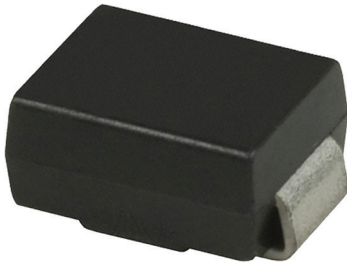


Transient Voltage Suppressor

SMBJ5.0 - SMBJ440CA



Features:

- Glass passivated junction
- Low incremental surge resistance, excellent clamping capability
- 600W peak pulse power capability with a 10/1,000 μ s waveform, repetition rate (duty cycle): 0.01%
- Very fast response time
- High temperature soldering guaranteed: 250°C/10 secs at terminals

Mechanical Data:

- Case: JEDEC DO-214AA moulded plastic over glass passivated junction
- Polarity: For uni-directional types the colour band denotes the cathode, which is positive with respect to the anode under normal TVS operation
- Weight: 0.0003oz, 0.093g

Devices for Bidirectional Applications:

For bi-directional devices, use suffix "C" (eg SMBJ10C, SMBJ10CA). Electrical characteristics apply in both directions. No colour band on bi-directional devices.

Maximum Ratings & Characteristics: $T_a=25^\circ\text{C}$

Characteristics	Symbol	Value	Unit
Peak power dissipation with a 10/1,000 μ s waveform (Note 1, 2, Fig 1)	P_{PPM}	Minimum 600	W
Peak pulse current with a 10/1,000 μ s waveform (Note 1)	I_{PPM}	See table below	A
Peak forward surge current, 8.3ms single half sine-wave uni- directional only (Note 2)	I_{FSM}	100	A
Typical thermal resistance, junction to ambient (Note 3)	R_{thJA}	100	$^\circ\text{C/W}$
Typical thermal resistance, junction to lead	R_{thJL}	20	$^\circ\text{C/W}$
Operational junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Notes:

1. Non-repetitive current pulses, per Fig.3 and derated above $T_a=25^\circ\text{C}$ per Fig.2
2. Mounted on 0.2" $\times$ 0.2" (5mm $\times$ 5mm) copper pads to each terminal
3. Mounted on minimum recommended pad layout

Transient Voltage Suppressor

SMBJ5.0 - SMBJ440CA



Electrical Characteristics:

$T_a = 25^\circ\text{C}$ unless otherwise specified $V_F = 3.5\text{V}$ @ $I_F = 50\text{A}$ (uni-directional only)

Part Number Add C for Bi-directional	Device Marking Code		$V_{(BR)}$			V_{RWM}	I_{RM} @ V_{RWM}	I_{PPM}	V_C @ I_{PPM}
	UNI	BI	Min (V)	Max (V)	mA (@ I_T)	V	A	A	V
SMBJ5.0 (C)	KD	AD	6.4	7.82	10	5	800	62.5	9.6
SMBJ5.0 (C)A	KE	AE	6.4	7.07	10	5	800	65.2	9.2
SMBJ6.0 (C)	KF	AF	6.67	8.15	10	6	800	52.6	11.4
SMBJ6.0 (C)A	KG	AG	6.67	8.15	10	6	800	58.3	10.3
SMBJ6.5 (C)	KH	AH	7.22	8.82	10	6.5	500	48.8	12.3
SMBJ6.5 (C)A	KK	AK	7.22	7.98	10	6.5	500	53.6	11.2
SMBJ7.0 (C)	KL	AL	7.78	9.51	10	7	200	45.1	13.3
SMBJ7.0 (C)A	KM	AM	7.78	8.6	10	7	200	50	12
SMBJ7.5 (C)	KN	AN	8.33	10.2	1	7.5	100	42	14.3
SMBJ7.5 (C)A	KP	AP	8.33	9.21	1	7.5	100	46.5	12.9
SMBJ8.0 (C)	KQ	AQ	8.89	10.9	1	8	50	40	15
SMBJ8.0 (C)A	KR	AR	8.89	9.83	1	8	50	44.1	13.6
SMBJ8.5 (C)	KS	AS	9.44	11.5	1	8.5	20	37.7	15.9
SMBJ8.5 (C)A	KT	AT	9.44	10.4	1	8.5	20	41.7	14.4
SMBJ9.0 (C)	KU	AU	10	12.2	1	9	10	35.5	16.9
SMBJ9.0 (C)A	KV	AV	10	11.1	1	9	10	39	15.4
SMBJ10 (C)	KW	AW	11.1	13.6	1	10	5	31.9	18.8
SMBJ10 (C)A	KX	AX	11.1	12.3	1	10	5	35.3	17
SMBJ11 (C)	KY	AY	12.2	14.9	1	11	5	29.9	20.1
SMBJ11 (C)A	KZ	AZ	12.2	13.5	1	11	5	33	18.2
SMBJ12 (C)	LD	BD	13.3	16.2	1	12	5	27.3	22
SMBJ12 (C)A	LE	BE	13.3	14.7	1	12	5	30.2	19.9
SMBJ13 (C)	LF	BF	14.4	17.6	1	13	5	25.2	23.8
SMBJ13 (C)A	LG	BG	14.4	15.9	1	13	5	27.9	21.5
SMBJ14 (C)	LH	BH	15.6	19.1	1	14	5	23.3	25.8
SMBJ14 (C)A	LK	BK	15.6	17.2	1	14	5	25.9	23.2
SMBJ15 (C)	LL	BL	16.7	20.4	1	15	5	22.3	26.9
SMBJ15 (C)A	LM	BM	16.7	18.5	1	15	5	24.6	24.4
SMBJ16 (C)	LN	BN	17.8	21.8	1	16	5	20.8	28.8
SMBJ16 (C)A	LP	BP	17.8	19.7	1	16	5	23.1	26
SMBJ17 (C)	LQ	BQ	18.9	23.1	1	17	5	19.7	30.5

Transient Voltage Suppressor

SMBJ5.0 - SMBJ440CA



Electrical Characteristics:

$T_a = 25^\circ\text{C}$ unless otherwise specified $V_F = 3.5\text{V}$ @ $I_F = 50\text{A}$ (uni-directional only)

Part Number Add C for Bi-directional	Device Marking Code		$V_{(BR)}$			V_{RWM}	$I_{RM} @ V_{RWM}$	I_{PPM}	$V_c @ I_{PPM}$
	UNI	BI	Min (V)	Max (V)	mA (@ I_T)	V	A	A	V
SMBJ17 (C)A	LR	BR	18.9	20.9	1	17	5	21.7	27.6
SMBJ18 (C)	LS	BS	20	24.4	1	18	5	18.6	32.2
SMBJ18 (C)A	LT	BT	20	22.1	1	18	5	20.5	29.2
SMBJ20 (C)	LU	BU	22.2	27.1	1	20	5	16.8	35.8
SMBJ20 (C)A	LV	BV	22.2	24.5	1	20	5	18.5	32.4
SMBJ22 (C)	LW	BW	24.4	29.8	1	22	5	15.2	39.4
SMBJ22 (C)A	LX	BX	24.4	26.9	1	22	5	16.9	35.5
SMBJ24 (C)	LY	BY	26.7	32.6	1	24	5	14	43
SMBJ24 (C)A	LZ	BZ	26.7	29.5	1	24	5	15.4	38.9
SMBJ26 (C)	MD	CD	28.9	35.3	1	26	5	12.9	46.6
SMBJ26 (C)A	ME	CE	28.9	31.9	1	26	5	14.3	42.1
SMBJ28 (C)	MF	CF	31.1	38	1	28	5	12	50
SMBJ28 (C)A	MG	CG	31.1	34.4	1	28	5	13.2	45.4
SMBJ30 (C)	MH	CH	33.3	40.7	1	30	5	11.2	53.5
SMBJ30 (C)A	MK	CK	33.3	36.8	1	30	5	12.4	48.4
SMBJ33 (C)	ML	CL	36.7	44.9	1	33	5	10.2	59
SMBJ33 (C)A	MM	CM	36.7	40.6	1	33	5	11.3	53.3
SMBJ36 (C)	MN	CN	40	48.9	1	36	5	9.3	64.3
SMBJ36 (C)A	MP	CP	40	44.2	1	36	5	10.3	58.1
SMBJ40 (C)	MQ	CQ	44.4	54.3	1	40	5	8.4	71.4
SMBJ40 (C)A	MR	CR	44.4	49.1	1	40	5	9.3	64.5
SMBJ43 (C)	MS	CS	47.8	58.4	1	43	5	7.8	76.7
SMBJ43 (C)A	MT	CT	47.8	52.8	1	43	5	8.6	69.4
SMBJ45 (C)	MU	CU	50	61.1	1	45	5	7.5	80.3
SMBJ45 (C)A	MV	CV	50	55.3	1	45	5	8.3	72.7
SMBJ48 (C)	MW	CW	53.3	65.1	1	48	5	7	85.5
SMBJ48 (C)A	MX	CX	53.3	58.9	1	48	5	7.8	77.4
SMBJ51 (C)	MY	CY	56.7	69.3	1	51	5	6.6	91.1
SMBJ51 (C)A	MZ	CZ	56.7	62.7	1	51	5	7.3	82.4
SMBJ54 (C)	ND	DD	60	73.3	1	54	5	6.2	96.3
SMBJ54 (C)A	NE	DE	60	66.3	1	54	5	6.9	87.1

Transient Voltage Suppressor

SMBJ5.0 - SMBJ440CA



Electrical Characteristics:

$T_a = 25^\circ\text{C}$ unless otherwise specified $V_F = 3.5\text{V}$ @ $I_F = 50\text{A}$ (uni-directional only)

Part Number Add C for Bi-directional	Device Marking Code		$V_{(BR)}$			V_{RWM}	I_{RM} @ V_{RWM}	I_{PPM}	V_c @ I_{PPM}
	UNI	BI	Min (V)	Max (V)	mA (@ I_F)	V	A	A	V
SMBJ58 (C)	NF	DF	64.4	78.7	1	58	5	5.8	103
SMBJ58 (C)A	NG	DG	64.4	71.2	1	58	5	6.4	93.6
SMBJ60 (C)	NH	DH	66.7	81.5	1	60	5	5.6	107
SMBJ60 (C)A	NK	DK	66.7	73.7	1	60	5	6.2	96.8
SMBJ64 (C)	NL	DL	71.1	86.9	1	64	5	5.3	114
SMBJ64 (C)A	NM	DM	71.1	78.6	1	64	5	5.8	103
SMBJ70 (C)	NN	DN	77.8	95.1	1	70	5	4.8	125
SMBJ70 (C)A	NP	DP	77.8	86	1	70	5	5.3	113
SMBJ75 (C)	NQ	DQ	83.3	102	1	75	5	4.5	134
SMBJ75 (C)A	NR	DR	83.3	92.1	1	75	5	5	121
SMBJ78 (C)	NS	DS	86.7	106	1	78	5	4.3	139
SMBJ78 (C)A	NT	DT	86.7	95.8	1	78	5	4.8	126
SMBJ85 (C)	NU	DU	94.4	115	1	85	5	4	151
SMBJ85 (C)A	NV	DV	94.4	104	1	85	5	4.4	137
SMBJ90 (C)	NW	DW	100	122	1	90	5	3.8	160
SMBJ90 (C)A	NX	DX	100	111	1	90	5	4.1	146
SMBJ100 (C)	NY	DY	111	136	1	100	5	3.4	179
SMBJ100 (C)A	NZ	DZ	111	123	1	100	5	3.7	162
SMBJ110 (C)	PD	ED	122	149	1	110	5	3.1	196
SMBJ110 (C)A	PE	EE	122	135	1	110	5	3.4	177
SMBJ120 (C)	PF	EF	133	163	1	120	5	2.8	214
SMBJ120 (C)A	PG	EG	133	147	1	120	5	3.1	193
SMBJ130 (C)	PH	EH	144	176	1	130	5	2.6	231
SMBJ130 (C)A	PK	EK	144	159	1	130	5	2.9	209
SMBJ150 (C)	PL	EL	167	204	1	150	5	2.2	268
SMBJ150 (C)A	PM	EM	167	185	1	150	5	2.5	243
SMBJ160 (C)	PN	EN	178	218	1	160	5	2.1	287
SMBJ160 (C)A	PP	EP	178	197	1	160	5	2.3	259
SMBJ170 (C)	PQ	EQ	189	231	1	170	5	2	304
SMBJ170 (C)A	PR	ER	189	209	1	170	5	2.2	275

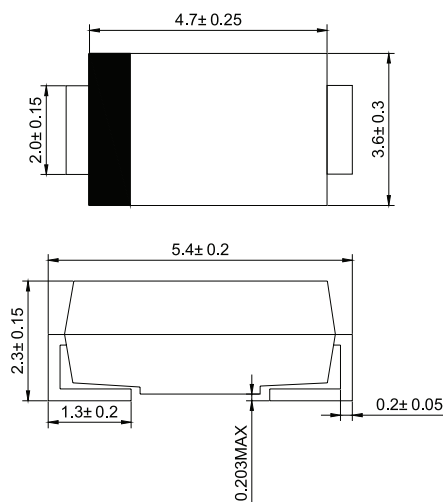
Transient Voltage Suppressor

SMBJ5.0 - SMBJ440CA



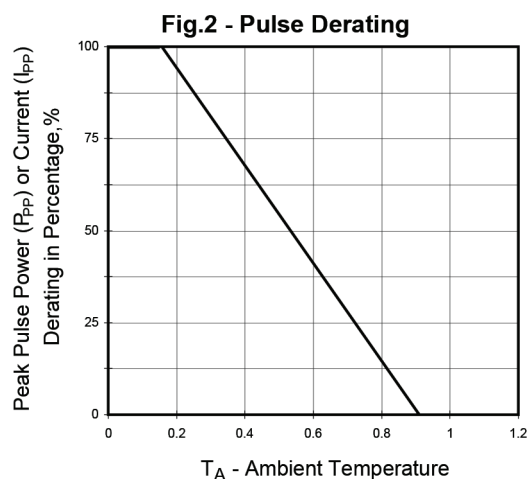
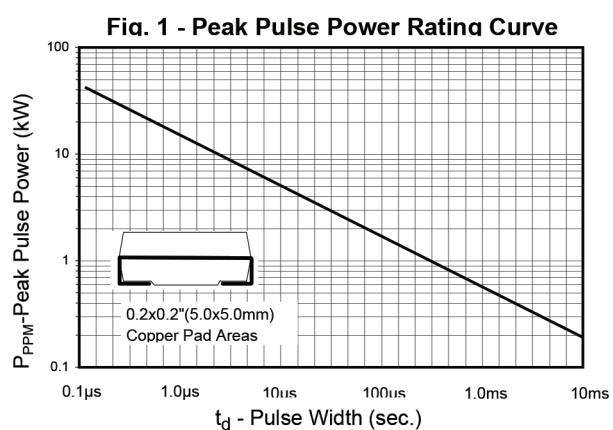
Dimensions:

DO-214AA(SMB)



Dimensions : Millimetres

Ratings & Characteristic Curves:



Transient Voltage Suppressor

SMBJ5.0 - SMBJ440CA



Fig.3 - Pulse Waveform

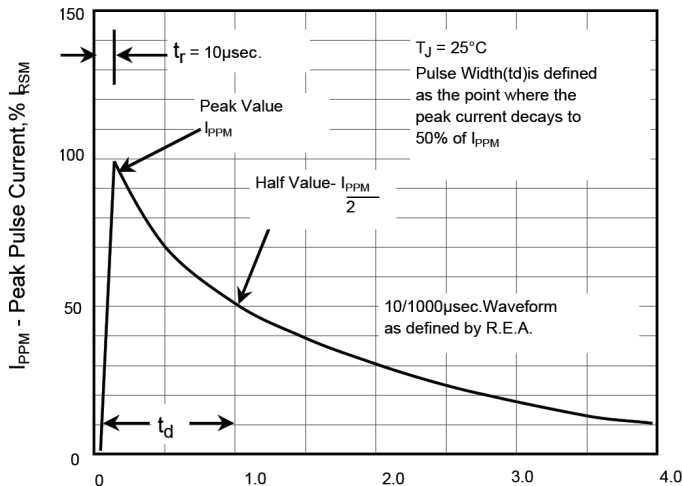


Fig.4 - Typical Junction

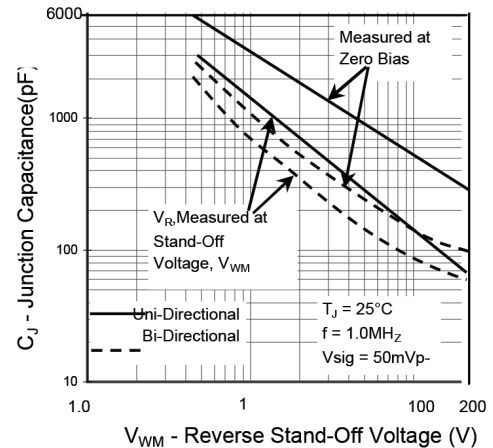


Fig. 5 - Typ.Transient Thermal Impedance

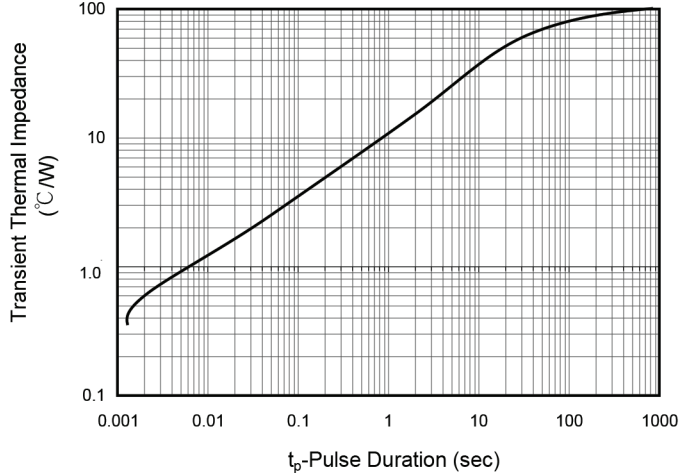
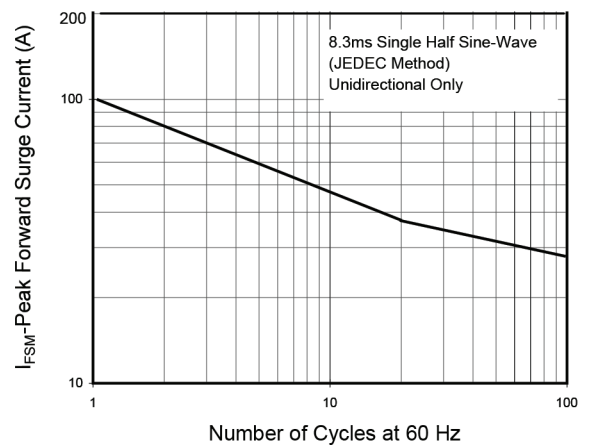


Fig.6 - Maximum Non-Repetitive Peak Forward Surge Current



Important Notice : This data sheet and its contents (the "Information") belong to the members of the Premier Farnell group of companies (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. Multicomp is the registered trademark of the Group. © Premier Farnell plc 2012.