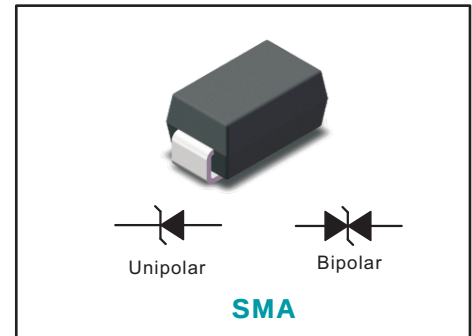


Features

- 400 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-214AC 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°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
Peak pulse power dissipation at 10/1000μs waveform	P _{PP}	400	W
Steady state power dissipation at T _L =75°C	P _{M(AV)}	3.3	W
Maximum instantaneous forward voltage at 25A for unidirectional	V _F	5.0	V
Peak forward surge current, 8.3ms single half sine wave(Note 1)	I _{FSM}	60	A
Typical thermal resistance junction to lead	R _{θJL}	30	°C/W
Typical thermal resistance junction to ambient	R _{θJA}	120	°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		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current	Package	
			V _{BR} @ I _T						Marking Ccode	
		V _{RRM}	Min	Max	I _T	I _R @ V _{RRM}	V _C @ I _{PP}	I _{PP}		
UNI	BI	V	V	V	mA	μA	V	A	UNI	BI
TVS5.0SMAP4	TVS5.0SMAP4-B	5	6.4	7	10	800	9.2	43.5	AE	WE
TVS6.0SMAP4	TVS6.0SMAP4-B	6	6.67	7.37	10	800	10.3	38.8	AG	WG
TVS6.5SMAP4	TVS6.5SMAP4-B	6.5	7.22	7.98	10	500	11.2	35.7	AK	WK
TVS7.0SMAP4	TVS7.0SMAP4-B	7	7.78	8.6	10	200	12.0	33.3	AM	WM
TVS7.5SMAP4	TVS7.5SMAP4-B	7.5	8.33	9.21	1	100	12.9	31.0	AP	WP
TVS8.0SMAP4	TVS8.0SMAP4-B	8	8.89	9.83	1	50	13.6	29.4	AR	WR
TVS8.5SMAP4	TVS8.5SMAP4-B	8.5	9.44	10.4	1	20	14.4	27.8	AT	WT
TVS9.0SMAP4	TVS9.0SMAP4-B	9	10	11.1	1	10	15.4	26.0	AV	WV
TVS10SMAP4	TVS10SMAP4-B	10	11.1	12.3	1	5	17.0	23.5	AX	WX
TVS11SMAP4	TVS11SMAP4-B	11	12.2	13.5	1	1	18.2	22.0	AZ	WZ
TVS12SMAP4	TVS12SMAP4-B	12	13.3	14.7	1	1	19.9	20.1	BE	XE
TVS13SMAP4	TVS13SMAP4-B	13	14.4	15.9	1	1	21.5	18.6	BG	XG
TVS14SMAP4	TVS14SMAP4-B	14	15.6	17.2	1	1	23.2	17.2	BK	XK
TVS15SMAP4	TVS15SMAP4-B	15	16.7	18.5	1	1	24.4	16.4	BM	XM
TVS16SMAP4	TVS16SMAP4-B	16	17.8	19.7	1	1	26.0	15.4	BP	XP
TVS17SMAP4	TVS17SMAP4-B	17	18.9	20.9	1	1	27.6	14.5	BR	XR
TVS18SMAP4	TVS18SMAP4-B	18	20	22.1	1	1	29.2	13.7	BT	XT
TVS20SMAP4	TVS20SMAP4-B	20	22.2	24.5	1	1	32.4	12.3	BV	XV
TVS22SMAP4	TVS22SMAP4-B	22	24.4	26.9	1	1	35.5	11.3	BX	XX
TVS24SMAP4	TVS24SMAP4-B	24	26.7	29.5	1	1	38.9	10.3	BZ	XZ
TVS26SMAP4	TVS26SMAP4-B	26	28.9	31.9	1	1	42.1	9.5	CE	YE
TVS28SMAP4	TVS28SMAP4-B	28	31.1	34.4	1	1	45.4	8.8	CG	YG
TVS30SMAP4	TVS30SMAP4-B	30	33.3	36.8	1	1	48.4	8.3	CK	YK
TVS33SMAP4	TVS33SMAP4-B	33	36.7	40.6	1	1	53.3	7.5	CM	YM
TVS36SMAP4	TVS36SMAP4-B	36	40	44.2	1	1	58.1	6.9	CP	YP
TVS40SMAP4	TVS40SMAP4-B	40	44.4	49.1	1	1	64.5	6.2	CR	YR
TVS43SMAP4	TVS43SMAP4-B	43	47.8	52.8	1	1	69.4	5.8	CT	YT
TVS45SMAP4	TVS45SMAP4-B	45	50	55.3	1	1	72.7	5.5	CV	YV
TVS48SMAP4	TVS48SMAP4-B	48	53.3	58.9	1	1	77.4	5.2	CX	YX
TVS51SMAP4	TVS51SMAP4-B	51	56.7	62.7	1	1	82.4	4.9	CZ	YZ
TVS54SMAP4	TVS54SMAP4-B	54	60	66.3	1	1	87.1	4.6	RE	ZE
TVS58SMAP4	TVS58SMAP4-B	58	64.4	71.2	1	1	93.6	4.3	RG	ZG
TVS60SMAP4	TVS60SMAP4-B	60	66.7	73.7	1	1	96.8	4.1	RK	ZK
TVS64SMAP4	TVS64SMAP4-B	64	71.1	78.6	1	1	103.0	3.9	RM	ZM
TVS70SMAP4	TVS70SMAP4-B	70	77.8	86	1	1	113.0	3.5	RP	ZP
TVS75SMAP4	TVS75SMAP4-B	75	83.3	92.1	1	1	121.0	3.3	RR	ZR
TVS78SMAP4	TVS78SMAP4-B	78	86.7	95.8	1	1	126.0	3.2	RT	ZT
TVS85SMAP4	TVS85SMAP4-B	85	94.4	104	1	1	137.0	2.9	RV	ZV
TVS90SMAP4	TVS90SMAP4-B	90	100	111	1	1	146.0	2.7	RX	ZX
TVS100SMAP4	TVS100SMAP4-B	100	111	123	1	1	162.0	2.5	RZ	ZZ
TVS110SMAP4	TVS110SMAP4-B	110	122	135	1	1	177.0	2.3	SE	VE
TVS120SMAP4	TVS120SMAP4-B	120	133	147	1	1	193.0	2.1	SG	VG
TVS130SMAP4	TVS130SMAP4-B	130	144	159	1	1	209.0	1.9	SK	VK
TVS150SMAP4	TVS150SMAP4-B	150	167	185	1	1	243.0	1.6	SM	VM
TVS160SMAP4	TVS160SMAP4-B	160	178	197	1	1	259.0	1.5	SP	VP
TVS170SMAP4	TVS170SMAP4-B	170	189	209	1	1	275.0	1.5	SR	VR
TVS180SMAP4	TVS180SMAP4-B	180	201	222	1	1	292.0	1.4	ST	VT
TVS200SMAP4	TVS200SMAP4-B	200	224	247	1	1	324.0	1.2	SV	VV
TVS220SMAP4	TVS220SMAP4-B	220	246	272	1	1	356.0	1.1	SX	VX
TVS250SMAP4	TVS250SMAP4-B	250	279	309	1	1	405.0	1.0	SZ	VZ
TVS300SMAP4	TVS300SMAP4-B	300	335	371	1	1	486.0	0.8	TE	UE
TVS350SMAP4	TVS350SMAP4-B	350	391	432	1	1	567.0	0.7	TG	UG
TVS400SMAP4	TVS400SMAP4-B	400	447	494	1	1	648.0	0.6	TK	UK
TVS440SMAP4	TVS440SMAP4-B	440	492	543	1	1	713.0	0.6	TM	UM

Typical Characteristics

Fig.1 Peak Pulse Power Rating Curve

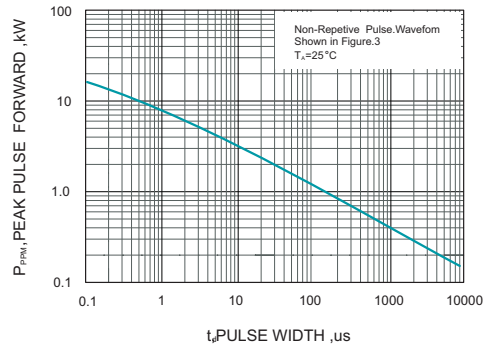


Fig.2 Forward Current Derating Curve

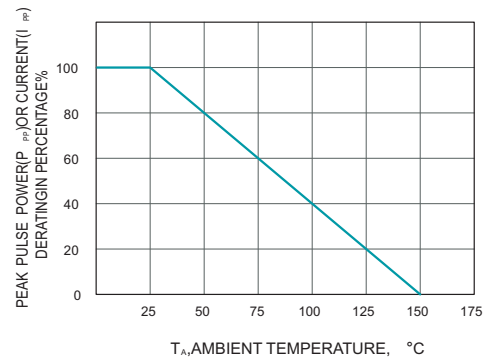


Fig.3 Pulse Waveform

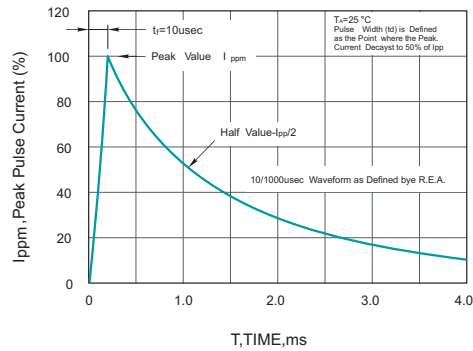
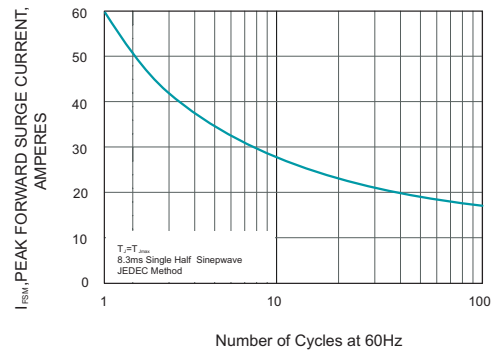


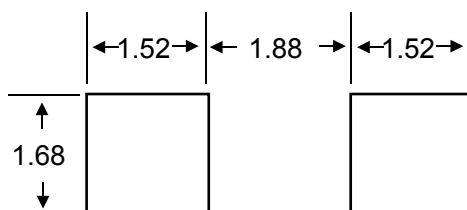
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



Outline Drawing – SMA(DO-214AC)

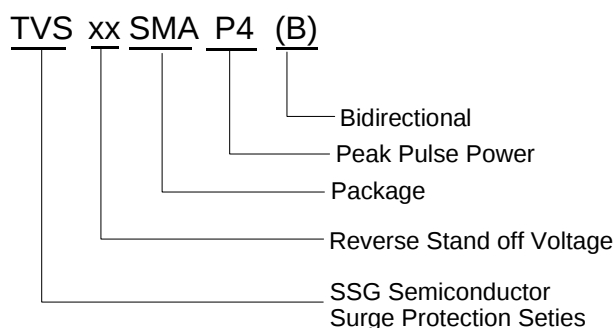
Dim	Millimeters		Inches	
	Min	Max	Min	Max
L	3.99	4.50	0.157	0.177
D	2.54	2.79	0.100	0.110
D1	1.25	1.65	0.049	0.065
T	4.93	5.28	0.194	0.208
T1	0.76	1.52	0.030	0.060
d	-	0.203	-	0.008
H1	1.98	2.29	0.078	0.090

Recommended Solder Pad Layout

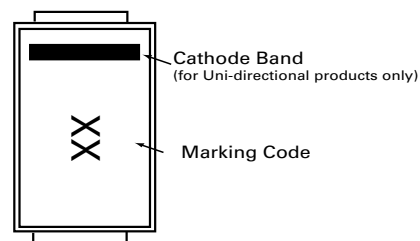


Dimensions in mm

Part Numbering System



Part Marking System



Package Information

Package Type	Description	Quantity (pcs)	Standard
DO-214AC	Tape & Reel -12mm/13" tape	5000	EIA-481-D