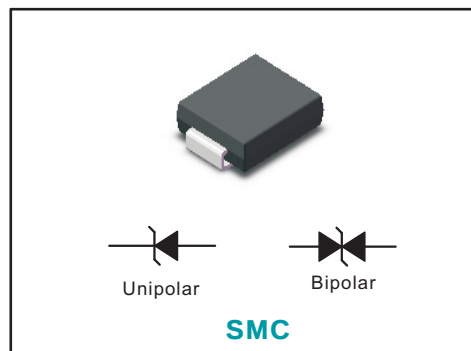


Features

- 5000 watts Peak Pulse Power (10/1000μs)
- 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-214AB package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS Compliant

Applications

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

ABSOLUTE MAXIMUM RATINGS (T_A=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating junction and storage temperature range	T _J /T _{STG}	-55 to +150	°C
Steady state power dissipation at T _L =75°C	P _{M(AV)}	6.5	W
Peak pulse power dissipation at 10/1000μs waveform	P _{PP}	5000	W
Maximum instantaneous forward voltage at 100A for unidirectional only	V _F	5.0	V
Peak forward surge current, 8.3ms single half sine wave(Note 1)	I _{FSM}	300	A
Typical thermal resistance junction to lead	R _{θJL}	15	°C/W
Typical thermal resistance junction to ambient	R _{θJA}	75	°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 _{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	uA	V	A
TVS12SMCP50	TVS12SMCP50-B	5PEP	5BEP	12	13.3	14.7	10	800	19.9	252
TVS13SMCP50	TVS13SMCP50-B	5PEQ	5BEQ	13	14.4	15.9	10	500	21.5	233
TVS14SMCP50	TVS14SMCP50-B	5PER	5BER	14	15.6	17.2	10	200	23.2	216
TVS15SMCP50	TVS15SMCP50-B	5PES	5BES	15	16.7	18.5	1	100	24.4	205
TVS16SMCP50	TVS16SMCP50-B	5PET	5BET	16	17.8	19.7	1	50	26	193
TVS17SMCP50	TVS17SMCP50-B	5PEU	5BEU	17	18.9	20.9	1	20	27.6	181
TVS18SMCP50	TVS18SMCP50-B	5PEV	5BEV	18	20	22.1	1	10	29.2	172
TVS20SMCP50	TVS20SMCP50-B	5PEW	5BEW	20	22.2	24.5	1	5	32.4	155
TVS22SMCP50	TVS22SMCP50-B	5PEX	5BEX	22	24.4	26.9	1	5	35.5	141
TVS24SMCP50	TVS24SMCP50-B	5PEZ	5BEZ	24	26.7	29.5	1	5	38.9	129
TVS26SMCP50	TVS26SMCP50-B	5PFE	5BFE	26	28.9	31.9	1	5	42.1	119
TVS28SMCP50	TVS28SMCP50-B	5PFG	5BFG	28	31.1	34.4	1	5	45.4	110
TVS30SMCP50	TVS30SMCP50-B	5PFK	5BFK	30	33.3	36.8	1	5	48.4	103
TVS33SMCP50	TVS33SMCP50-B	5PFM	5BFM	33	36.7	40.6	1	5	53.3	93.9
TVS36SMCP50	TVS36SMCP50-B	5PFP	5BFP	36	40	44.2	1	5	58.1	86.1
TVS40SMCP50	TVS40SMCP50-B	5PFR	5BFR	40	44.4	49.1	1	5	64.5	77.6
TVS43SMCP50	TVS43SMCP50-B	5PFT	5BFT	43	47.8	52.8	1	5	69.4	72.1
TVS45SMCP50	TVS45SMCP50-B	5PFV	5BFV	45	50	55.3	1	5	72.7	68.8
TVS48SMCP50	TVS48SMCP50-B	5PFX	5BFX	48	53.3	58.9	1	5	77.4	64.7
TVS51SMCP50	TVS51SMCP50-B	5PFZ	5BFZ	51	56.7	62.7	1	5	82.4	60.7
TVS54SMCP50	TVS54SMCP50-B	5PGE	5BGE	54	60	66.3	1	5	87.1	57.5
TVS58SMCP50	TVS58SMCP50-B	5PGG	5BGG	58	64.4	71.2	1	5	93.6	53.5
TVS60SMCP50	TVS60SMCP50-B	5PGK	5BGK	60	66.7	73.7	1	5	96.8	51.7
TVS64SMCP50	TVS64SMCP50-B	5PGM	5BGM	64	71.1	78.6	1	5	103	48.6
TVS70SMCP50	TVS70SMCP50-B	5PGP	5BGP	70	77.8	86	1	5	113	44.3
TVS75SMCP50	TVS75SMCP50-B	5PGR	5BGR	75	83.3	92.1	1	5	121	41.4
TVS78SMCP50	TVS78SMCP50-B	5PGT	5BGT	78	86.7	95.8	1	5	126	39.7
TVS80SMCP50	TVS80SMCP50-B	5PGU	5BGU	80	89.0	97.6	1	5	130	38.5
TVS85SMCP50	TVS85SMCP50-B	5PGV	5BGV	85	94.4	104	1	5	137	36.5
TVS90SMCP50	TVS90SMCP50-B	5PGX	5BGX	90	100	111	1	5	146	34.3
TVS100SMCP50	TVS100SMCP50-B	5PGZ	5BGZ	100	111	123	1	5	162	30.9
TVS110SMCP50	TVS110SMCP50-B	5PHE	5BHE	110	122	135	1	5	177	28.3
TVS120SMCP50	TVS120SMCP50-B	5PHG	5BHG	120	133	147	1	5	193	26
TVS130SMCP50	TVS130SMCP50-B	5PHK	5BHK	130	144	159	1	5	209	24
TVS140SMCP50	TVS140SMCP50-B	5PHL	5BHL	140	155	171	1	5	224	22.3
TVS150SMCP50	TVS150SMCP50-B	5PHM	5BHM	150	167	185	1	5	243	20.6
TVS160SMCP50	TVS160SMCP50-B	5PHP	5BHP	160	178	197	1	5	259	19.3
TVS170SMCP50	TVS170SMCP50-B	5PHR	5BHR	170	189	209	1	5	275	18.2
TVS180SMCP50	TVS180SMCP50-B	5PHT	5BHT	180	201	222	1	5	292	17.1
TVS190SMCP50	TVS190SMCP50-B	5PHV	5BHV	190	211	232	1	5	308	16.2
TVS200SMCP50	TVS200SMCP50-B	5PHX	5BHX	200	224	247	1	5	324	15.4
TVS220SMCP50	TVS220SMCP50-B	5PHZ	5BHZ	220	246	272	1	5	356	14.0
TVS250SMCP50	TVS250SMCP50-B	5PKE	5BKE	250	279	309	1	5	405	12.3
TVS300SMCP50	TVS300SMCP50-B	5PKG	5BKG	300	335	371	1	5	486	10.3
TVS350SMCP50	TVS350SMCP50-B	5PKM	5BKM	350	391	432	1	5	567	8.8
TVS400SMCP50	TVS400SMCP50-B	5PKR	5BKR	400	447	494	1	5	648	7.7
TVS440SMCP50	TVS440SMCP50-B	5PKT	5BKT	440	492	543	1	5	713	7.0

Typical Characteristics

Fig.1 Peak Pulse Power Rating Curve

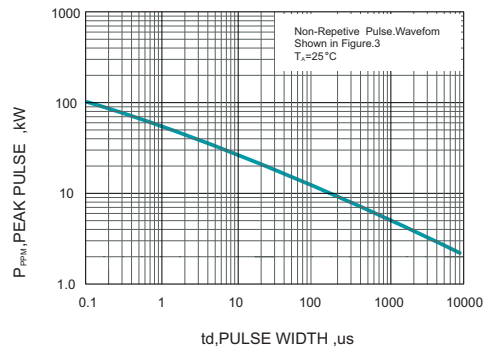


Fig.2 Forward Current Derating Curve

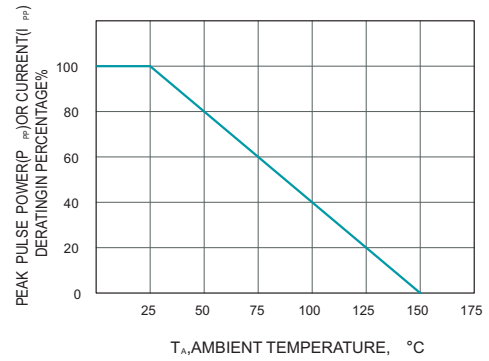


Fig.3 Pulse Waveform

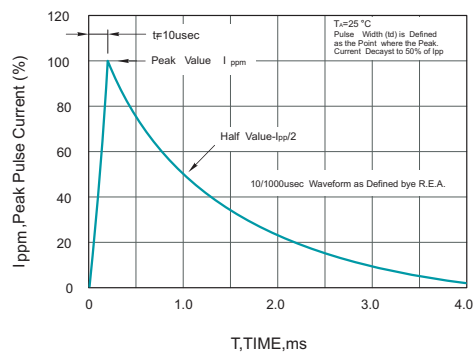
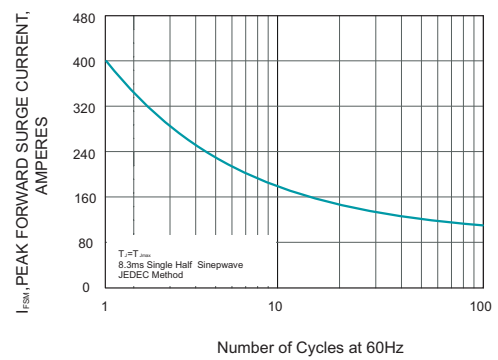


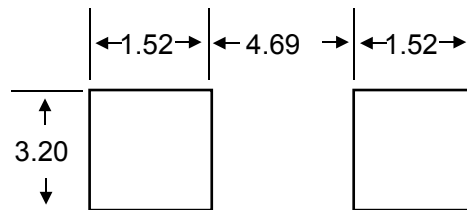
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



Outline Drawing – SMC (DO-214AB)

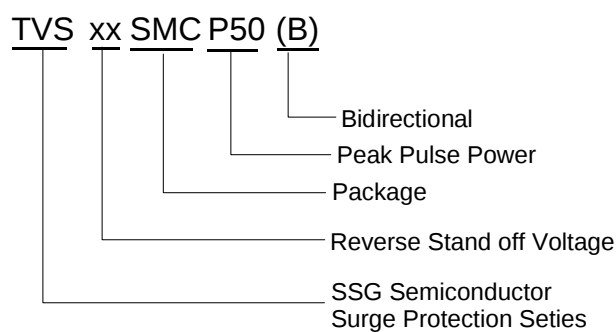
Dim	Millimeters		Inches	
	Min	Max	Min	Max
L	6.60	7.11	0.260	0.280
D	5.59	6.22	0.220	0.245
D1	2.90	3.20	0.114	0.126
T	7.75	8.13	0.305	0.320
T1	0.76	1.52	0.030	0.060
d	-	0.203	-	0.008
H1	2.06	2.62	0.079	0.103

Recommended Solder Pad Layout

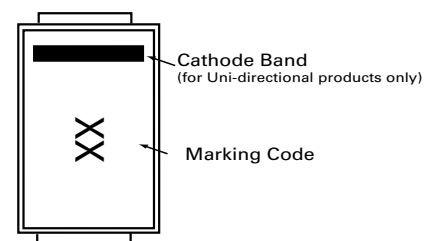


Dimensions in mm

Part Numbering System



Part Marking System



Package Information

Package Type	Description	Quantity (pcs)	Standard
DO-214AB	Tape & Reel -16mm/13" tape	3000	EIA-481-D