

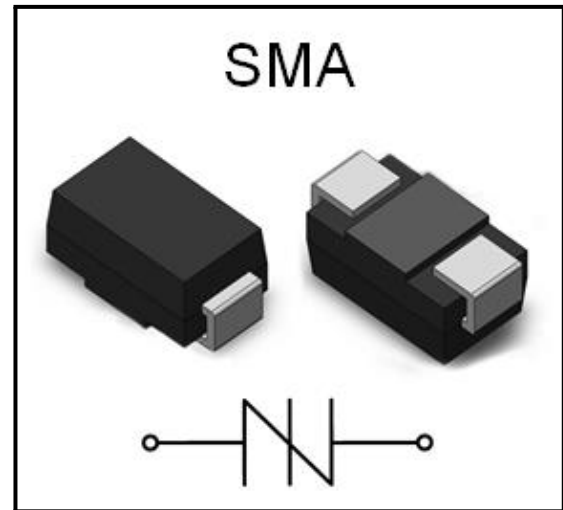
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Thyristor Surge Suppressor

Features

- Silicon technology
- Cannot be damaged by voltage
- Low capacitance
- Eliminate voltage overshoot
- Epoxy resin package
- Will not fatigue
- Complies with following standards:
 - GR1089
 - ITU K.20, K.21 and K.45
 - IEC 60950
 - UL 60950
 - TIA-968
- RoHS Compliant

Package



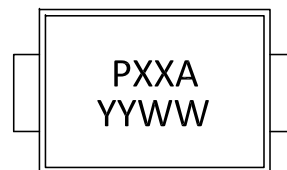
Mechanical Characteristics

- Package: SMA plastic package.
- Lead Finish: Matte Tin
- Case Material: Epoxy Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020

Applications

- COMMERCIAL SYSTEMS
- INDUSTRIAL & INSTRUMENTATION
- COMMUNICATIONS

Making Information



PXXA=Type Code
YYWW=Date Code

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SMA	Tape/Reel, 13" reel	5000	EIA-481-1
	Tape/Reel, 7" reel	2000	EIA-481-1

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Revision: 2022-Jan-1



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Absolute Maximum Ratings

Parameter	Symbol	Value	Units	Remarks
Peak Pulse Voltage	V_{PP}	3000	V	10/700us
Peak Pulse Current	I_{PP}	45	A	10/1000us
Peak Pulse Current	I_{PK}	150	A	8/20us
Peak One-cycle Surge Current	I_{TSM}	20	A	60HZ
Rate of Rise of Current	d_i/d_t	500	A/us	
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	30	°C/W	
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	120	°C/W	
Operating Temperature Range	T_J	-40 to 150	°C	
Storage Temperature Range	T_{STG}	-55 to 150	°C	

Absolute Maximum Ratings ($T_A=+25^{\circ}\text{C}$, unless otherwise noted)

Pact Number	Marking	I_H	V_S	I_{SLMT}	V_T	I_T	I_D	V_D	C_O
		(mA)	(V)	(mA)	(V)	(A)	(uA)	(V)	(pF)
		MIN.	MAX.		MAX.		MAX.		TYP
BEP0080TA	P008A	40	25	500	4	2.2	5	6	18
BEP0220TA	P02A	40	30	500	4	2.2	5	15	53
BEP0300TA	P03A	40	40	500	4	2.2	5	25	50
BEP0640TA	P06A	120	77	800	4	2.2	5	58	48
BEP0720TA	P07A	120	88	800	4	2.2	5	65	48
BEP0900TA	P09A	120	98	800	4	2.2	5	78	48
BEP1100TA	P11A	120	130	800	4	2.2	5	90	45
BEP1300TA	P13A	120	160	800	4	2.2	5	120	45
BEP1500TA	P15A	120	180	800	4	2.2	5	140	43
BEP1800TA	P18A	120	220	800	4	2.2	5	170	40
BEP2300TA	P23A	120	260	800	4	2.2	5	190	38
BEP2600TA	P26A	120	300	800	4	2.2	5	220	35
BEP3100TA	P31A	120	350	800	4	2.2	5	275	33
BEP3500TA	P35A	120	400	800	4	2.2	5	320	30
BEP4200TA	P42A	120	550	800	4	2.2	5	400	23



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Ratings and Characteristic Curves($T_A = 25^\circ\text{C}$ unless otherwise noted)

Figure 1: Peak Pulse Current Rating

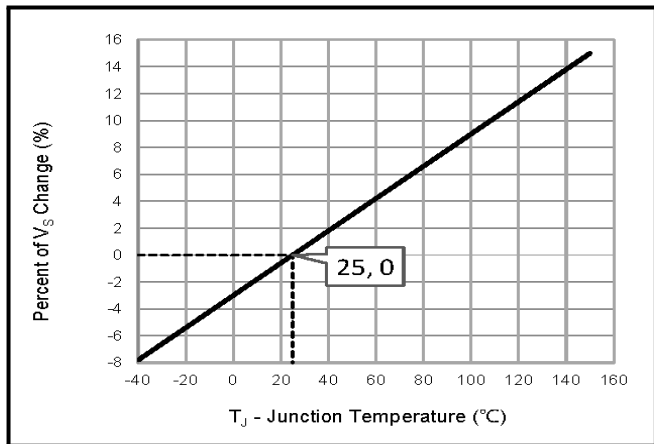


Figure 2: Normalized DC Holding Current vs. Case Temperature

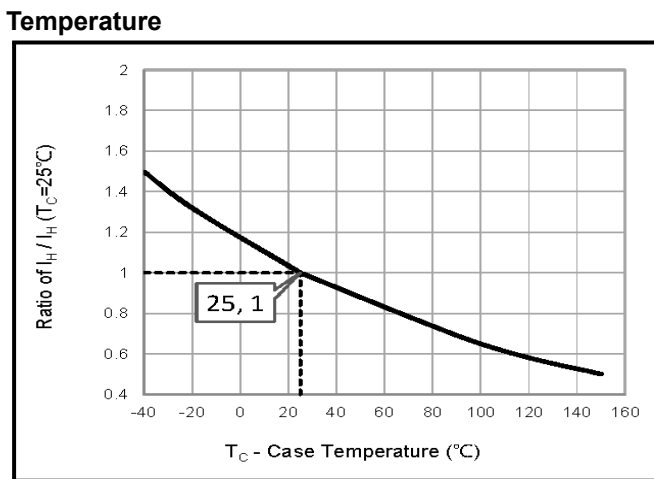


Figure 3 : tr/td us Pulse Waveform

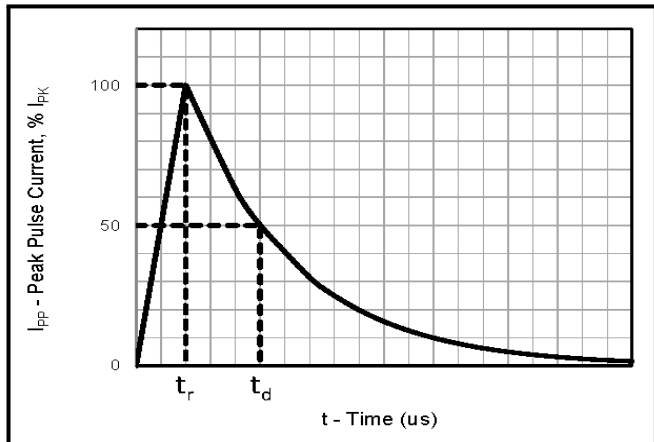


Figure 4: VI Curve

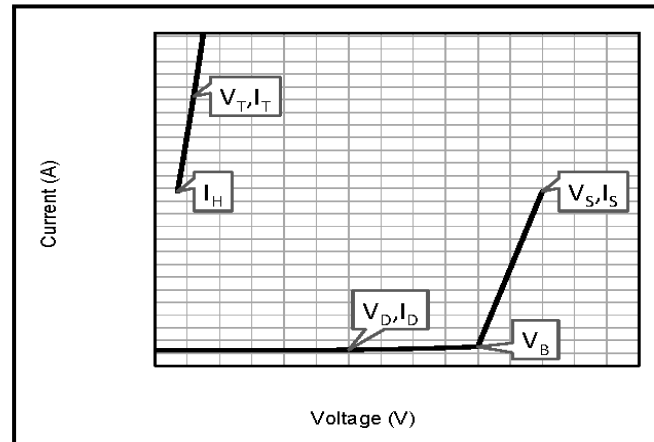


Figure 5: Peak Pulse Current Rating

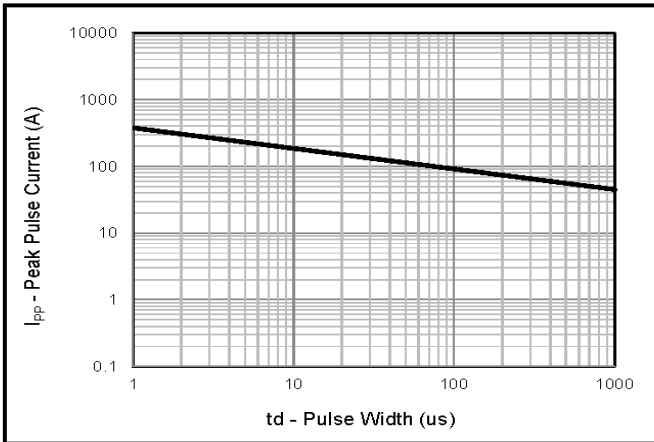
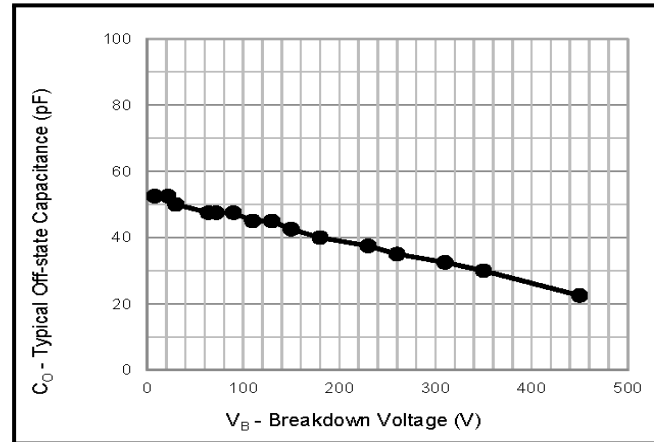


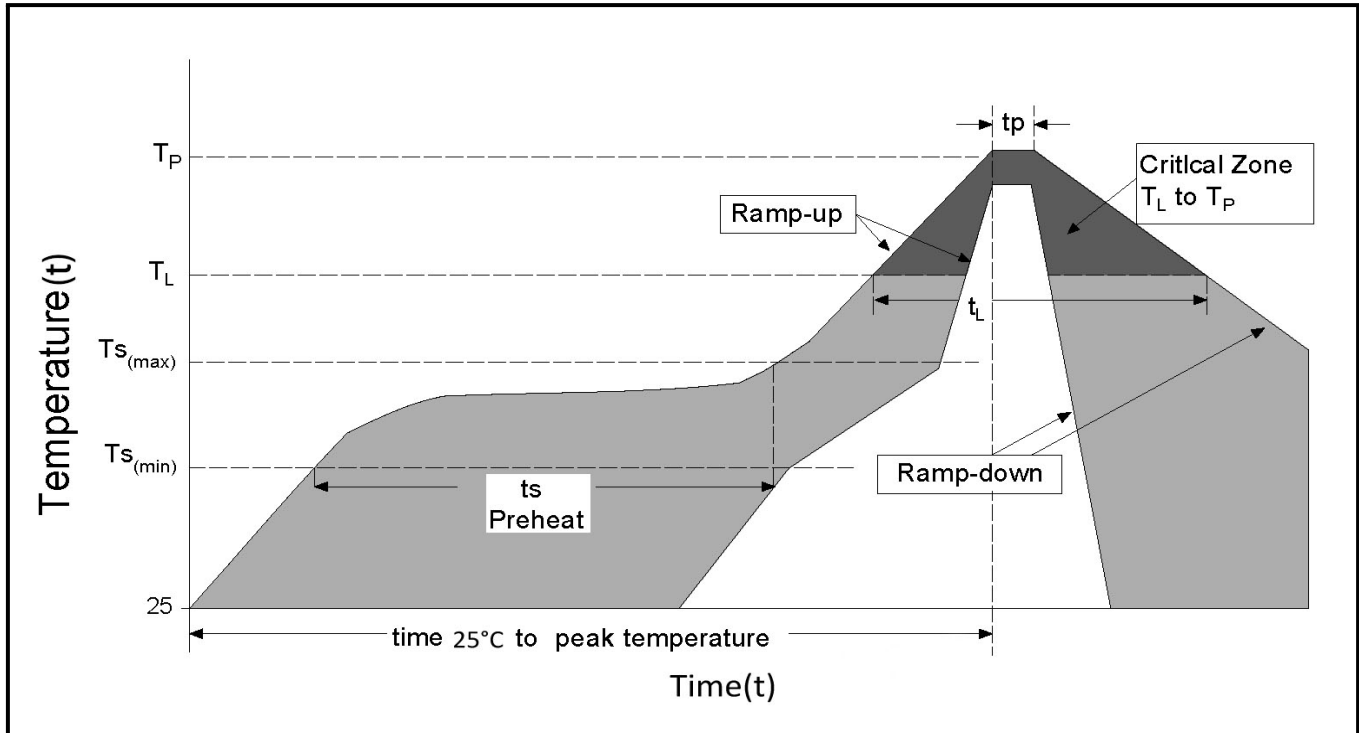
Figure 6: Typical Off-state Capacitance



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Thyristor Surge Suppressor

Soldering Parameters



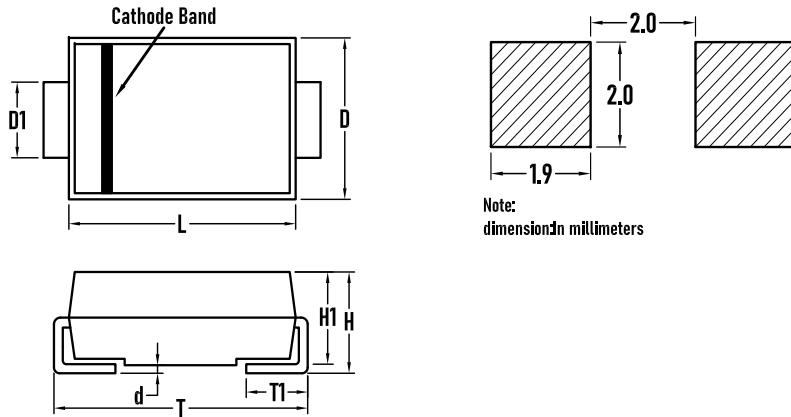
Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min ($T_S(\min)$)	150°C
	- Temperature Max ($T_S(\max)$)	200°C
	- Time (min to max) (t_S)	60 - 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_S(\max)$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Time (t_L)	60 -150 secs
Peak Temperature (T_P)		260 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 secs
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (t)		8 minutes Max.
Do not exceed		260°C



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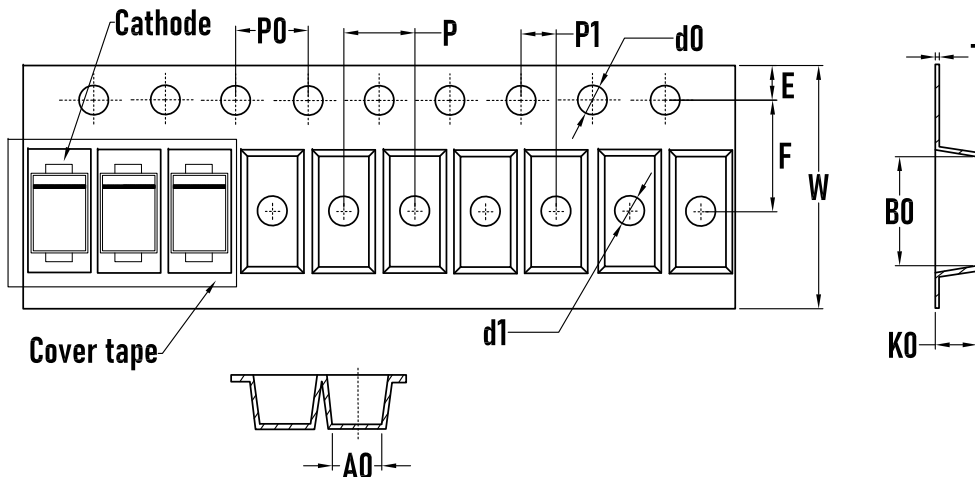
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Outline Drawing - SMA



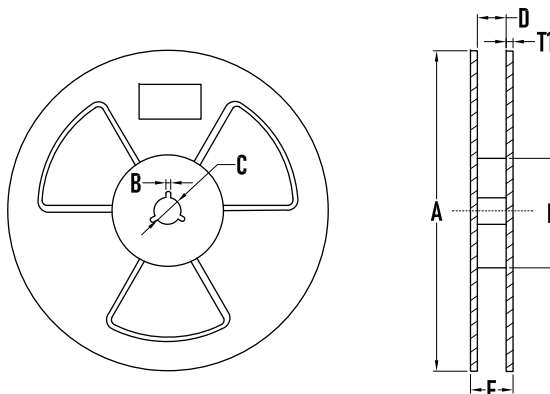
SYMBOL	MILLIMETER		Inches	
	MIN.	MAX.	MIN.	MAX.
D	2.5	2.9	0.098	0.114
D1	1.2	1.8	0.047	0.071
T	4.8	5.3	0.189	0.209
T1	0.8	1.5	0.031	0.059
d	—	0.2	—	0.008
H1	1.8	2.2	0.071	0.087
H	1.9	2.5	0.075	0.098
L	3.9	4.6	0.154	0.181

Packaging Tape - SMA



SYMBOL	MILLIMETER
A0	2.70
B0	5.10±0.1
d0	1.50±0.1
d1	1.50±0.1
E	1.75±0.1
F	5.50±0.1
K0	2.40±0.1
P	4.00±0.1
P0	4.00±0.1
P1	2.00±0.1
W	12.00±0.1
T	0.2±0.02

Packaging Reel



SYMBOL	MILLIMETER
A	323±2
B	3.0±0.2
C	15.0±0.5
D	13±2
E	73±2
T1	2.2±0.2
Quantity	5000PCS

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