Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

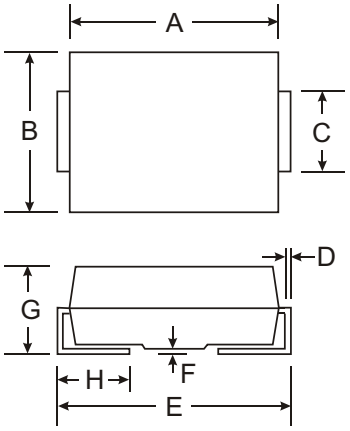
TB0640M - TB3500M

50A BI-DIRECTIONAL SURFACE MOUNT THYRISTOR SURGE PROTECTIVE DEVICE

NEW PRODUCT

Features

- 50A Peak Pulse Current @ 10/1000μs
- 250A Peak Pulse Current @ 8/20μs
- 58 - 320V Stand-Off Voltages
- Oxide-Glass Passivated Junction
- Bi-Directional Protection In a Single Device
- High Off-State impedance and Low On-State Voltage
- Helps Equipment Meet GR-1089-CORE, IEC 61000-4-5, FCC Part 68, ITU-T K.20/K.21, and UL497B
- UL Listed Under Recognized Component Index, File Number 156346



SMB		
Dim	Min	Max
A	4.06	4.57
B	3.30	3.94
C	1.96	2.21
D	0.15	0.31
E	5.21	5.59
F	0.05	0.20
G	2.01	2.50
H	0.76	1.52
All Dimensions in mm		

Mechanical Data

- Case: SMB, Molded Plastic
- Plastic Material: UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solder Plated Terminal - Solderable per MIL-STD-202, Method 208
- Polarity: None; Bi-Directional Devices Have No Polarity Indicator
- Weight: 0.093 grams (approx.)
- Marking: Date Code and Marking Code (See Page 4)
- Ordering Information: See Page 4

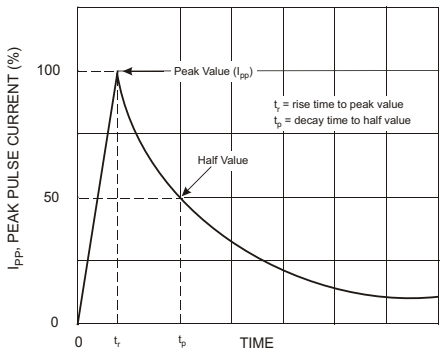
Maximum Ratings @ T_A = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Characteristic		Symbol	Value	Unit
Non-Repetitive Peak Impulse Current	@10/1000us	I_{pp}	50	A
Non-Repetitive Peak On-State Current	@8.3ms (one-half cycle)	I_{TSM}	30	A
Junction Temperature Range		T_j	-40 to +150	°C
Storage Temperature Range		T_{STG}	-55 to +150	°C
Thermal Resistance, Junction to Lead		$R_{\theta JL}$	20	°C/W
Thermal Resistance, Junction to Ambient		$R_{\theta JA}$	100	°C/W
Typical Positive Temperature Coefficient for Breakdown Voltage		$\Delta VBR/\Delta T_j$	0.1	%/°C

Maximum Rated Surge Waveform

Waveform	Standard	Ipp (A)
2/10 us	GR-1089-CORE	300
8/20 us	IEC 61000-4-5	250
10/160 us	FCC Part 68	150
10/700 us	ITU-T, K.20/K.21	100
10/560 us	FCC Part 68	75
10/1000 us	GR-1089-CORE	50



NEW PRODUCT

Electrical Characteristics

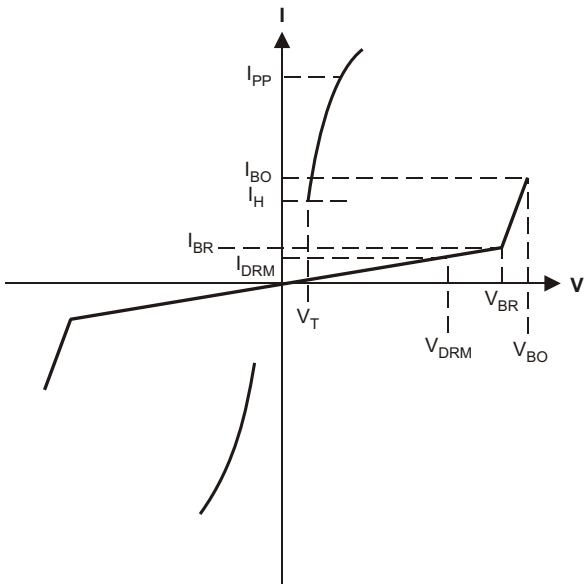
@ T_A = 25°C unless otherwise specified

Part Number	Rated Repetitive Off-State Voltage	Off-State Leakage Current @ V_{DRM}	Breakover Voltage	On-State Voltage @ I_T = 1A	Breakover Current I_{BO}		Holding Current I_H		Off-State Capacitance	Marking Code
	V_{DRM} (V)	I_{DRM} (uA)	V_{BO} (V)	V_T (V)	Min (mA)	Max (mA)	Min (mA)	Max (mA)	C_O (pF)	
TB0640M	58	5	77	3.5	50	800	150	800	140	T064M
TB0720M	65	5	88	3.5	50	800	150	800	140	T072M
TB0900M	75	5	98	3.5	50	800	150	800	140	T090M
TB1100M	90	5	130	3.5	50	800	150	800	90	T110M
TB1300M	120	5	160	3.5	50	800	150	800	90	T130M
TB1500M	140	5	180	3.5	50	800	150	800	90	T150M
TB1800M	160	5	220	3.5	50	800	150	800	90	T180M
TB2300M	190	5	265	3.5	50	800	150	800	60	T230M
TB2600M	220	5	300	3.5	50	800	150	800	60	T260M
TB3100M	275	5	350	3.5	50	800	150	800	60	T310M
TB3500M	320	5	400	3.5	50	800	150	800	60	T350M

Symbol	Parameter
V_{DRM}	Stand-off Voltage
I_{DRM}	Leakage current at stand-off voltage
V_{BR}	Breakdown voltage
I_{BR}	Breakdown current
V_{BO}	Breakover voltage
I_{BO}	Breakover current
I_H	Holding current NOTE: 1
V_T	On state voltage
I_{PP}	Peak pulse current
C_O	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 = 1.0MHz, 1.0V_{RMS} signal, $V_R = 2V_{DC}$ bias.



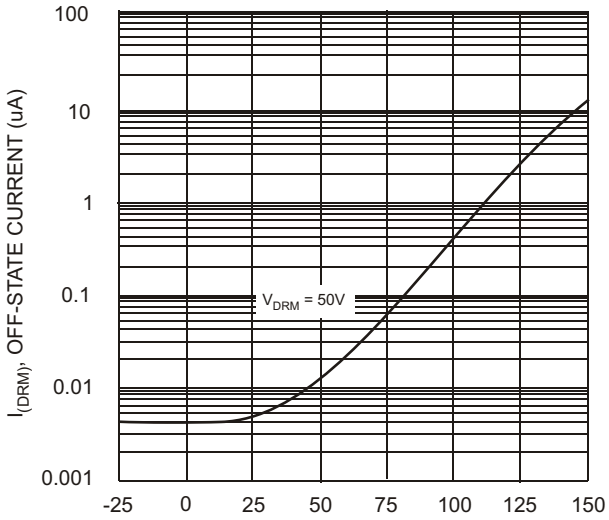


Fig. 1 Off-State Current vs. Junction Temperature

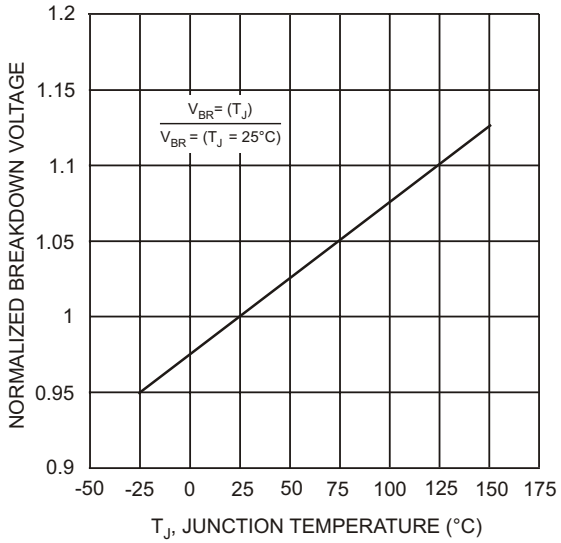


Fig. 2 Relative Variation of Breakdown Voltage vs. Junction Temperature

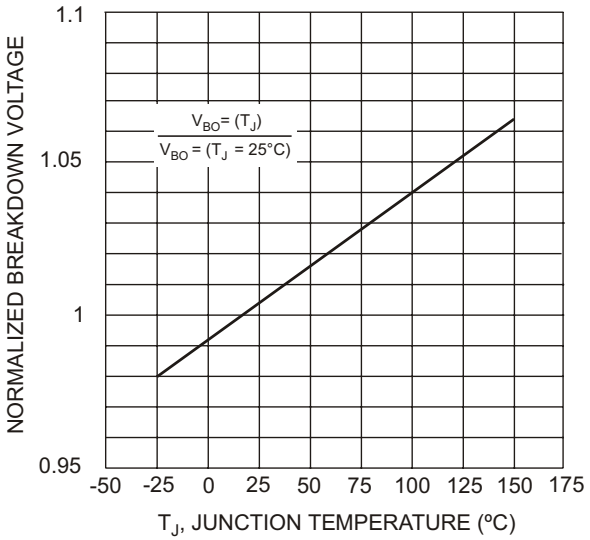


Fig. 3 Relative Variation of Breakover Voltage vs. Junction Temperature

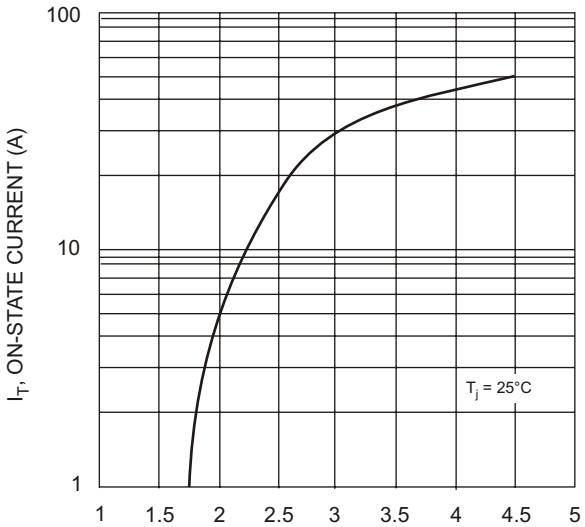


Fig. 4 On-State Current vs. On-State Voltage

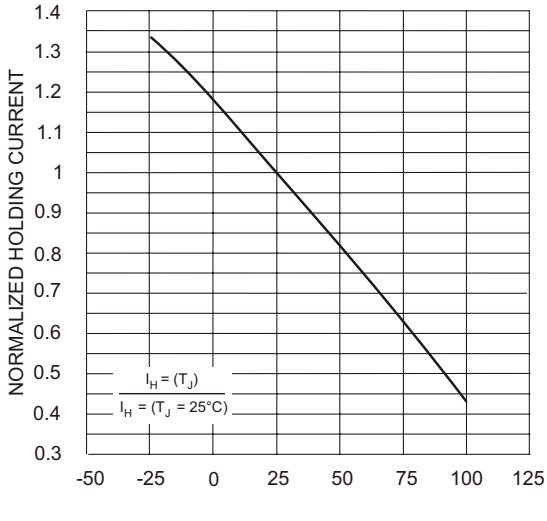


Fig. 5 Relative Variation of Holding Current vs. Junction Temperature

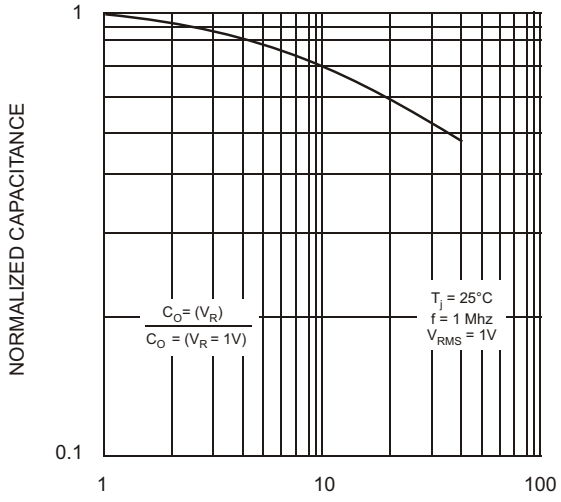


Fig. 6 Relative Variation of Junction Capacitance vs. Reverse Voltage Bias

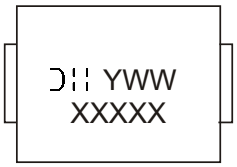
NEW PRODUCT

Ordering Information (Note 3)

Device	Packaging	Shipping
TB0640M-13 TB0720M-13 TB0900M-13 TB1100M-13 TB1300M-13 TB1500M-13 TB1800M-13 TB2300M-13 TB2600M-13 TB3100M-13 TB3500M-13	SMB	3000/Tape & Reel

Notes: 3. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



XXXXX = Product Type Marking Code
YWW = Date Code Marking
Y = Year ex: 2 = 2002
WW = Week

Date Code Key

Year	2002	2003	2004	2005	2006	2007	2008	2009
Code	2	3	4	5	6	7	8	9