

TB0640M thru TB4000M

SURFACE MOUNT THYRISTOR SURGE PROTECTIVE DEVICE

Bi-Directional

VDRM - **58 to 360** Volts IPP - **80** Amperes

SMB

FEATURES

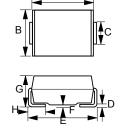
- Oxide Glass Passivated Junction
- Bidirectional protection in a single device
- Surge capabilities up to 80A @10/1000us or 250A @8/20us
- High off state Impedance and low on state voltage
- Plastic material has UL flammability classification 94V-0

MECHANICAL DATA

• Case: Molded plastic

Polarity: Denotes none cathode bandWeight: 0.003 ounces, 0.093 grams





SMB				
DIM.	MIN.	MAX.		
Α	4.06	4.57		
В	3.30	3.94		
С	1.96	2.21		
D	0.15	0.31		
E	5.21	5.59		
F	0.05	0.20		
G	2.01	2.62		
Н	0.76	1.52		
All Dimensions in millimeter				

MAXIMUM RATINGS

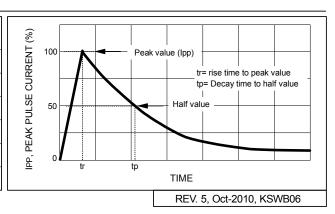
CHARACTERISTICS	SYMBOL	VALUE	UNIT
Non-repetitive peak impulse current @ 10/1000us	IPP	80	Α
Non-repetitive peak On-state current @ 8.3ms (one half cycle)	ITSM	40	Α
Junction temperature range	TJ	-40 to +150	°C
storage temperature range	TSTG	-55 to +150	°C

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	∆VBR/∆TJ	0.1	%/℃

MAXIMUM RATED SURGE WAVEFORM

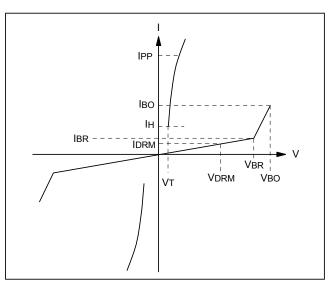
WAVEFORM	STANDARD	IPP (A)		
2/10 us	GR-1089-CORE	250		
8/20 us	IEC 61000-4-5	250		
10/160 us	FCC Part 68	150		
10/560 us	FCC Part 68	100		
10/700 us	ITU-T K20/K21	90		
10/1000 us	GR-1089-CORE	80		





PARAMETER	RATED REPETITIVE OFF-STATE VOLTAGE	OFF-STATE LEAKAGE CURRENT @ VDRM	BREAKOVER VOLTAGE	ON-STATE VOLTAGE @ IT=1.0A		KOVER RENT		DING RENT	OFF-STATE CAPACITANCE
SYMBOL	VDRM	IDRM	VBO	VT	le	3O	li	4	Со
UNITS	Volts	uA	Volts	Volts	mA		mA		pF
LIMIT	Max	Max	Max	Max	Min	Max	Min	Max	Тур
TB0640M	58	5	77	3.5	50	800	150	800	140
TB0720M	65	5	88	3.5	50	800	150	800	140
ТВ0900М	75	5	98	3.5	50	800	150	800	140
TB1100M	90	5	130	3.5	50	800	150	800	90
TB1300M	120	5	160	3.5	50	800	150	800	90
TB1500M	140	5	180	3.5	50	800	150	800	90
TB1800M	170	5	220	3.5	50	800	150	800	90
TB2300M	190	5	265	3.5	50	800	150	800	60
TB2600M	220	5	300	3.5	50	800	150	800	60
TB3100M	275	5	350	3.5	50	800	150	800	60
TB3500M	320	5	400	3.5	50	800	150	800	60
TB4000M	360	5	450	3.5	50	800	150	800	60

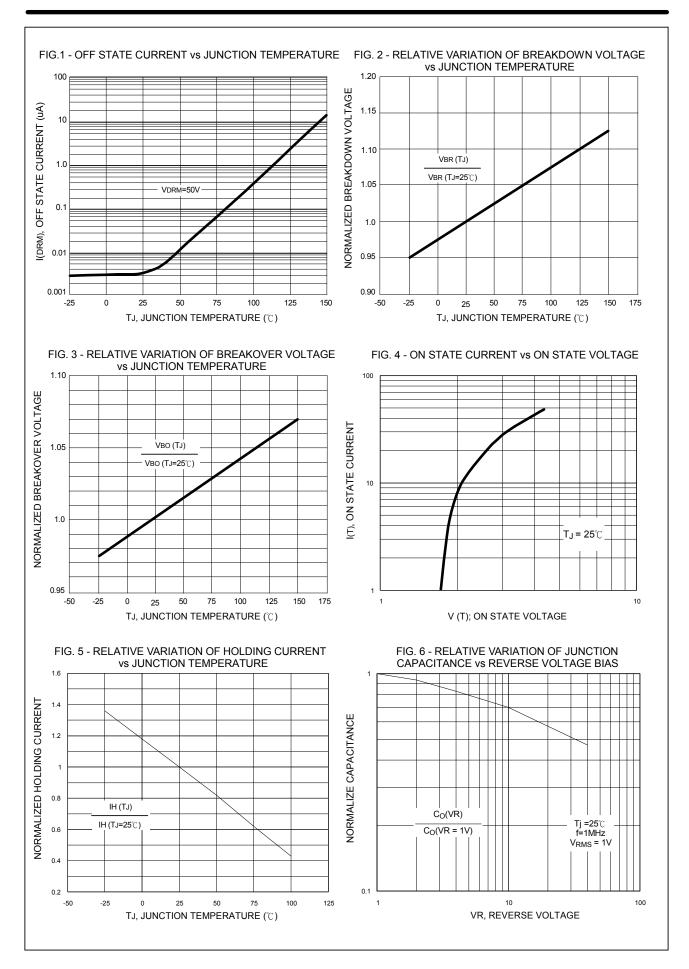
SYMBOL	PARAMETER		
VDRM	Stand-off Voltage		
IDRM	Leakage current at stand-off voltage		
VBR	Breakdown voltage		
IBR	Breakdown current		
VBO	Breakover voltage		
IBO	Breakover current		
lH	Holding current	Note: 1	
VT	On state voltage		
IPP	Peak pulse current		
Со	Off state capacitance	Note: 2	



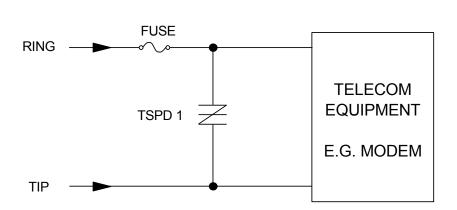
NOTES: 1. IH > (VL/RL) If this criterion is not obeyed, the TSPD Triggers but does not return correctly to high-resistance state. The Surge recovery time does not exceed 30ms.

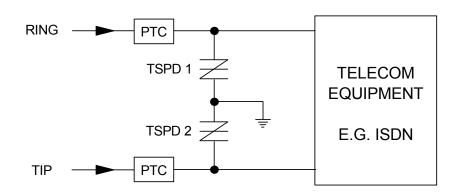
2. Off-state capacitance measured at f=1.0MHz; 1.0VRMS signal; VR=2VDC bias.

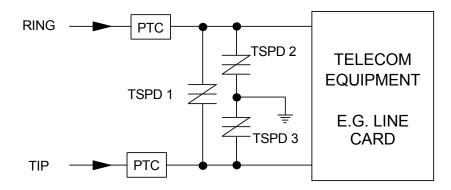












The PTC (Positive Temperature Coefficient) is an overcurrent protection device



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