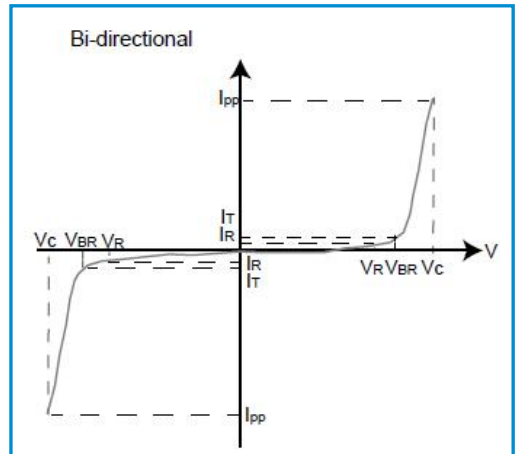
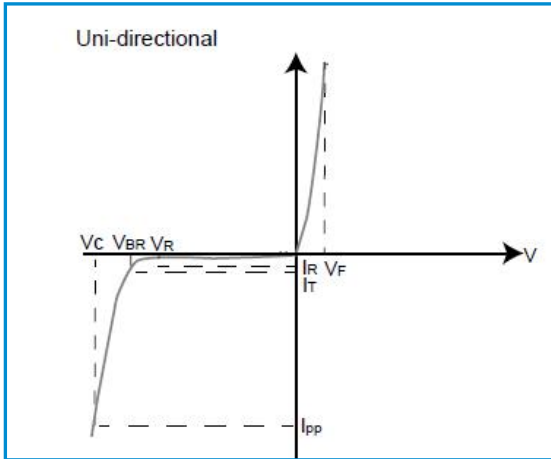


Notes:

For bidirectional type having VRWM of 20 volts and less, the IR limit is double.

For parts without A (VBR is $\pm 10\%$ and VC 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

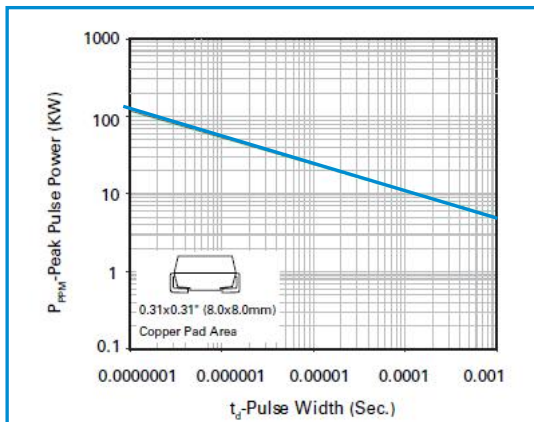


Figure 2 - Pulse Derating Curve

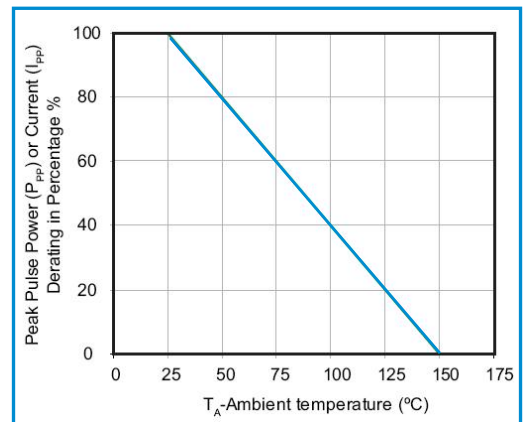




Figure 3 - Pulse Waveform

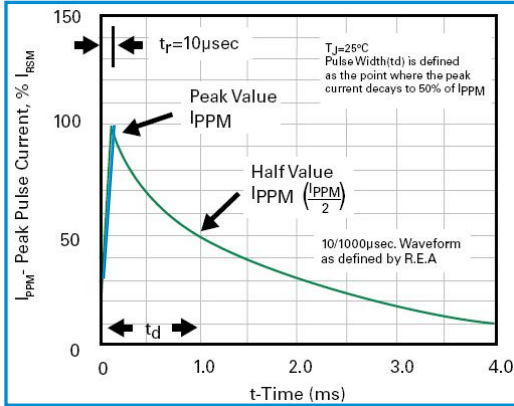
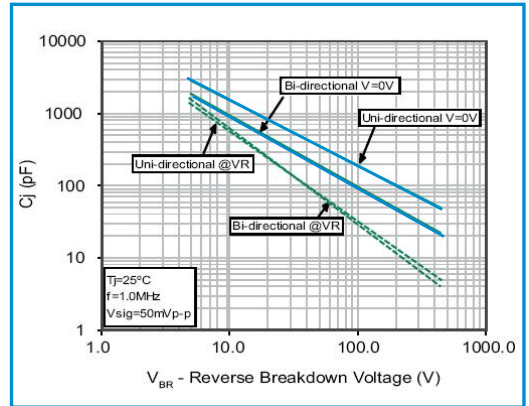


Figure 4 - Typical Junction Capacitance



Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Figure 5 - Steady State Power Dissipation Derating Curve

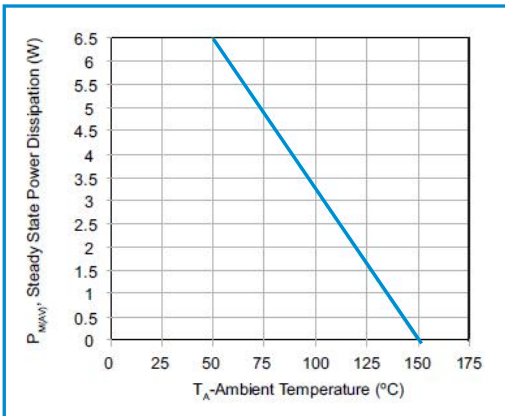
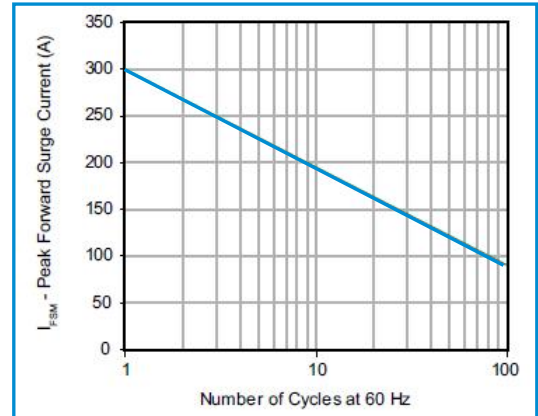


Figure 6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only





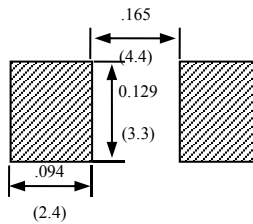
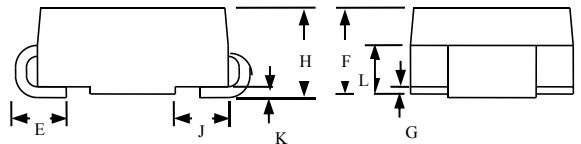
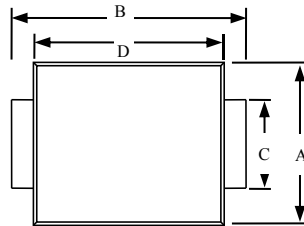
Part Numbering System

6.6SMDJ XXX C A
 (1) (2) (3) (4)

- (1) SERIES.
- (2) V_R VOLTAGE.
- (3) BI-DIRECTIONAL.
- (4) 5% VOLTAGE TOLERANCE.


Product Dimensions

Dime-n sion	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	3000PCS	EIA STD RS-481

