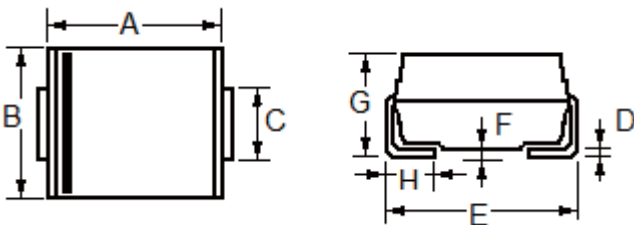


SMBJ5.0--SMBJ220CA Surface Mount TVS Diode

- * 600 Watt Peak Power
- * SMB Package

SMB (DO-214AA)



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	4.06	4.57	0.160	0.180
B	3.30	3.94	0.130	0.155
C	1.95	2.20	0.077	0.086
D	0.125	0.305	0.006	0.012
E	5.21	5.59	0.205	0.220
F	----	0.203	----	0.008
G	2.13	2.44	0.084	0.096
H	0.76	1.52	0.030	0.060

*

Maximum Ratings And Thermal Characteristics

Rating at 25°C ambient temperature unless otherwise specified

Parameter	Symbol	Value	Units
Peak Power Dissipation (Note 1.) @ $T_L = 25^\circ\text{C}$, Pulse Width = 1 ms	P_{PK}	600	W
Forward Surge Current (Note 2.) @ $T_A = 25^\circ\text{C}$	I_{FSM}	100	A
Power Dissipation On Infinite Heatsink, @ $T_A = 50^\circ\text{C}$	$P_{M(AV)}$	5.0	W
Thermal Resistance Junction To Ambient Air (Note 3.)	$R_{\theta JA}$	100	$^\circ\text{C/W}$
Thermal Resistance Junction To Leads	$R_{\theta JL}$	20	$^\circ\text{C/W}$
Operating & Storage Temperature Range	T_{STG}	-55 to 150	$^\circ\text{C}$
Operating Junction Temperature Range	T_J	-55 to 150	$^\circ\text{C}$

- 1) 10 X 1000 us, non-repetitive
- 2) 1/2 sine wave (or equivalent square wave), PW = 8.3 ms, duty cycle = 4 pulses per minute maximum
- 3) Mounted on minimum recommended pad layout

SMBJ5.0--SMBJ220CA Surface Mount TVS Diode

Part Number	Part Number	Device Marking Code		Reverse Stand off Voltage VR (Volts)	Breakdown Voltage VBR (Volts) @ IT		Test Current IT (mA)	Maximum Clamping Voltage VC @ IPP (Volts)	Maximum Peak Pulse Current IPP (A)	Maximum Reverse Leakage IR @ VR (µA)
		UNI	BI		MIN	MAX				
SMBJ5.0A	SMBJ5.0CA	KE	AE	5	6.40	7.07	10	9.6	65.2	500
SMBJ6.0A	SMBJ6.0CA	KG	AG	6	6.67	7.37	10	10.3	58.3	300
SMBJ6.5A	SMBJ6.5CA	KK	AK	6.5	7.22	7.98	10	11.2	53.6	200
SMBJ7.0A	SMBJ7.0CA	KM	AM	7	7.78	8.60	10	12.0	50.0	100
SMBJ7.5A	SMBJ7.5CA	KP	AP	7.5	8.33	9.21	1	12.9	46.6	50
SMBJ8.0A	SMBJ8.0CA	KR	AR	8	8.89	9.83	1	13.6	44.2	50
SMBJ8.5A	SMBJ8.5CA	KT	AT	8.5	9.44	10.40	1	14.4	41.7	30
SMBJ9.0A	SMBJ9.0CA	KV	AV	9	10.00	11.10	1	15.4	39.0	30
SMBJ10A	SMBJ10CA	KX	AX	10	11.10	12.30	1	17.0	35.3	3
SMBJ11A	SMBJ11CA	KZ	AZ	11	12.20	13.50	1	18.2	33.0	1
SMBJ12A	SMBJ12CA	LE	BE	12	13.30	14.70	1	19.9	30.2	1
SMBJ13A	SMBJ13CA	LG	BG	13	14.40	15.90	1	21.5	28.0	1
SMBJ14A	SMBJ14CA	LK	BK	14	15.60	17.20	1	23.2	25.9	1
SMBJ15A	SMBJ15CA	LM	BM	15	16.70	18.50	1	24.4	24.6	1
SMBJ16A	SMBJ16CA	LP	BP	16	17.80	19.70	1	26.0	23.1	1
SMBJ17A	SMBJ17CA	LR	BR	17	18.90	20.90	1	27.6	21.8	1
SMBJ18A	SMBJ18CA	LT	BT	18	20.00	22.10	1	29.2	20.6	1
SMBJ20A	SMBJ20CA	LV	BV	20	22.20	24.50	1	32.4	18.6	1
SMBJ22A	SMBJ22CA	LX	BX	22	24.40	26.90	1	35.5	16.9	1
SMBJ24A	SMBJ24CA	LZ	BZ	24	26.70	29.50	1	38.9	15.5	1
SMBJ26A	SMBJ26CA	ME	CE	26	28.90	31.90	1	42.1	14.3	1
SMBJ28A	SMBJ28CA	MG	CG	28	31.10	34.40	1	45.4	13.3	1
SMBJ30A	SMBJ30CA	MK	CK	30	33.30	36.80	1	48.4	12.4	1
SMBJ33A	SMBJ33CA	MM	CM	33	36.70	40.60	1	53.3	11.3	1
SMBJ36A	SMBJ36CA	MP	CP	36	40.00	44.20	1	58.1	10.4	1
SMBJ40A	SMBJ40CA	MR	CR	40	44.40	49.10	1	64.5	9.3	1
SMBJ43A	SMBJ43CA	MT	CT	43	47.80	52.80	1	69.4	8.7	1
SMBJ45A	SMBJ45CA	MV	CV	45	50.00	55.30	1	72.7	8.3	1
SMBJ48A	SMBJ48CA	MX	CX	48	53.30	58.90	1	77.4	7.8	1
SMBJ51A	SMBJ51CA	MZ	CZ	51	56.70	62.70	1	82.4	7.3	1
SMBJ54A	SMBJ54CA	NE	DE	54	60.00	66.30	1	87.1	6.9	1
SMBJ58A	SMBJ58CA	NG	DG	58	64.40	71.20	1	93.6	6.5	1
SMBJ60A	SMBJ60CA	NK	DK	60	66.70	73.70	1	96.8	6.2	1
SMBJ64A	SMBJ64CA	NM	DM	64	71.10	78.60	1	103.0	5.9	1
SMBJ70A	SMBJ70CA	NP	DP	70	77.80	86.00	1	113.0	5.3	1
SMBJ75A	SMBJ75CA	NR	DR	75	83.30	92.10	1	121.0	5.0	1

SMBJ5.0--SMBJ220CA Surface Mount TVS Diode

Part Number	Part Number	Device Marking Code		Reverse Stand off Voltage VR (Volts)	Breakdown Voltage VBR (Volts) @ IT		Test Current IT (mA)	Maximum Clamping Voltage VC @ IPP (Volts)	Maximum Peak Pulse Current IPP (A)	Maximum Reverse Leakage IR @ VR (μA)
		UNI	BI		MIN	MAX				
SMBJ78A	SMBJ78CA	NT	DT	78	86.70	95.80	1	126.0	4.8	1
SMBJ85A	SMBJ85CA	NV	DV	85	94.40	104.00	1	137.0	4.4	1
SMBJ90A	SMBJ90CA	NX	DX	90	100.0	111.00	1	146.0	4.1	1
SMBJ100A	SMBJ100CA	NZ	DZ	100	111.0	123.00	1	162.0	3.7	1
SMBJ110A	SMBJ110CA	PE	EE	110	122.0	135.00	1	177.0	3.4	1
SMBJ120A	SMBJ120CA	PG	EG	120	133.0	147.00	1	193.0	3.1	1
SMBJ130A	SMBJ130CA	PK	EK	130	144.0	159.00	1	209.0	2.9	1
SMBJ150A	SMBJ150CA	PM	EM	150	167.0	185.00	1	243.0	2.5	1
SMBJ160A	SMBJ160CA	PP	EP	160	178.0	197.00	1	259.0	2.3	1
SMBJ170A	SMBJ170CA	PR	ER	170	189.0	209.00	1	275.0	2.2	1
SMBJ180A	SMBJ180CA	PT	ET	180	201.0	222.00	1	292.0	2.1	1
SMBJ190A	SMBJ190CA	PV	EV	190	211.0	233.00	1	306.0	2.0	1
SMBJ200A	SMBJ200CA	PX	EX	200	224.0	247.00	1	324.0	1.9	1
SMBJ210A	SMBJ210CA	PZ	EZ	210	233.0	258.00	1	324.0	1.9	1
SMBJ220A	SMBJ220CA	QE	FE	220	246.0	272.00	1	356.0	1.7	1

※For Bi-directional type having VRWM of 10 Volts and less, the IR limit is double

1. A transient suppressor is normally selected according to the working peak reverse voltage (VRWM), which should be equal to or greater than the DC or continuous peak operating voltage level.
2. VBR measured at pulse test current IT at an ambient temperature of 25°C.
3. Surge current waveform per Figure 1 and derate per Figure 3.

SMBJ5.0--SMBJ220CA

Surface Mount TVS Diode

Typical Characteristics

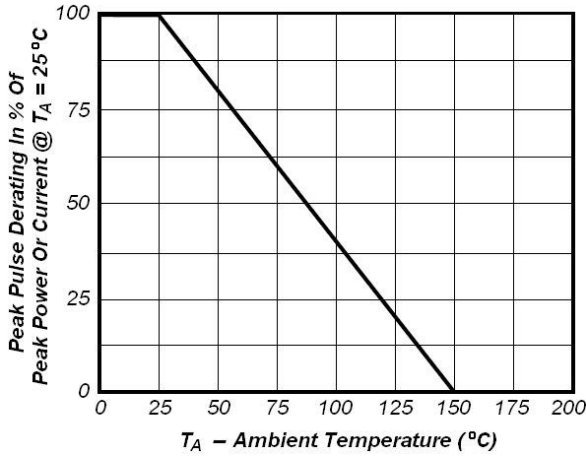


Fig1. Pulse Dearing Curve

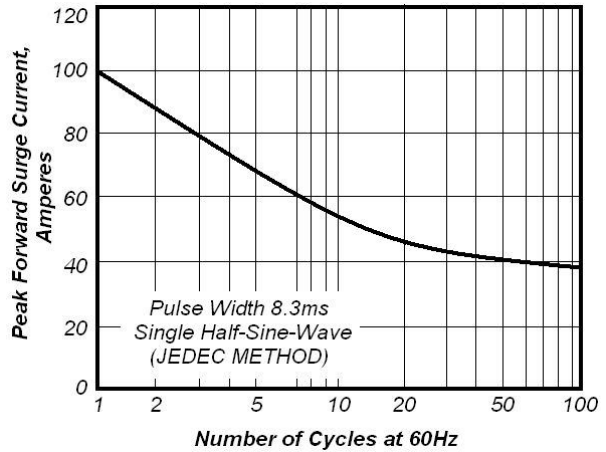


Fig2. Maximum Non-Repetitive Peak

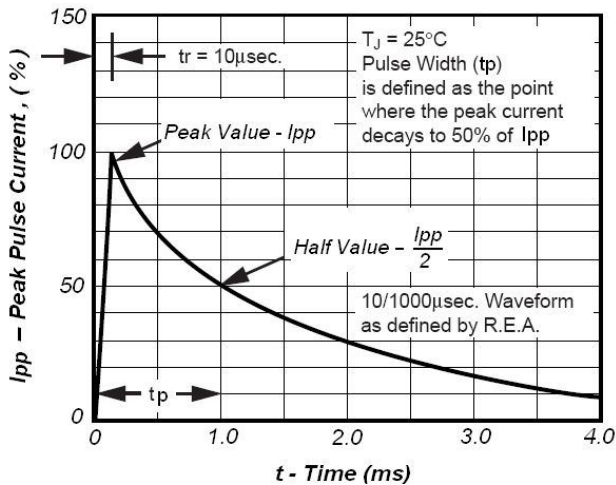


Fig3. Pulse Waveform

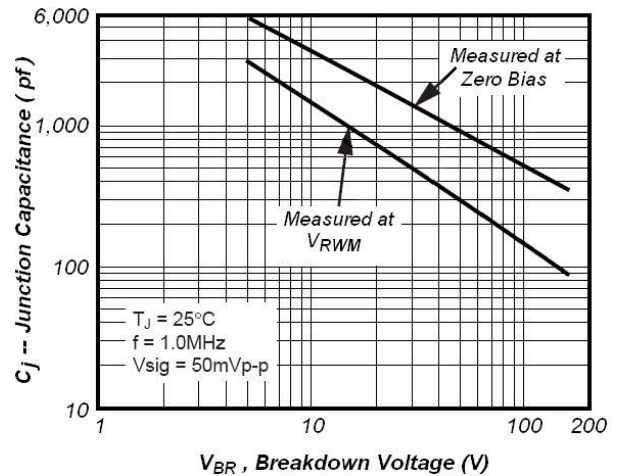


Fig4. Typical Junction Capacitance

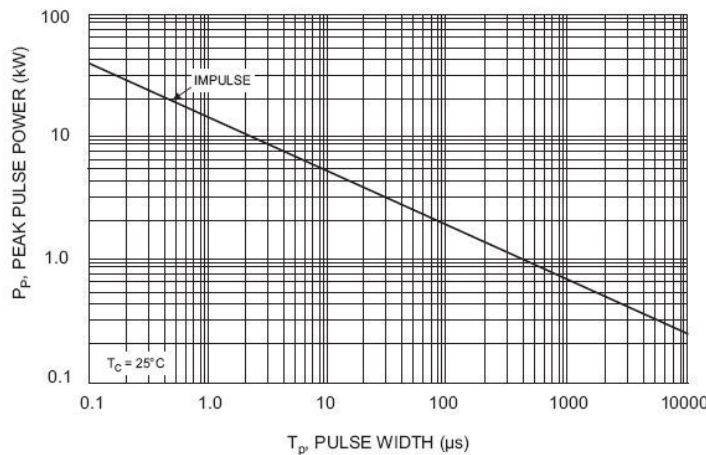


Fig5. Peak Pulse Power Rating curve

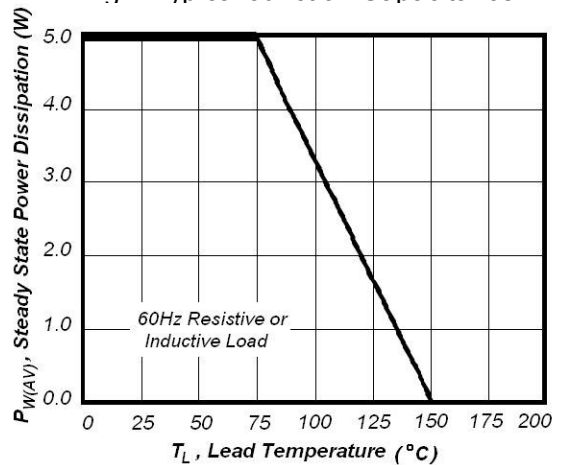


Fig6. Steady State Power Derating Curve