

# MDE Semiconductor, Inc.

201 Shipyard Way, Unit C, Newport Beach, CA., USA 92663 Tel : 760-564-8656 • Fax : 760-564-2414  
 1-800-831-4881 Email: sales@mdesemiconductor.com Web: www.mdesemiconductor.com

## BIDIRECTIONAL THYRISTOR SURGE SUPPRESSOR SERIES

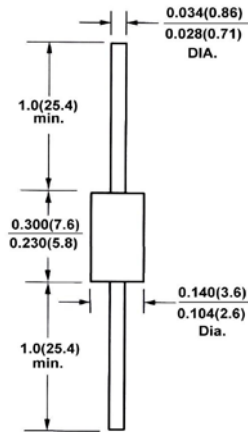
### SURFACE MOUNT SMB AND AXIAL LEAD DO-15

#### FEATURES

- UL94V-0 Flammability Classification
- ESD Protection >40 kilovolts
- Low Capacitance for T1/E1 Trunk and Line Card Application
- High Surge Current Capability(See Electrical Characteristics)\*\*

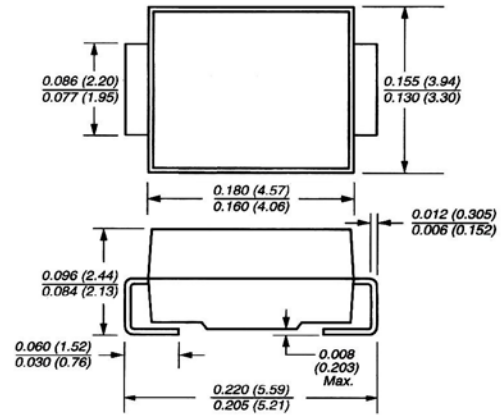
- Peak Off-State Voltage from 58 to 300 volts
- Meet IEC100-4-4 & -5 Industry Requirement
- Provides Protection in Accordance with FCC Part 68,UL1459,Bellcore 1089,ITU-TK. 20 & K. 21

**DO-204AC (DO-15)**



**MECHANICAL DATA**

**DO-214AA (SMB J-Bend)**



**MECHANICAL DATA**

**Case:** JEDEC DO-15 Molded plastic over passivated junction

**Terminals:** Tin Plated Axial leads, solderable per

MIL-STD-750, Method 2026

**Mounting Position:** Any

**Weight:** 0.015 ounce, 0.4 gram

**Case:** JEDEC DO214AA. Molded plastic over glass passivated junction

**Terminal:** Solder plated, solderable per MIL-STD-750, Method 2026

**Standard Packaging:** 12mm tape (EIA STD RS-481)

**Weight:** 0.003 ounce, 0.093 gram

MDE PART NUMBER	MARKING CODE FOR AXIAL DO-15 PACKAGE	MARKING CODE FOR SMB PACKAGE	REPETITIVE PEAK OFF-STAGE VOLTAGE VDRM VOLTS	SWITCHING VOLTAGE @100V/us Vs VOLTS	MINIMUM HOLDING CURRENT dl/dt=1A/ms IH mA	SWITCHING CURRENT Is mA	SURGE RATINGS IPP 10x1000 μS Amps	ON-STAGE CURRENT IT A	TYPICAL CAPACITANCE @50V,1MHz pF
P0640SA	P0640SAL	GC	58	77	150	800	50	1	60
P0720SA	P0720SAL	GD	65	88	150	800	50	1	60
P0800SA	P0800SAL	GE	75	98	150	800	50	1	60
P1100SA	P1100SAL	GF	90	130	150	800	50	1	60
P1300SA	P1300SAL	GG	120	160	150	800	50	1	40
P1500SA	P1500SAL	GH	140	180	150	800	50	1	40
P1800SA	P1800SAL	GI	160	220	150	800	50	1	40
P2300SA	P2300SAL	GJ	190	260	150	800	50	1	30
P2600SA	P2600SAL	GK	220	300	150	800	50	1	30
P3100SA	P3100SAL	GL	275	350	150	800	50	1	30
P3500SA	P3500SAL	GM	300	400	150	800	50	1	30
P4000SA	P4000SAL	GO	360	450	150	800	35	1	30

Maximum Off-State Current @ $V_{DRM}$  : 5μA

Maximum On-State Voltage @ $I_T$  : 5volts

For AXIAL devices,use suffix L (e.g. P3100AL) electrical charactics apply in both AXIAL and Surface Mounted Devices.

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## **BIDIRECTIONAL THYRISTOR SURGE SUPPRESSOR SERIES**

### **SURFACE MOUNT SMB AND AXIAL LEAD DO-15**

MDE PART NUMBER	MARKING CODE FOR AXIAL DO-15 PACKAGE	MARKING CODE FOR SMB PACKAGE	REPETITIVE PEAK OFF-STAGE VOLTAGE VDRM VOLTS	SWITCHING VOLTAGE @100V/us Vs VOLTS	MINIMUM HOLDING CURRENT dl/dt=1A/ms IH mA	SWITCHING CURRENT Is mA	SURGE RATINGS IPP 10x1000 μS Amps	ON-STAGE CURRENT IT A	TYPICAL CAPACITANCE @50V,1MHz pF
P0640SB	P0640SBL	GP	58	77	150	800	80	1	100
P0720SB	P0720SBL	GQ	65	88	150	800	80	1	100
P0800SB	P0800SBL	GR	75	98	150	800	80	1	100
P1100SB	P1100SBL	GS	90	130	150	800	80	1	100
P1300SB	P1300SBL	GT	120	160	150	800	80	1	70
P1500SB	P1500SBL	GU	140	180	150	800	80	1	70
P1800SB	P1800SBL	GV	160	220	150	800	80	1	70
P2300SB	P2300SBL	GW	190	260	150	800	80	1	50
P2600SB	P2600SBL	GX	220	300	150	800	80	1	50
P3100SB	P3100SBL	GY	275	350	150	800	80	1	40
P3500SB	P3500SBL	GZ	300	400	150	800	80	1	40
P4000SB	P4000SBL	GN	360	400	150	800	80	1	40
P0640SC	P0640SCL	HC	58	77	150	800	100	1	100
P0720SC	P0720SCL	HD	65	88	150	800	100	1	100
P0800SC	P0800SCL	HE	75	98	150	800	100	1	100
P1100SC	P1100SCL	HF	90	130	150	800	100	1	100
P1300SC	P1300SCL	HG	120	160	150	800	100	1	70
P1500SC	P1500SCL	HH	140	180	150	800	100	1	70
P1800SC	P1800SCL	HI	160	220	150	800	100	1	70
P2300SC	P2300SCL	HJ	190	260	150	800	100	1	50
P2600SC	P2600SCL	HK	220	300	150	800	100	1	50
P3100SC	P3100SCL	HL	275	350	150	800	100	1	40
P3500SC	P3500SCL	HM	300	400	150	800	100	1	40
P4000SC	P4000SCL	HS	360	450	150	800	100	1	40

Maximum Off-State Current @V<sub>DRM</sub> : 5μA

Maximum On-State Voltage @I<sub>T</sub> : 5volts

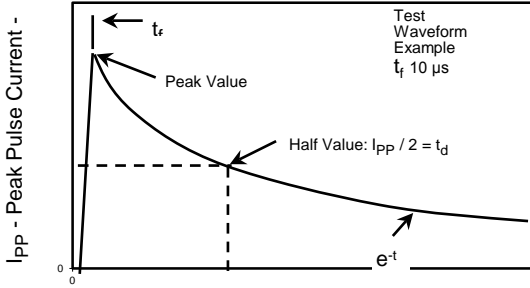
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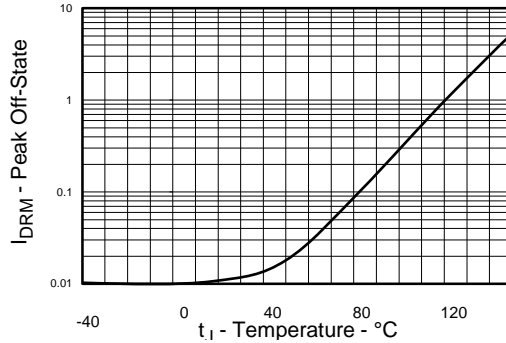
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## BIDIRECTIONAL THYRISTOR SURGE SUPPRESSOR SERIES RATINGS AND CHARACTERISTIC CURVES

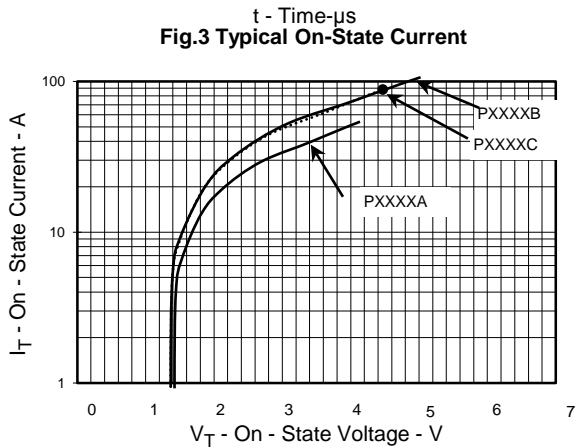
**Fig.1 Pulse Wave Form Example**



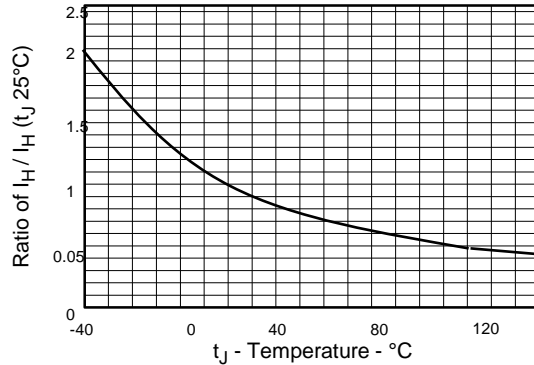
**Fig.2 Typical Peak Off-State Current Vs Junction Temperature**



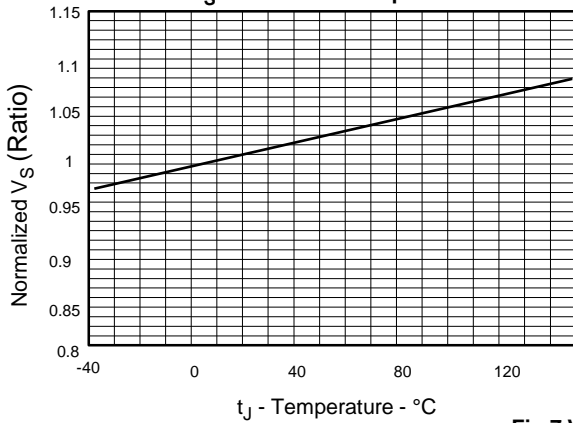
**Fig.3 Typical On-State Current**



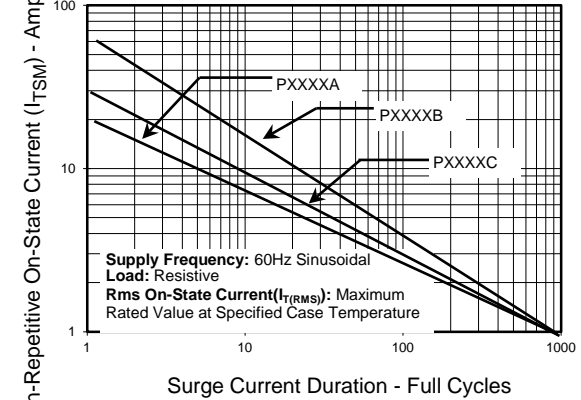
**Fig.4 Typical Holding Current Vs**



**Fig.5 Typical normalized V\_S Vs Junction Temperature**



**Fig.6 On-State Current Vs Surge Current Duration**



**Fig.7 V - I Characteristics Curve**

