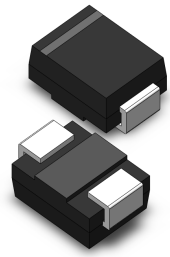
TB0640M - TB3500M

THYRISTOR SURGE SUPPRESSORS

Features

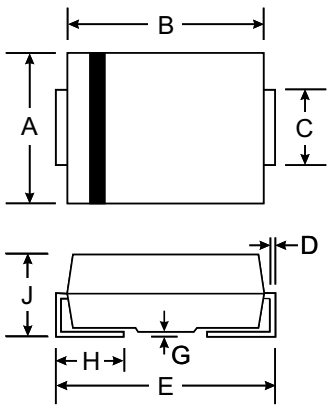
- 50A Peak Pulse Current @ 10/1000 s
- 250A Peak Pulse Current @ 8/20 s
- 58 - 320V Stand-Off Voltages
- Oxide-Glass Passivated Junction
- Bi-Directional Protection In a Single Device
- High Off-State impedance and Low On-State Voltage



Mechanical Data

- Case: SMB/DO-214AA, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.093 grams (approx.)

RoHS COMPLIANT



SMB(DO-214AA)		
Dim	**Min**	**Max**
A	3.30	3.94
B	4.06	4.70
C	1.91	2.21
D	0.15	0.31
E	5.00	5.59
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

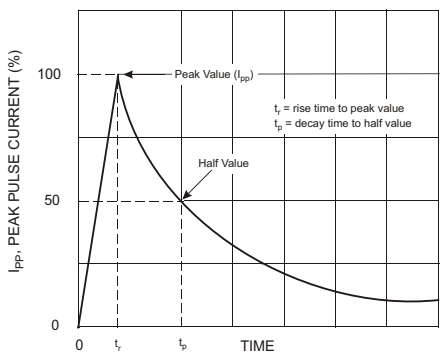
Maximum Ratings @ T_A = 25 C unless otherwise specified

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_{JL}	20	°C/W
Thermal Resistance, Junction to Ambient		R_{JA}	100	°C/W
Typical Positive Temperature Coefficient for Breakdown Voltage		VBR/ 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, K20/K21	100
10/560 us	FCC Part 68	75
10/1000 us	GR-1089-CORE	50



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
	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
TB0720M	65	5	88	3.5	50	800	150	800	140
TB0900M	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	160	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

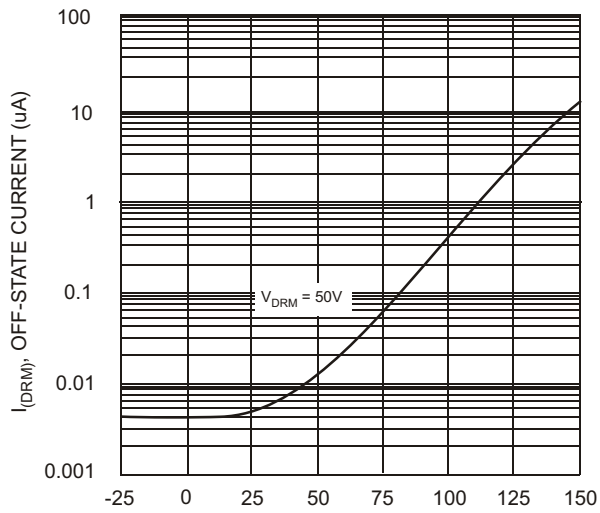


Fig. 1 Off-State Current vs. Junction Temperature

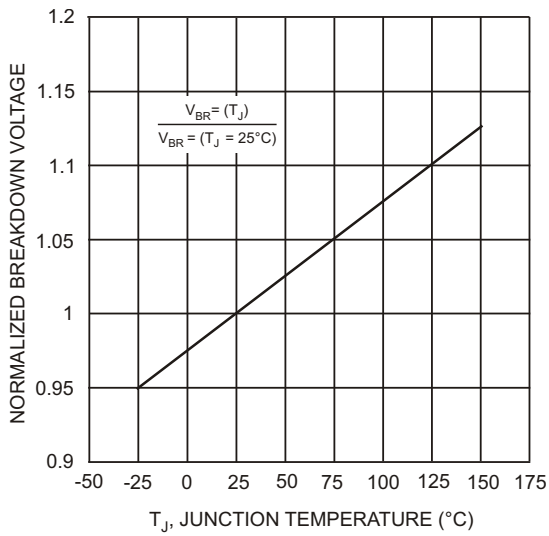


Fig. 2 Relative Variation of Breakdown Voltage vs. Junction Temperature

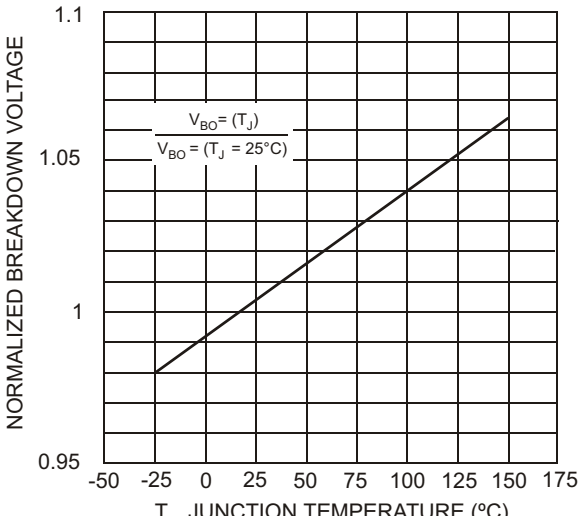


Fig. 3 Relative Variation of Breakover Voltage vs. Junction Temperature

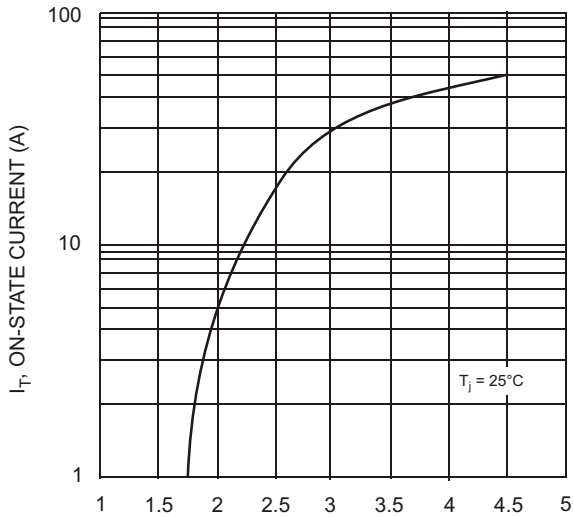


Fig. 4 On-State Current vs. On-State Voltage

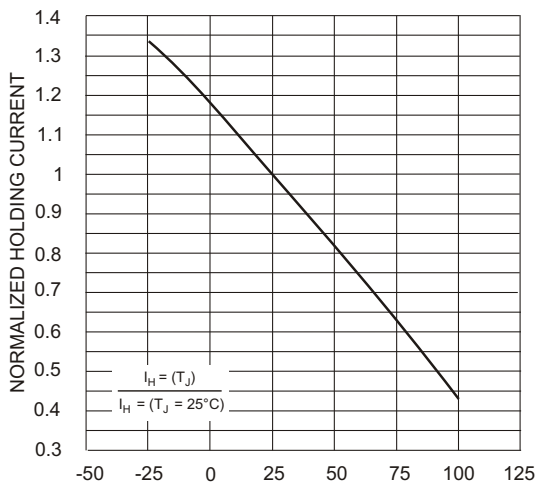


Fig. 5 Relative Variation of Holding Current vs. Junction Temperature

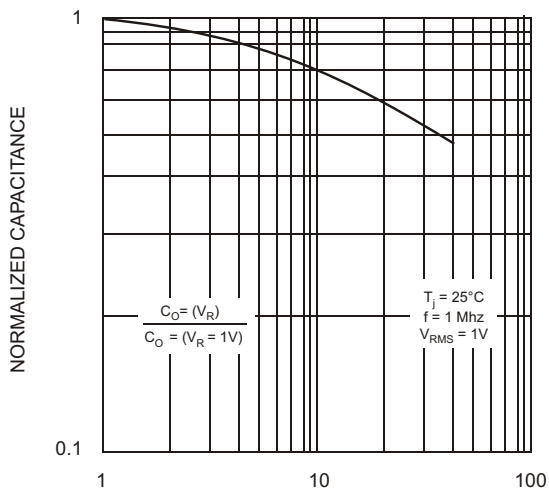


Fig. 6 Relative Variation of Junction Capacitance vs. Reverse Voltage Bias