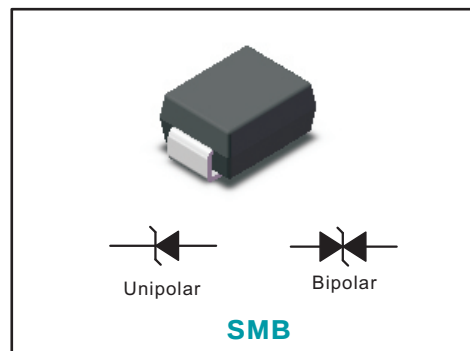


Features

- 600 watts Peak Pulse Power (10/1000 μ s)
- Unidirectional and Bidirectional Protection
- Fast Response Time : Typically < 1ns
- Excellent Clamping Capability
- Glass Passivated Junction
- Built-in Strain relief
- Low inductance
- Low profile package
- High temperature solder:260°C/10 seconds at terminal



Mechanical Characteristics

- JEDEC DO-214AA package
- Molding compound flammability rating: UL 94V-0
- Marking : Marking Code
- Packaging : Tape and Reel per EIA 481
- RoHS &UL497B Compliant

Applications

- I/O Interfaces
- Power lines
- Automotive and Telecommunication
- Computers &Consumer Electronics
- Industrial Electronics

ABSOLUTE MAXIMUM RATINGS($T_A=25^\circ\text{C}$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating junction and storage temperature range	T_J/T_{STG}	-55 to +150	$^\circ\text{C}$
Peak pulse power dissipation at 10/1000 μ s waveform	P_{PP}	600	W
Steady state power dissipation at $T_L=75^\circ\text{C}$	$P_{M(AV)}$	5.0	W
Maximum instantaneous forward voltage at 50A for unidirectional	V_F	5.0	V
Peak forward surge current, 8.3ms single half sine wave(Note 1)	I_{FSM}	100	A
Typical thermal resistance junction to lead	$R_{\theta JL}$	20	$^\circ\text{C/W}$
Typical thermal resistance junction to ambient	$R_{\theta JA}$	100	$^\circ\text{C/W}$

Notes:

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

ELECTRICAL CHARACTERISTICS (T_A=25°C)

Part Number		Marking		V _{RWM}	Breakdown Voltage		Test Current	Max. Reverse Leakage	Max. Clamp Voltage	Max. Peak Pulse Current
					V _{BR} @ I _T		I _T	I _{R@VR}	V _c @ I _{PP}	I _{PP}
					Min	Max				
UNI	BI	UNI	BI	V	V	V	mA	μA	V	A
TVS5.0SMBP6	TVS5.0SMBP6-B	KE	AE	5	6.4	7	10	800	9.2	65.3
TVS6.0SMBP6	TVS6.0SMBP6-B	KG	AG	6	6.67	7.37	10	800	10.3	58.3
TVS6.5SMBP6	TVS6.5SMBP6-B	KK	AK	6.5	7.22	7.98	10	500	11.2	53.6
TVS7.0SMBP6	TVS7.0SMBP6-B	KM	AM	7	7.78	8.6	10	200	12	50
TVS7.5SMBP6	TVS7.5SMBP6-B	KP	AP	7.5	8.33	9.21	1	100	12.9	46.6
TVS8.0SMBP6	TVS8.0SMBP6-B	KR	AR	8	8.89	9.83	1	50	13.6	44.2
TVS8.5SMBP6	TVS8.5SMBP6-B	KT	AT	8.5	9.44	10.4	1	20	14.4	41.7
TVS9.0SMBP6	TVS9.0SMBP6-B	KV	AV	9	10	11.1	1	10	15.4	39
TVS10SMBP6	TVS10SMBP6-B	KX	AX	10	11.1	12.3	1	5	17	35.3
TVS11SMBP6	TVS11SMBP6-B	KZ	AZ	11	12.2	13.5	1	1	18.2	33
TVS12SMBP6	TVS12SMBP6-B	LE	BE	12	13.3	14.7	1	1	19.9	30.2
TVS13SMBP6	TVS13SMBP6-B	LG	BG	13	14.4	15.9	1	1	21.5	28
TVS14SMBP6	TVS14SMBP6-B	LK	BK	14	15.6	17.2	1	1	23.2	25.9
TVS15SMBP6	TVS15SMBP6-B	LM	BM	15	16.7	18.5	1	1	24.4	24.6
TVS16SMBP6	TVS16SMBP6-B	LP	BP	16	17.8	19.7	1	1	26	23.1
TVS17SMBP6	TVS17SMBP6-B	LR	BR	17	18.9	20.9	1	1	27.6	21.8
TVS18SMBP6	TVS18SMBP6-B	LT	BT	18	20	22.1	1	1	29.2	20.6
TVS20SMBP6	TVS20SMBP6-B	LV	BV	20	22.2	24.5	1	1	32.4	18.6
TVS22SMBP6	TVS22SMBP6-B	LX	BX	22	24.4	26.9	1	1	35.5	16.9
TVS24SMBP6	TVS24SMBP6-B	LZ	BZ	24	26.7	29.5	1	1	38.9	15.5
TVS26SMBP6	TVS26SMBP6-B	ME	CE	26	28.9	31.9	1	1	42.1	14.3
TVS28SMBP6	TVS28SMBP6-B	MG	CG	28	31.1	34.4	1	1	45.4	13.3
TVS30SMBP6	TVS30SMBP6-B	MK	CK	30	33.3	36.8	1	1	48.4	12.4
TVS33SMBP6	TVS33SMBP6-B	MM	CM	33	36.7	40.6	1	1	53.3	11.3
TVS36SMBP6	TVS36SMBP6-B	MP	CP	36	40	44.2	1	1	58.1	10.4
TVS40SMBP6	TVS40SMBP6-B	MR	CR	40	44.4	49.1	1	1	64.5	9.3
TVS43SMBP6	TVS43SMBP6-B	MT	CT	43	47.8	52.8	1	1	69.4	8.7
TVS45SMBP6	TVS45SMBP6-B	MV	CV	45	50	55.3	1	1	72.7	8.3
TVS48SMBP6	TVS48SMBP6-B	MX	CX	48	53.3	58.9	1	1	77.4	7.8
TVS51SMBP6	TVS51SMBP6-B	MZ	CZ	51	56.7	62.7	1	1	82.4	7.3
TVS54SMBP6	TVS54SMBP6-B	NE	DE	54	60	66.3	1	1	87.1	6.9
TVS58SMBP6	TVS58SMBP6-B	NG	DG	58	64.4	71.2	1	1	93.6	6.5
TVS60SMBP6	TVS60SMBP6-B	NK	DK	60	66.7	73.7	1	1	96.8	6.2
TVS64SMBP6	TVS64SMBP6-B	NM	DM	64	71.1	78.6	1	1	103	5.9
TVS70SMBP6	TVS70SMBP6-B	NP	DP	70	77.8	86	1	1	113	5.3
TVS75SMBP6	TVS75SMBP6-B	NR	DR	75	83.3	92.1	1	1	121	5
TVS78SMBP6	TVS78SMBP6-B	NT	DT	78	86.7	95.8	1	1	126	4.8
TVS85SMBP6	TVS85SMBP6-B	NV	DV	85	94.4	104	1	1	137	4.4
TVS90SMBP6	TVS90SMBP6-B	NX	DX	90	100	111	1	1	146	4.1
TVS100SMBP6	TVS100SMBP6-B	NZ	DZ	100	111	123	1	1	162	3.7
TVS110SMBP6	TVS110SMBP6-B	PE	EE	110	122	135	1	1	177	3.4
TVS120SMBP6	TVS120SMBP6-B	PG	EG	120	133	147	1	1	193	3.1
TVS130SMBP6	TVS130SMBP6-B	PK	EK	130	144	159	1	1	209	2.9
TVS150SMBP6	TVS150SMBP6-B	PM	EM	150	167	185	1	1	243	2.5
TVS160SMBP6	TVS160SMBP6-B	PP	EP	160	178	197	1	1	259	2.3
TVS170SMBP6	TVS170SMBP6-B	PR	ER	170	189	209	1	1	275	2.2
TVS180SMBP6	TVS180SMBP6-B	PT	ET	180	201	222	1	1	292	2.1

Electrical Characteristics (Cont.)

Type		Marking		V_{RMW}	Breakdown Voltage		Test Current	Max. Reverse Leakage	Max. Clamp Voltage	Max. Peak Pulse Current
					$V_{BR} @ I_T$		I_T	$IR@VR$	$V_C @ I_{PP}$	I_{PP}
					Min	Max				
UNI	BI	UNI	BI	V	V	V	mA	μA	V	A
TVS188SMBP6	TVS188SMBP6-B	PB	EB	188	209	231	1	1	304	2
TVS200SMBP6	TVS200SMBP6-B	PV	EV	200	224	247	1	1	324	1.9
TVS220SMBP6	TVS220SMBP6-B	PX	EX	220	246	272	1	1	356	1.7
TVS250SMBP6	TVS250SMBP6-B	PZ	EZ	250	279	309	1	1	405	1.5
TVS300SMBP6	TVS300SMBP6-B	QE	FE	300	335	371	1	1	486	1.3
TVS350SMBP6	TVS350SMBP6-B	QG	FG	350	391	432	1	1	567	1.1
TVS400SMBP6	TVS400SMBP6-B	QK	FK	400	447	494	1	1	648	0.9
TVS440SMBP6	TVS440SMBP6-B	QM	FM	440	492	543	1	1	713	0.9

Typical Characteristics

Fig.1 Peak Pulse Power Rating Curve

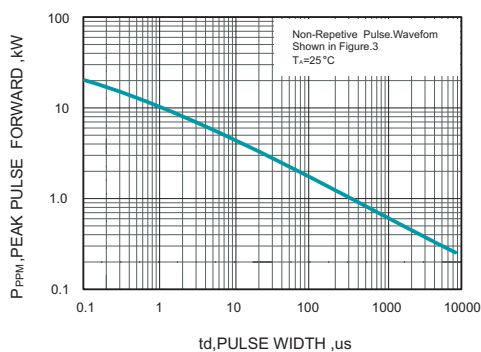


Fig.2 Forward Current Derating Curve

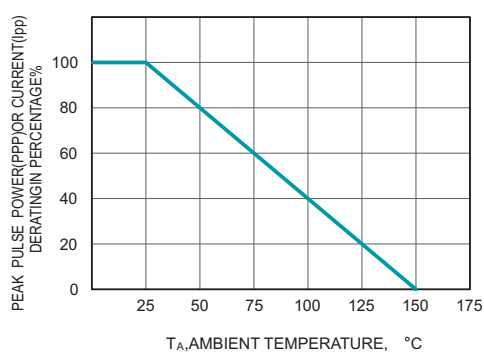


Fig.3 Pulse Waveform

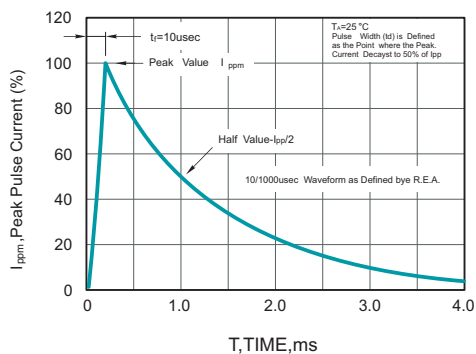
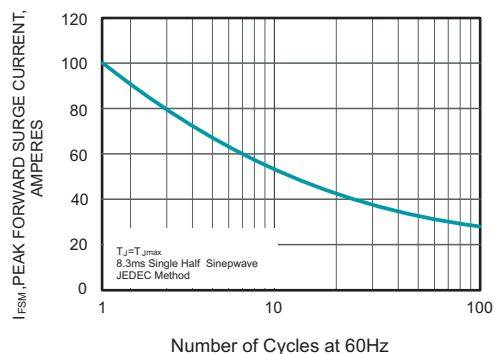


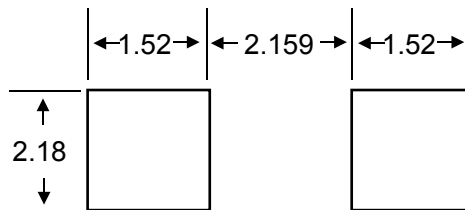
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



Outline Drawing – SMB(DO-214AA)

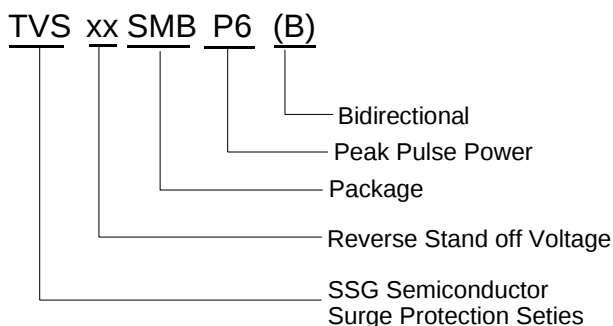
Dim	Millimeters		Inches	
	Min	Max	Min	Max
L	4.06	4.57	0.160	0.180
D	3.30	3.94	0.130	0.155
D1	1.95	2.20	0.077	0.086
T	5.21	5.59	0.205	0.220
T1	0.76	1.52	0.030	0.060
d	-	0.203	-	0.008
H1	2.13	2.44	0.084	0.097

Recommended Solder Pad Layout

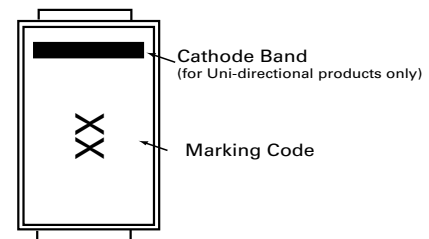


Dimensions in mm

Part Numbering System



Part Marking System



Package Information

Package Type	Description	Quantity (pcs)	Standard
DO-214AA	Tape & Reel -12mm/13" tape	3000	EIA-481-D