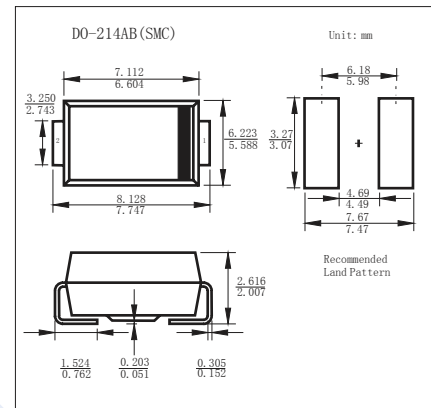


TVS Diodes

SMDJ Series

■ 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 1 μ A above 10V
- High temperature soldering:
250°C/10 seconds at terminals



■ Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Rating	Unit
Peak Pulse Power Dissipation on 10/1000s waveform (Note1,Note2, Fig.1).	PPPM	Minimum 3000	W
Peak Pulse Current of on 10/1000s waveform.(Note1,Fig.3)	IPPM	See Table	A
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$, Lead lengths.375", (9.5mm) (Note2,Fig.5).	$P_{M(AV)}$	6.5	W
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 3,Fig.6).	I_{FSM}	300	A
Junction Temperature	T_J	150	°C
Storage Temperature range	T_{stg}	-65 to 150	

Notes: 1. Non-repetitive current pulse, per Fig. 3 and derated above $T_A = 25$ per Fig. 2.

2. Mounted on 0.8mm x 0.8mm Copper Pads to each terminal.

3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

TVS Diodes

SMDJ Series

■ Electrical Characteristics (T_A= 25°C, unless otherwise specified)

Part Number		Marking Code		Reverse Standoff Voltage	Breakdown Voltage V _{BR} @ I _T		Test Current	Max. Clamping Voltage @ I _{pp}	Peak Pulse Current	Reverse Leakage @ V _{RWM}
UNT-POLAR	BI-POLAR	UNI	BI	V _{RWM} (V)	Min (V)	Max (V)	I _T (mA)	V _C (V)	I _{pp} (A)	I _R (μA)
SMDJ5.0A	SMDJ5.0CA	RDE	DDE	5.0	6.40	7.00	10	9.2	326.1	800
SMDJ6.0A	SMDJ6.0CA	RDG	DDG	6.0	6.67	7.37	10	10.3	291.3	800
SMDJ6.5A	SMDJ6.5CA	RDK	DDK	6.5	7.22	7.98	10	11.2	267.9	500
SMDJ7.0A	SMDJ7.0CA	PDM	DDM	7.0	7.78	8.60	10	12.0	250.0	200
SMDJ7.5A	SMDJ7.5CA	PDP	DDP	7.5	8.33	9.21	1	12.9	232.6	100
SMDJ8.0A	SMDJ8.0CA	PDR	DDR	8.0	8.89	9.83	1	13.6	220.6	50
SMDJ8.5A	SMDJ8.5CA	PDT	DDT	8.5	9.44	10.40	1	14.4	208.3	20
SMDJ9.0A	SMDJ9.0CA	PDV	DDV	9.0	10.00	11.10	1	15.4	194.8	10
SMDJ10A	SMDJ10CA	PDX	DDX	10.0	11.10	12.30	1	17.0	176.5	5
SMDJ11A	SMDJ11CA	PDZ	DDZ	11.0	12.20	13.50	1	18.2	164.8	2
SMDJ12A	SMDJ12CA	PEE	DEE	12.0	13.30	14.70	1	19.9	150.8	2
SMDJ13A	SMDJ13CA	PEG	DEG	13.0	14.40	15.90	1	21.5	139.5	2
SMDJ14A	SMDJ14CA	PEK	DEK	14.0	15.60	17.20	1	23.2	129.3	2
SMDJ15A	SMDJ15CA	PEM	DEM	15.0	16.70	18.50	1	24.4	123.0	2
SMDJ16A	SMDJ16CA	PEP	DEP	16.0	17.80	19.70	1	26.0	115.4	2
SMDJ17A	SMDJ17CA	PER	DER	17.0	18.90	20.90	1	27.6	108.7	2
SMDJ18A	SMDJ18CA	PET	DET	18.0	20.00	22.10	1	29.2	102.7	2
SMDJ20A	SMDJ20CA	PEV	DEV	20.0	22.20	24.50	1	32.4	92.6	2
SMDJ22A	SMDJ22CA	PEX	DEX	22.0	24.40	26.90	1	35.5	84.5	2
SMDJ24A	SMDJ24CA	PEZ	DEZ	24.0	26.70	29.50	1	38.9	77.1	2
SMDJ26A	SMDJ26CA	PFE	DFE	26.0	28.90	31.90	1	42.1	71.3	2
SMDJ28A	SMDJ28CA	PFG	DFG	28.0	31.10	34.40	1	45.4	66.1	2
SMDJ30A	SMDJ30CA	PFK	DFK	30.0	33.30	36.80	1	48.4	62.0	2
SMDJ33A	SMDJ33CA	PFM	DFM	33.0	36.70	40.60	1	53.3	56.3	2
SMDJ36A	SMDJ36CA	PFP	DFP	36.0	40.00	44.20	1	58.1	51.6	2
SMDJ40A	SMDJ40CA	PFR	DFR	40.0	44.40	49.10	1	64.5	46.5	2
SMDJ43A	SMDJ43CA	PFT	DFT	43.0	47.80	52.80	1	69.4	43.2	2
SMDJ45A	SMDJ45CA	PFV	DFV	45.0	50.00	55.30	1	72.7	41.3	2
SMDJ48A	SMDJ48CA	PFX	DFX	48.0	53.30	58.90	1	77.4	38.8	2
SMDJ51A	SMDJ51CA	PFZ	DFZ	51.0	56.70	62.70	1	82.4	36.4	2
SMDJ54A	SMDJ54CA	PGE	DGE	54.0	60.00	66.30	1	87.1	34.4	2
SMDJ58A	SMDJ58CA	PGG	DGG	58.0	64.40	71.20	1	93.6	32.1	2
SMDJ60A	SMDJ60CA	PGK	DGK	60.0	66.70	73.70	1	96.8	31.0	2
SMDJ64A	SMDJ64CA	PGM	DGM	64.0	71.10	78.60	1	103.0	29.1	2
SMDJ70A	SMDJ70CA	PGP	DGP	70.0	77.80	86.00	1	113.0	26.5	2

TVS Diodes

SMDJ Series

Part Number		Marking Code		Reverse Standoff Voltage	Breakdown Voltage $V_{BR} @ I_T$		Test Current	Max. Clamping Voltage @ I_{pp}	Peak Pulse Current	Reverse Leakage @ V_{RWM}
UNT-POLAR	BI-POLAR	UNI	BI	V_{RWM} (V)	Min (V)	Max (V)	I_T (mA)	V_C (V)	I_{pp} (A)	I_R (μ A)
SMDJ75A	SMDJ75CA	PGR	DGR	75.0	83.30	92.10	1	121.0	24.8	2
SMDJ78A	SMDJ78CA	PGT	DGT	78.0	86.70	95.80	1	126.0	23.8	2
SMDJ85A	SMDJ85CA	PGV	DGV	85.0	94.40	104.00	1	137.0	21.9	2
SMDJ90A	SMDJ90CA	PGX	DGX	90.0	100.00	111.00	1	146.0	20.5	2
SMDJ100A	SMDJ100CA	PGZ	DGZ	100.0	111.00	123.00	1	162.0	18.5	2
SMDJ110A	SMDJ110CA	PHE	DHE	110.0	122.00	135.00	1	177.0	16.9	2
SMDJ120A	SMDJ120CA	PHG	DHG	120.0	133.00	147.00	1	193.0	15.5	2
SMDJ130A	SMDJ130CA	PHK	DHK	130.0	144.00	159.00	1	209.0	14.4	2
SMDJ150A	SMDJ150CA	PHM	DHM	150.0	167.00	185.00	1	243.0	12.3	2
SMDJ160A	SMDJ160CA	PHP	DHP	160.0	178.00	197.00	1	259.0	11.6	2
SMDJ170A	SMDJ170CA	PHR	DHR	170.0	189.00	209.00	1	275.0	10.9	2
SMDJ180A	SMDJ180CA	HHT	IHT	180.0	201.00	222.00	1	292.0	10.3	2
SMDJ190A	SMDJ190CA	HHV	IHV	190.0	211.00	233.00	1	308.0	9.7	2
SMDJ200A	SMDJ200CA	HHX	IHX	200.0	224.00	247.00	1	324.0	9.3	2
SMDJ210A	SMDJ210CA	HHZ	IHZ	210.0	237.00	263.00	1	340.0	8.8	2
SMDJ220A	SMDJ220CA	HIE	IIE	220.0	246.00	272.00	1	356.0	8.4	2

Notes: For bidirectional type having V_{RWM} of 10 volts and less, the I_R limit is double.

TVS Diodes

SMDJ Series

■ Typical Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

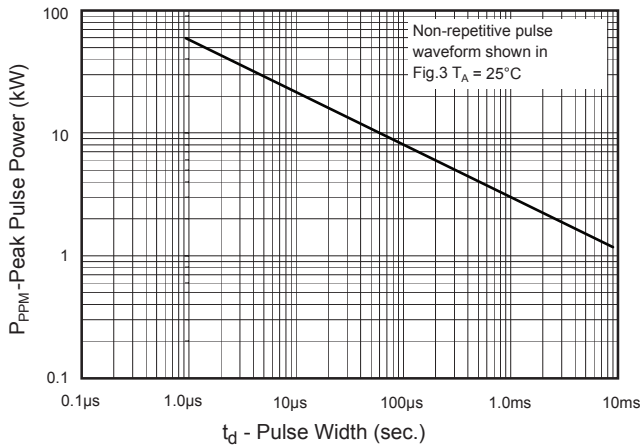


Fig.2 - Pulse Derating Curve

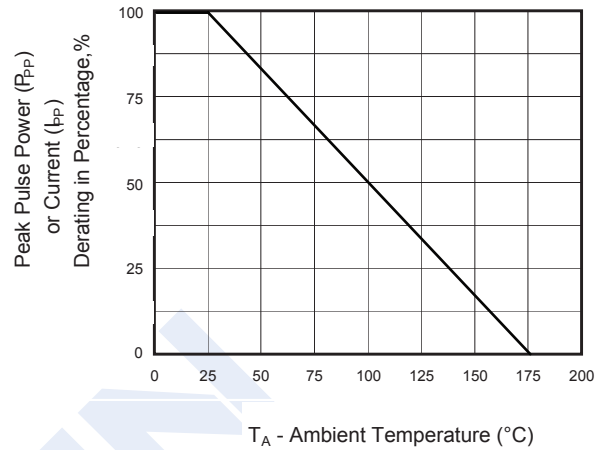


Fig.3 - Pulse Waveform

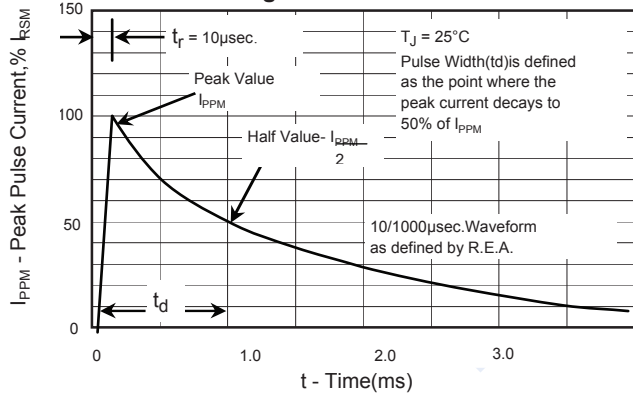


Fig. 4 - Typical Junction Capacitance

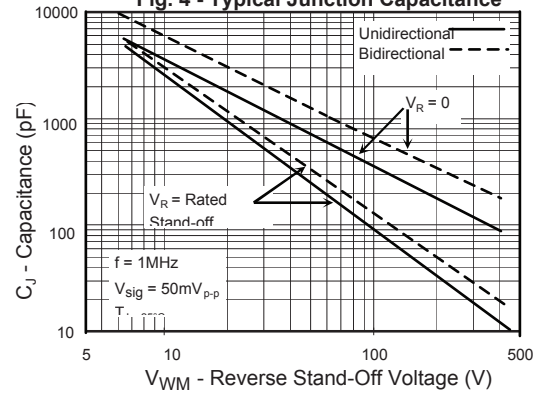


Fig. 5 - Steady State Power Derating Curve

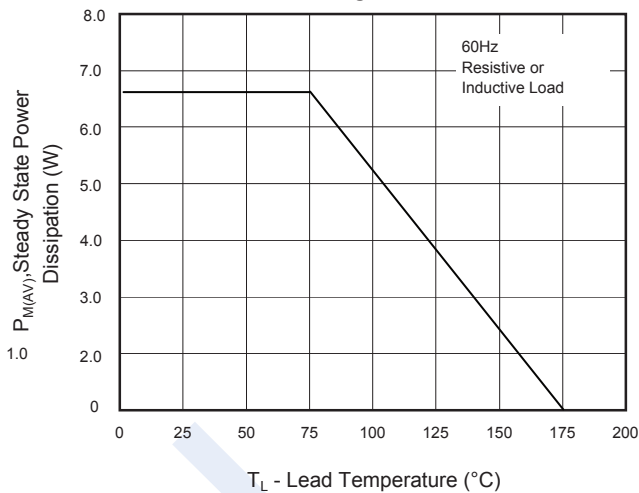


Fig.6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only

