

SMA TVS 瞬态电压抑制二极管

■Features 特点

Excellent Clamping Capability 优秀的钳位能力

Glass passivated junction 玻璃钝化工艺

Fast Response Time 快速反应时间

Built-in Strain Relief 内应力释放



■Applications 应用

I/O interface 输入/输出接口

AC/DC power supply 电源转换

Low frequency signal transmission line (RS232, RS485, etc.) 低频信号传输线

■Internal Schematic Diagram 内部结构



■Absolute Maximum Ratings 最大额定值

Characteristic 特性参数	Symbol 符号	Rat 额定值	Unit 单位
Peak Power Dissipation 峰值功率	P_{PK}	400	W
Reverse Stand-off Work Voltage 反向工作电压	V_{RWM}	5.0~440	V
Peak Pulse Current 峰值脉冲电流	I_{PP}	43.5~0.6	A
Peak Forward Surge Current 峰值正向浪涌电流(UNI)	I_{FSM}	40	A
Forward Voltage@ $I_F=25A$ 正向电压(UNI)	V_F	3.5	V
Power Dissipation 耗散功率	P_D	3.3	W
Junction/Storage Temperature 结温/储存温度	T_J, T_{stg}	-55~150	°C

■Electrical Characteristics 电特性

($T_A=25^{\circ}C$ unless otherwise noted 如无特殊说明, 温度为 $25^{\circ}C$)

Type Number	V _{RWM} (V)	V _{BR} (V)@I _T		I _T (mA)	V _C (V) @I _{PP}	I _{PP} (A)	I _R (μA) @V _{RWM}	Marking	
		Min.	Max.					A(UNI)	CA(BI)
SMAJ5.0(C)A	5.0	6.40	7.25	10	9.2	43.5	800	AE	WE
SMAJ6.0(C)A	6.0	6.67	7.67	10	10.3	38.8	800	AG	WG
SMAJ6.5(C)A	6.5	7.22	8.30	10	11.2	35.7	500	AK	WK
SMAJ7.0(C)A	7.0	7.78	8.95	10	12.0	33.3	200	AM	WM
SMAJ7.5(C)A	7.5	8.33	9.58	1	12.9	31.0	100	AP	WP
SMAJ8.0(C)A	8.0	8.89	10.23	1	13.6	29.4	50	AR	WR
SMAJ8.5(C)A	8.5	9.44	10.82	1	14.4	27.7	10	AT	WT
SMAJ9.0(C)A	9.0	10.0	11.50	1	15.4	26.0	5	AV	WV
SMAJ10(C)A	10	11.1	12.80	1	17.0	23.5	5	AX	WX
SMAJ11(C)A	11	12.2	14.00	1	18.2	22.0	5	AZ	WZ
SMAJ12(C)A	12	13.3	15.30	1	19.9	20.1	5	BE	XE
SMAJ13(C)A	13	14.4	15.60	1	21.5	18.6	5	BG	XG
SMAJ14(C)A	14	15.6	17.90	1	23.2	17.2	5	BK	XK
SMAJ15(C)A	15	16.7	19.20	1	24.4	16.4	5	BM	XM
SMAJ16(C)A	16	17.8	20.50	1	26.0	15.3	5	BP	XP
SMAJ17(C)A	17	18.9	21.70	1	27.6	14.5	5	BR	XR
SMAJ18(C)A	18	20.0	23.30	1	29.2	13.7	5	BT	XT
SMAJ20(C)A	20	22.2	25.50	1	32.4	12.3	5	BV	XV
SMAJ22(C)A	22	24.4	28.00	1	35.5	11.2	5	BX	XX
SMAJ24(C)A	24	26.7	30.70	1	38.9	10.3	5	BZ	XZ
SMAJ26(C)A	26	28.9	33.20	1	42.1	9.5	5	CE	YE
SMAJ28(C)A	28	31.1	35.80	1	45.4	8.8	5	CG	YG
SMAJ30(C)A	30	33.3	38.30	1	48.4	8.3	5	CK	YK
SMAJ33(C)A	33	36.7	42.20	1	53.3	7.5	5	CM	YM
SMAJ36(C)A	36	40.0	46.00	1	58.1	6.9	5	CP	YP
SMAJ40(C)A	40	44.4	51.10	1	64.5	6.2	5	CR	YR
SMAJ43(C)A	43	47.8	54.90	1	69.4	5.7	5	CT	YT
SMAJ45(C)A	45	50.0	57.50	1	72.7	5.5	5	CV	YV
SMAJ48(C)A	48	53.3	61.30	1	77.4	5.2	5	CX	YX
SMAJ51(C)A	51	56.7	65.20	1	82.4	4.9	5	CZ	YZ
SMAJ54(C)A	54	60.0	69.00	1	87.1	4.6	5	RE	ZE
SMAJ58(C)A	58	64.4	74.10	1	93.6	4.3	5	RG	ZG
SMAJ60(C)A	60	66.7	76.70	1	96.8	4.1	5	RK	ZK
SMAJ64(C)A	64	71.1	81.80	1	103	3.9	5	RM	ZM
SMAJ70(C)A	70	77.8	89.50	1	113	3.5	5	RP	ZP
SMAJ75(C)A	75	83.3	95.80	1	121	3.3	5	RR	ZR
SMAJ78(C)A	78	86.7	99.70	1	126	3.2	5	RT	ZT
SMAJ85(C)A	85	94.4	108.2	1	137	2.2	5	RV	ZV
SMAJ90(C)A	90	100	115.5	1	146	2.1	5	RX	ZX
SMAJ100(C)A	100	111	128.0	1	162	1.9	5	RZ	ZZ
SMAJ110(C)A	110	122	140.5	1	177	1.7	5	SE	VE
SMAJ120(C)A	120	133	153.0	1	193	1.6	5	SG	VG
SMAJ130(C)A	130	144	165.5	1	209	1.4	5	SK	VK
SMAJ150(C)A	150	167	192.5	1	243	1.2	5	SM	VM
SMAJ160(C)A	160	178	205.0	1	259	1.2	5	SP	VP
SMAJ170(C)A	170	189	217.5	1	275	1.09	5	SR	VR
SMAJ180(C)A	180	201	222.0	1	328	0.91	5	ST	VT
SMAJ200(C)A	200	224	247.0	1	332	0.89	5	SV	VV
SMAJ220(C)A	220	246	272.0	1	352	0.8	5	SX	VX
SMAJ250(C)A	250	279	309.0	1	405	0.75	5	SZ	VZ
SMAJ300(C)A	300	335	371.0	1	486	0.7	5	TE	UE
SMAJ350(C)A	350	391	432.0	1	567	0.7	5	TG	UG
SMAJ400(C)A	400	447	494.0	1	648	0.6	5	TK	UK
SMAJ440(C)A	440	492	543.0	1	713	0.6	5	TM	UM

■ Typical Characteristic Curve 典型特性曲线

Figure 1. Peak Pulse Power Rating Curve

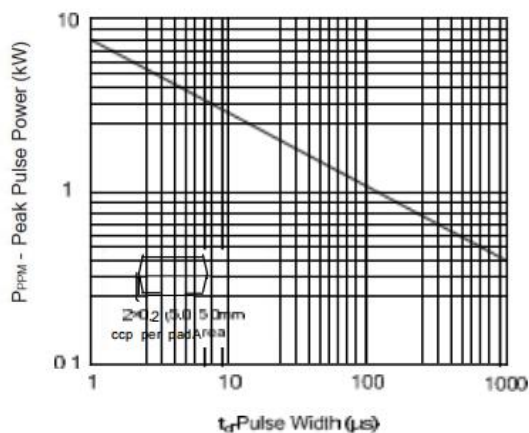


Figure 2. Pulse Derating Curve

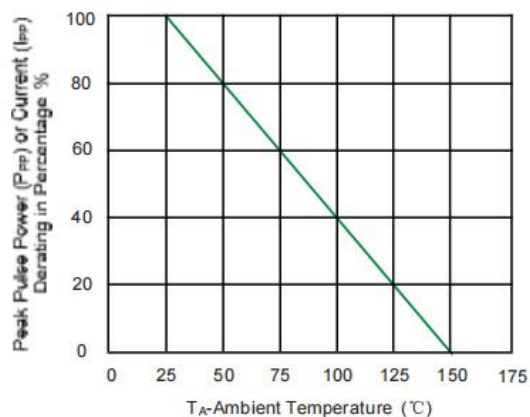


Figure 3. Pulse Waveform

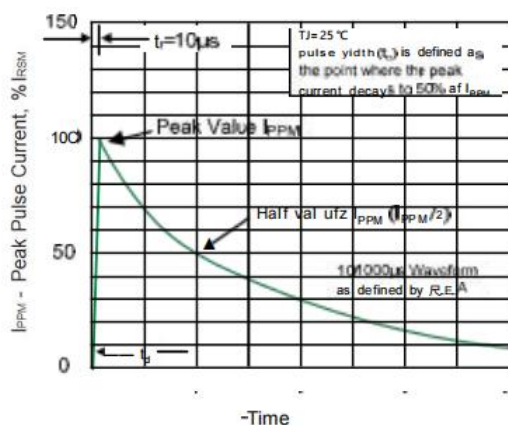


Figure 4. Typical Junction Capacitance

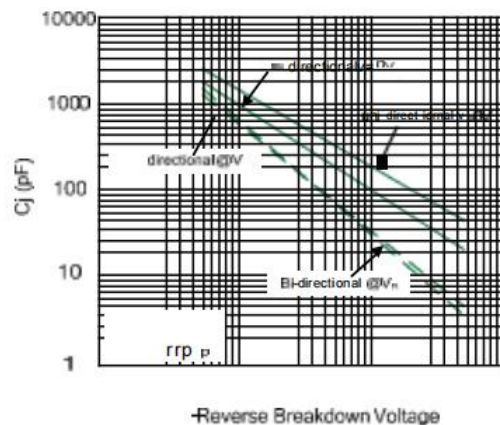


Figure 5. Steady State Power Dissipation Derating Curve

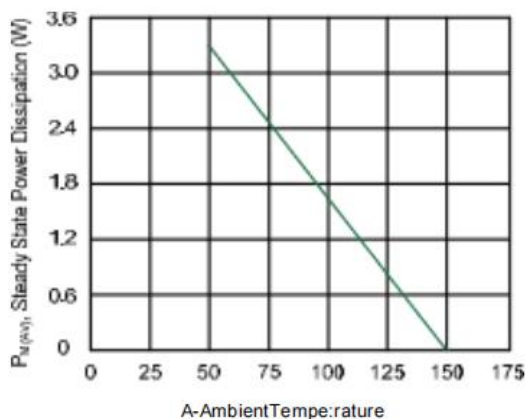
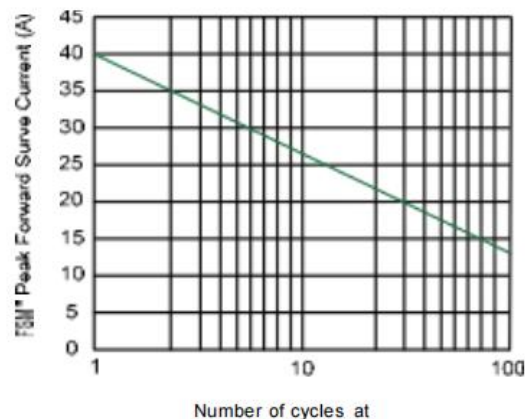
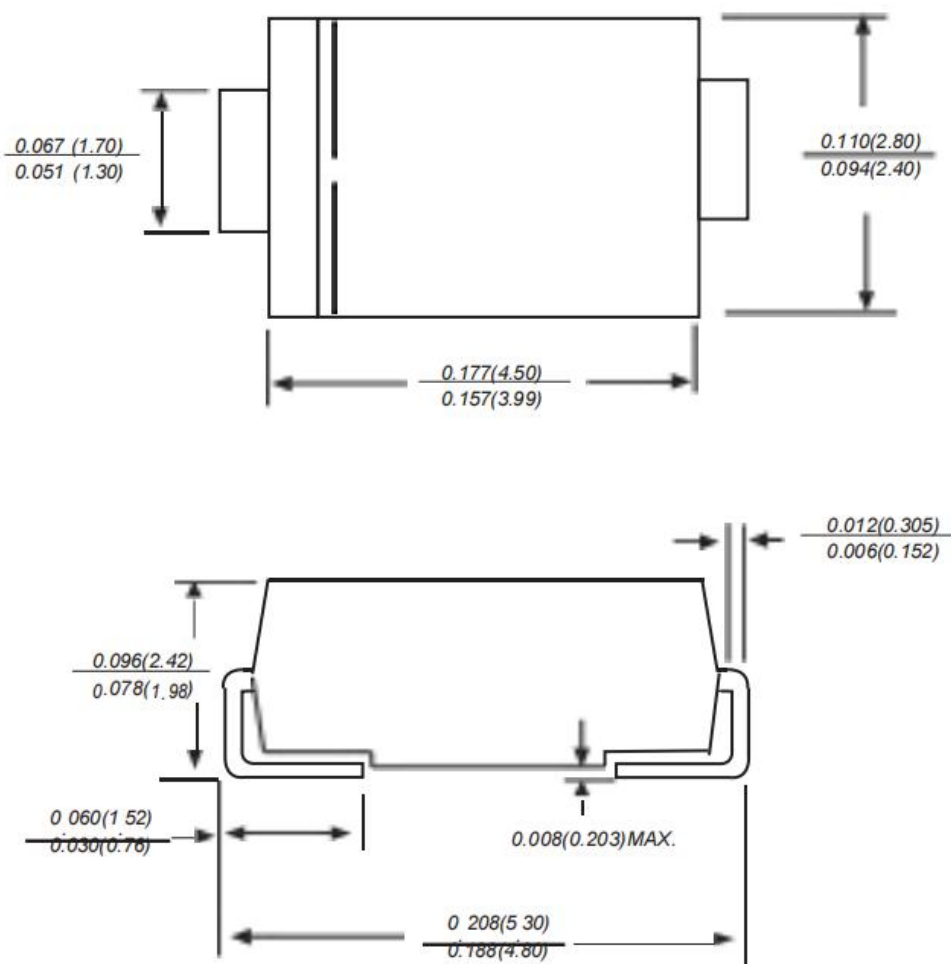


Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



■Dimension 外形封装尺寸



Dimensions in inches and (millimeters)