Surface Mount 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:

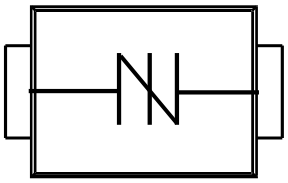
- GR1089
- ITU K.20, K.21 and K.45
- IEC 60950
- UL 60950
- TIA-968

Applications

- ✧ commercial systems
- ✧ industrial & instrumentation
- ✧ communications

Mechanical Data

- ✧ Package: SMA
- ✧ Lead Finish: Matte Tin
- ✧ RoHS/WEEE Compliant



Circuit Diagram



SMA (DO-214AC)

Absolute Maximum Rating at T_A = 25 °C, unless otherwise specified

Parameter	Symbol	Value	Units	Remarks
Peak Pulse Voltage	V_{PP}	4000	V	10/700us
Peak Pulse Current	I_{PP}	80	A	10/1000us
Peak Pulse Current	I_{PK}	250	A	8/20us
Peak One-cycle Surge Current	I_{TSM}	25	A	60Hz
Rate of Rise of Current	di/dt	500	A/us	
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	20	℃/W	
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	100	℃/W	
Operating Temperature Range	T_J	-40 to 125	℃	
Storage Temperature Range	T_{STG}	-60 to 150	℃	

OVREG Semiconductor (Xi'an) Co.,Ltd.

Electrical Characteristics at T_A = 25 °C, unless otherwise specified

Part Number	Marking	I_H mA MIN	V_S V 100KV/S MAX	I_{S_LMT} mA	V_T V @ I_T MAX	I_T A	I_D uA @ V_D	V_D V	C_O pF 1MHz,2V_{DC} TYP
OVTS0080SA	P08B	30	25	800	4	2.2	5	6	130
OVTS0220SA	P22B	30	30	800	4	2.2	5	18	120
OVTS0300SA	P03B	30	40	800	4	2.2	5	25	120
OVTS0640SA	P06B	120	77	800	4	2.2	5	58	80
OVTS0720SA	P07B	120	88	800	4	2.2	5	66	75
OVTS0900SA	P09B	120	98	800	4	2.2	5	75	70
OVTS1100SA	P11B	120	130	800	4	2.2	5	90	70
OVTS1300SA	P13B	120	160	800	4	2.2	5	120	60
OVTS1500SA	P15B	120	180	800	4	2.2	5	140	55
OVTS1800SA	P18B	120	220	800	4	2.2	5	170	50
OVTS2300SA	P23B	120	260	800	4	2.2	5	190	50
OVTS2600SA	P26B	120	300	800	4	2.2	5	220	45
OVTS3100SA	P31B	120	350	800	4	2.2	5	275	45
OVTS3500SA	P35B	120	400	800	4	2.2	5	320	40
OVTS3800SA	P38B	120	450	800	4	2.2	5	340	40

Rating And Characteristic Curves at T_A = 25 °C, unless otherwise specified

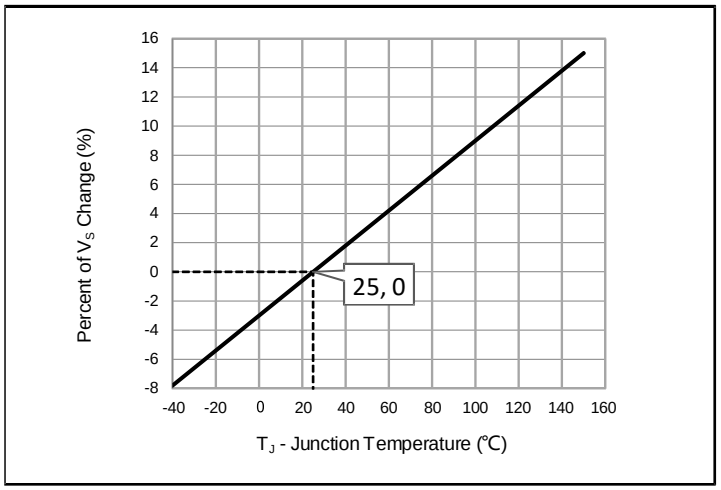


Fig.1 - Peak Pulse Current Rating

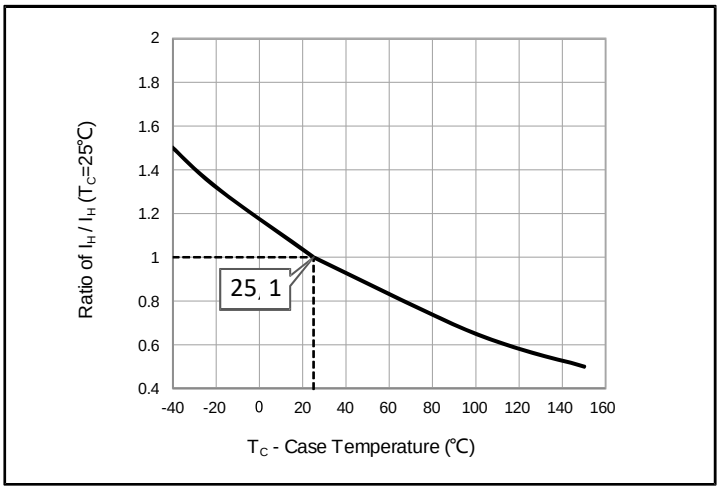


Fig.2 - Normalized DC Holding Current vs. Case Temperature

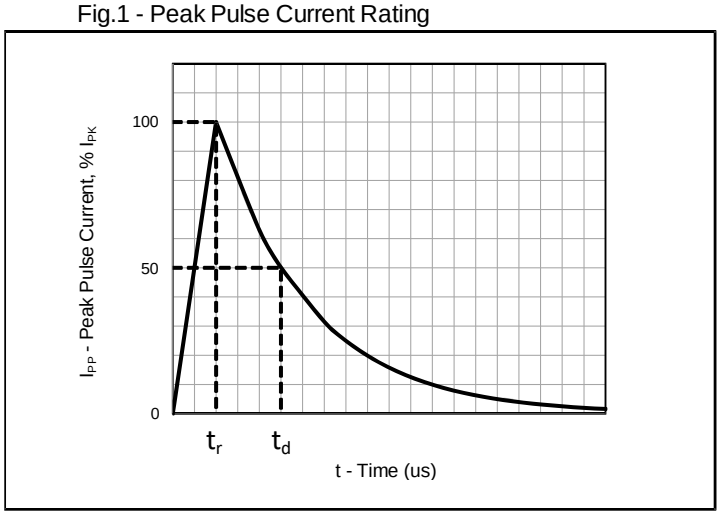


Fig.3 - tr/td us Pulse Waveform

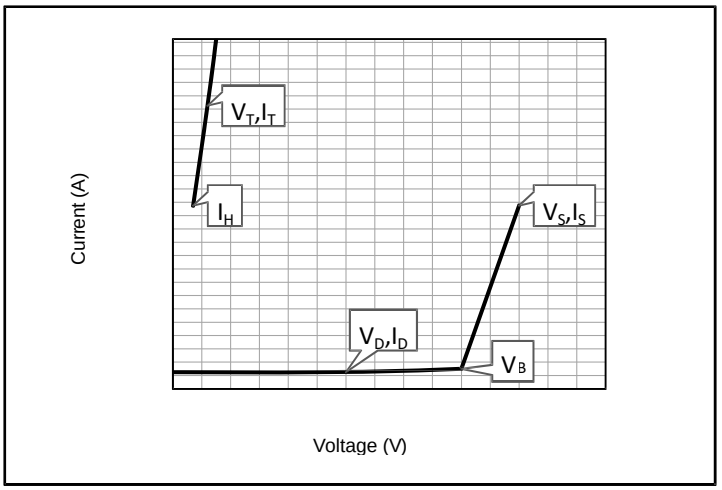


Fig.4 - VI Curve

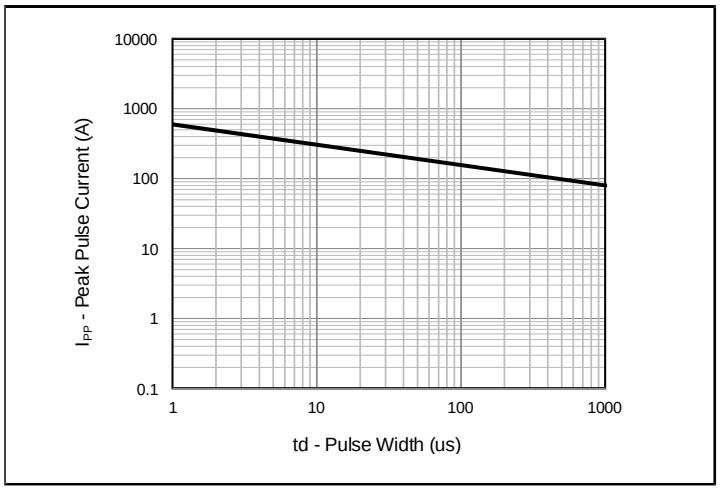


Fig.5 - Peak Pulse Current Rating

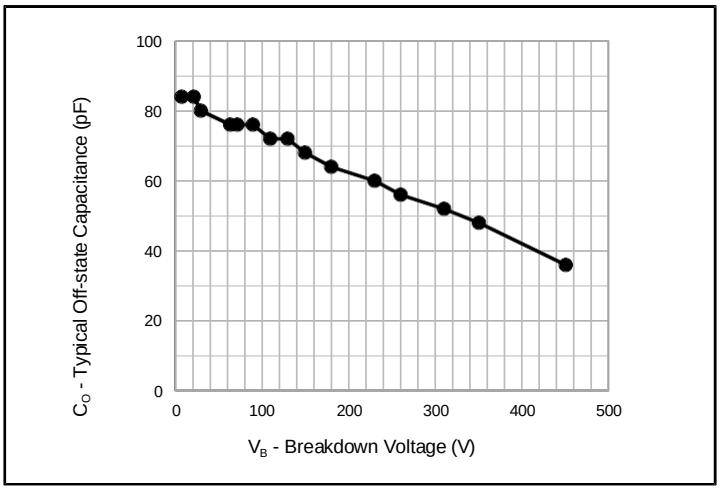
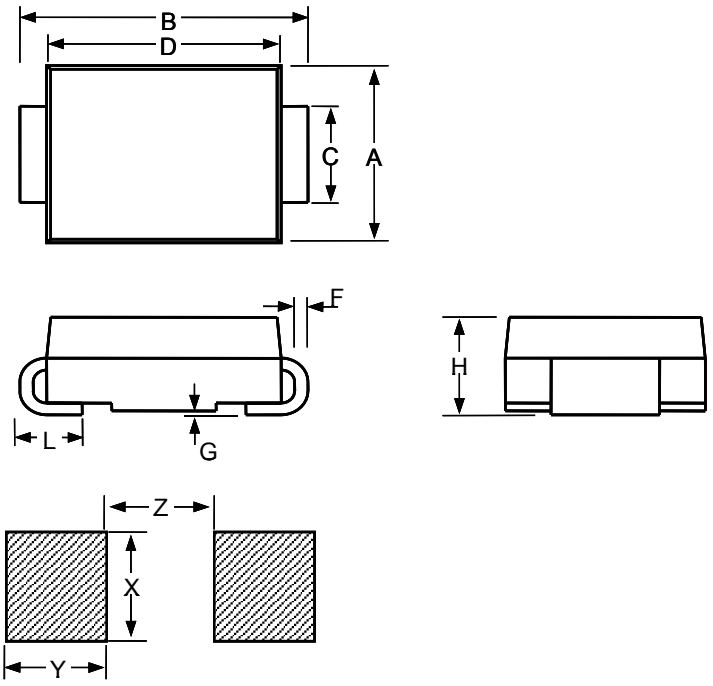


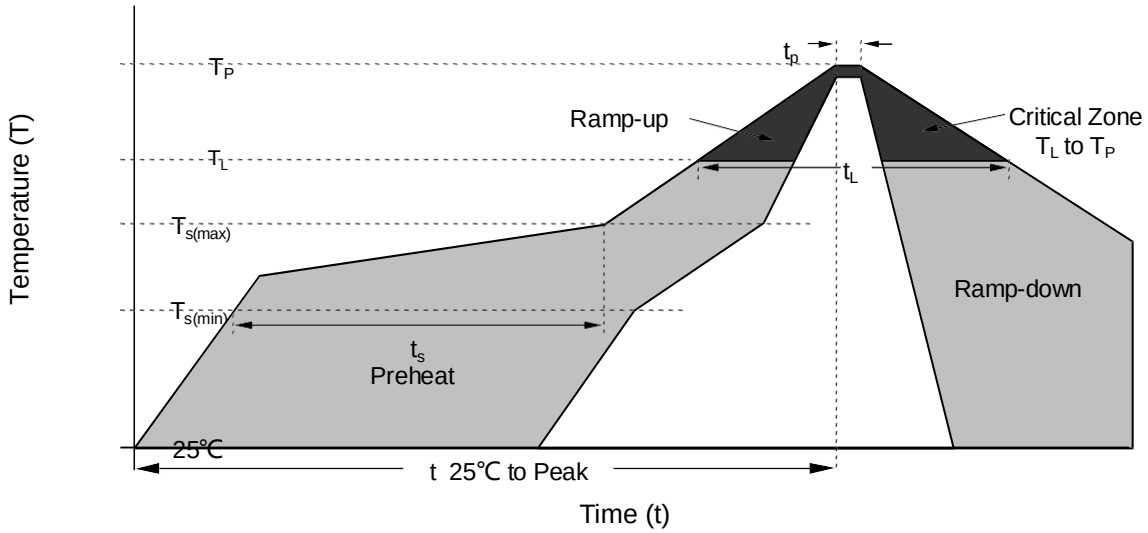
Fig.6 - Typical Off-state Capacitance

Package information



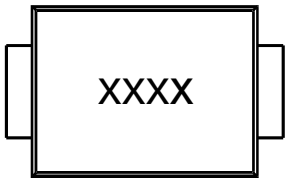
SMA						
Dimension	Inches			Millimeters		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.094	0.105	0.112	2.40	2.67	2.85
B	0.185		0.208	4.70		5.28
C	0.049		0.065	1.20		1.65
D	0.157		0.185	3.99		4.7
L	0.03		0.06	0.76		1.52
F	0.006		0.012	0.152		0.305
G	-		0.008	-		0.203
H	0.078	0.087	0.090	1.98	2.2	2.39
X		0.085			2.16	
Y		0.07			1.78	
Z		0.079			2	

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 TL - 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

Marking



xxxx = Marking Code

Ordering Information

Part number	Material	Type	Reel size	MOQ
OVTSxxxxSA Series	GREEN	T/R	11 inch	5k/reel