

**SURFACE MOUNT
THYRISTOR SURGE PROTECTIVE DEVICE**

Bi-Directional

VDRM - 58 to 360 Volts
IPP - 50 Amperes

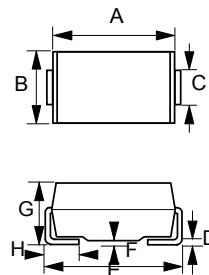
FEATURES

- Oxide Glass Passivated Junction
- Bidirectional protection in a single device
- Surge capabilities up to 50A @ 10/1000us or 150A @ 8/20us
- High off state Impedance and low on state voltage
- Plastic material has UL flammability classification 94V-0

MECHANICAL DATA

- Case : Molded plastic
- Polarity : Denotes none cathode band
- Weight : 0.002 ounces, 0.064 grams

SMA



SMA		
DIM.	MIN.	MAX.
A	4.06	4.57
B	2.29	2.92
C	1.27	1.63
D	0.15	0.31
E	4.83	5.59
F	0.05	0.20
G	2.01	2.62
H	0.76	1.52
All Dimensions in millimeter		

MAXIMUM RATINGS

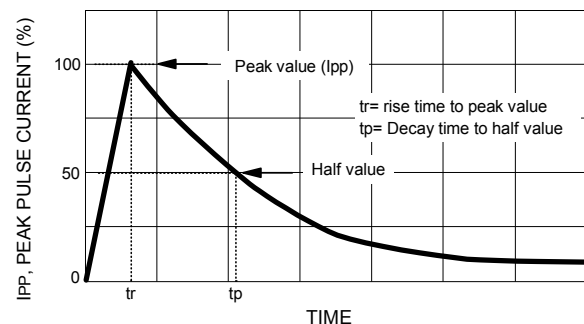
CHARACTERISTICS	SYMBOL	VALUE	UNIT
Non-repetitive peak impulse current @ 10/1000us	IPP	50	A
Non-repetitive peak On-state current @ 8.3ms (one half cycle)	ITSM	25	A
Junction temperature range	TJ	-40 to +150	°C
storage temperature range	TSTG	-55 to +150	°C

THERMAL RESISTANCE

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Junction to leads	Rth(J-L)	20	°C/W
Junction to ambient on print circuit (on recommended pad layout)	Rth(J-A)	100	°C/W
Typical positive temperature coefficient for brekdown voltage	$\Delta VBR/\Delta TJ$	0.1	%/°C

MAXIMUM RATED SURGE WAVEFORM

WAVEFORM	STANDARD	IPP (A)
2/10 us	GR-1089-CORE	150
8/20 us	IEC 61000-4-5	150
10/160 us	FCC Part 68	90
10/560 us	FCC Part 68	60
10/700 us	ITU-T K20/K21	55
10/1000 us	GR-1089-CORE	50

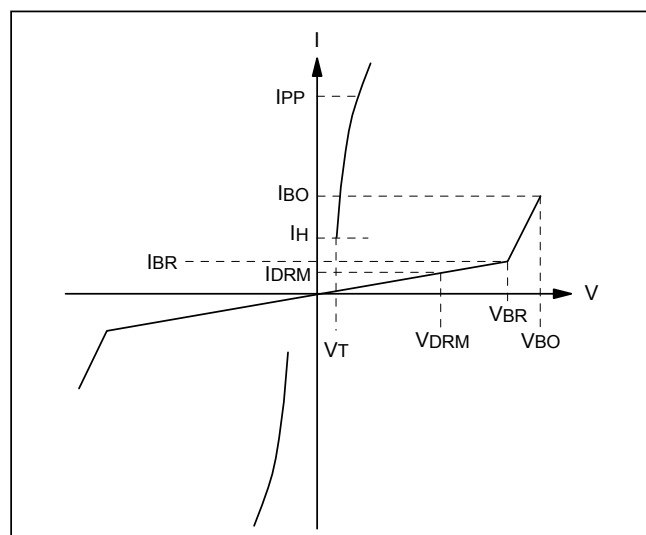


ELECTRICAL CHARACTERISTICS @ TA= 25°C unless otherwise specified
TA0640L thru TA4000L



PARAMETER	RATED REPETITIVE OFF-STATE VOLTAGE	OFF-STATE LEAKAGE CURRENT @ VDRM	BREAKOVER VOLTAGE	ON-STATE VOLTAGE @ IT=1.0A	BREAKOVER CURRENT		HOLDING CURRENT		OFF-STATE CAPACITANCE
SYMBOL	VDRM	IDRM	VBO	VT	IBO		IH		Co
UNITS	Volts	uA	Volts	Volts	mA		mA		pF
LIMIT	Max	Max	Max	Max	Min	Max	Min	Max	Typ
TA0640L	58	5	77	3.5	50	800	150	800	100
TA0720L	65	5	88	3.5	50	800	150	800	100
TA0900L	75	5	98	3.5	50	800	150	800	100
TA1100L	90	5	130	3.5	50	800	150	800	60
TA1300L	120	5	160	3.5	50	800	150	800	60
TA1500L	140	5	180	3.5	50	800	150	800	60
TA1800L	170	5	220	3.5	50	800	150	800	60
TA2300L	190	5	265	3.5	50	800	150	800	40
TA2600L	220	5	300	3.5	50	800	150	800	40
TA3100L	275	5	350	3.5	50	800	150	800	40
TA3500L	320	5	400	3.5	50	800	150	800	40
TA4000L	360	5	450	3.5	50	800	150	800	40

SYMBOL	PARAMETER	
VDRM	Stand-off Voltage	
IDRM	Leakage current at stand-off voltage	
VBR	Breakdown voltage	
IBR	Breakdown current	
VBO	Breakover voltage	
IBO	Breakover current	
IH	Holding current	Note: 1
VT	On state voltage	
IPP	Peak pulse current	
CO	Off state capacitance	Note: 2



NOTES: 1. $I_H > (V_L/R_L)$ If this criterion is not obeyed, the TSPD Triggers but does not return correctly to high-resistance state.
The Surge recovery time does not exceed 30ms.
2. Off-state capacitance measured at $f=1.0\text{MHz}$; 1.0VRMS signal; $V_R=2\text{VDC}$ bias.

FIG. 1 - OFF STATE CURRENT vs JUNCTION TEMPERATURE

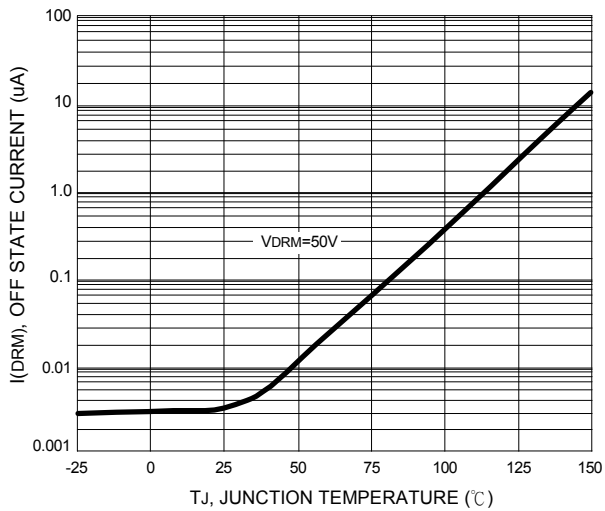


FIG. 2 - RELATIVE VARIATION OF BREAKDOWN VOLTAGE vs JUNCTION TEMPERATURE

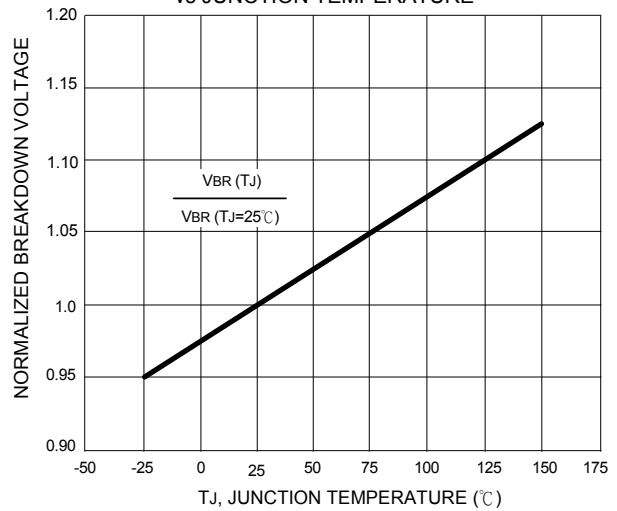


FIG. 3 - RELATIVE VARIATION OF BREAKOVER VOLTAGE vs JUNCTION TEMPERATURE

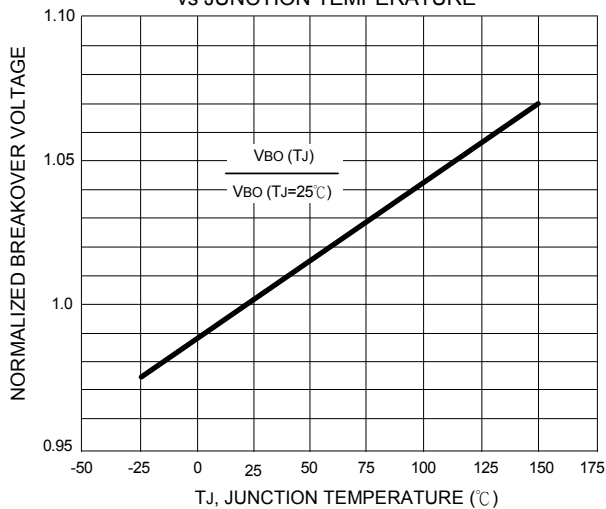


FIG. 4 - ON STATE CURRENT vs ON STATE VOLTAGE

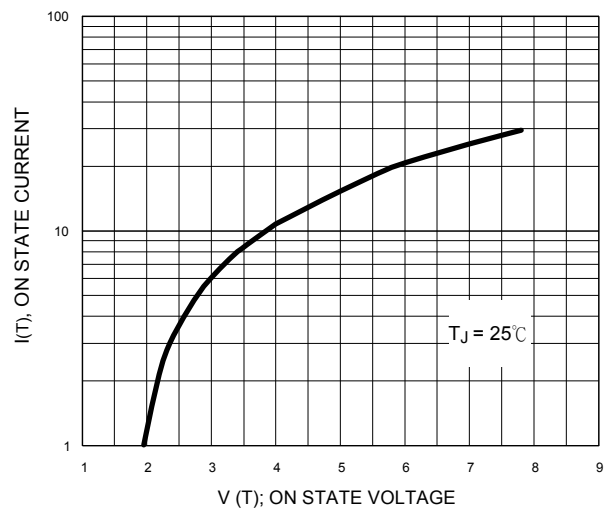


FIG. 5 - RELATIVE VARIATION OF HOLDING CURRENT vs JUNCTION TEMPERATURE

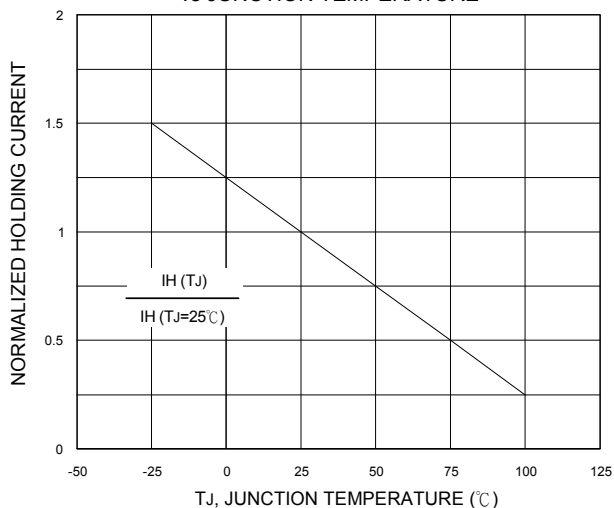
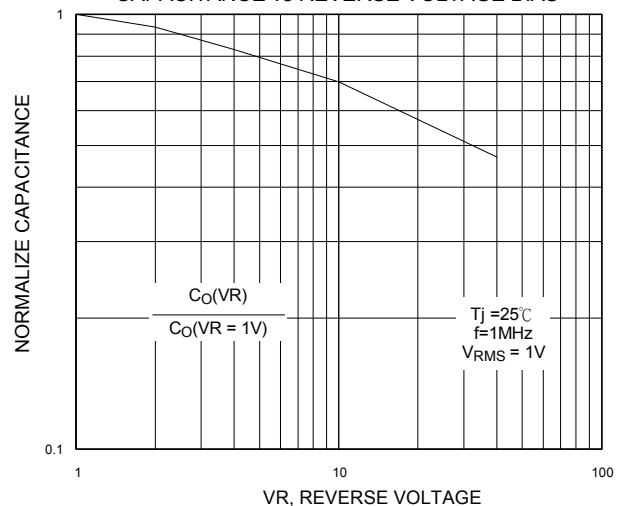
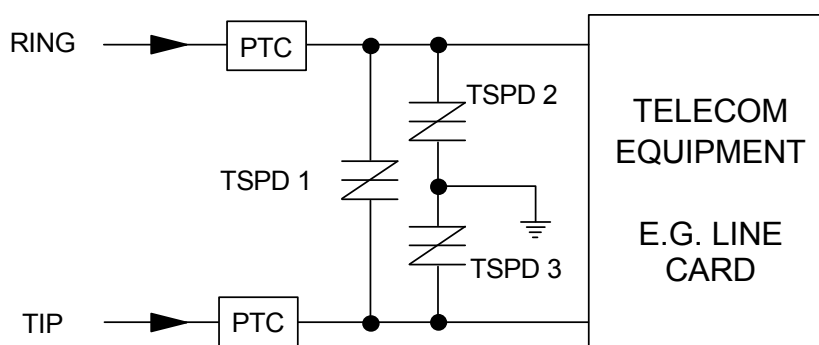
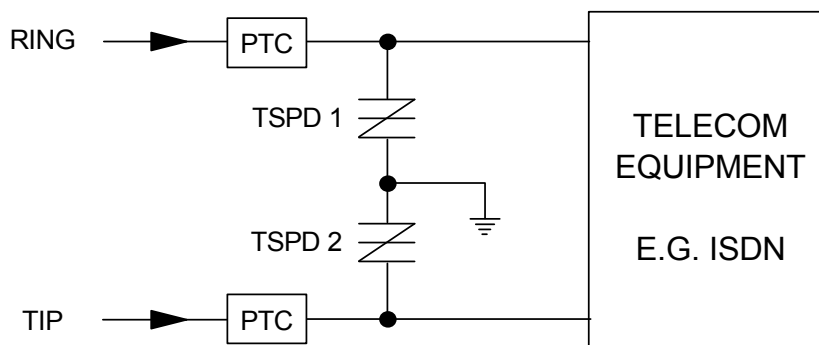
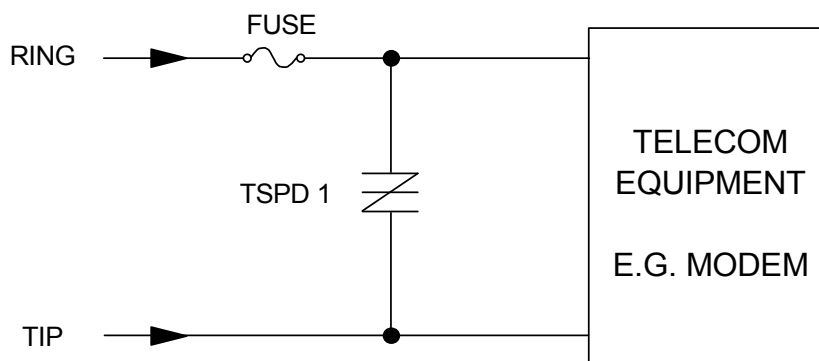


FIG. 6 - RELATIVE VARIATION OF JUNCTION CAPACITANCE vs REVERSE VOLTAGE BIAS





The PTC (Positive Temperature Coefficient) is an overcurrent protection device

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