

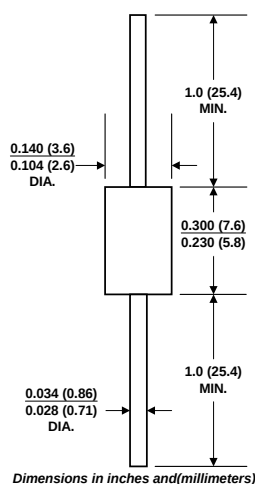
Technical Data  
Data Sheet 1253, Rev. A

**TWO TERMINAL THYRISTOR SERIES**  
**SURFACE MOUNT SMB AND AXIAL LEAD DO-15**  
**TWO TERMINAL THYRISTOR SURGE SUPPRESSOR**

**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 90 to 360 volts
- Meet IEC61000-4-4 & -5 Industry Requirement
- Provides Protection in Accordance with FCC Part 68, UL1459, Bellcore 1089, ITU-TK. 20 & K. 21

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

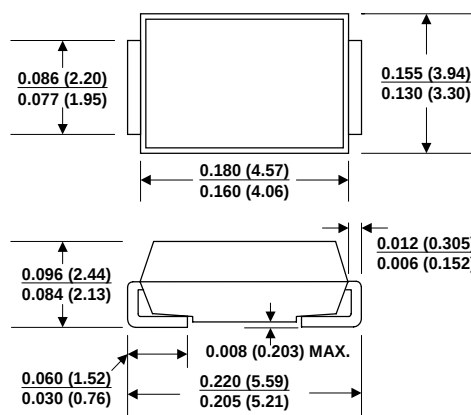


Dimensions in inches and (millimeters)

**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

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



Dimensions in inches and (millimeters)

**MECHANICAL DATA**

Case: JEDEC DO-214AA Molded plastic over 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

**Data Sheet 1253, Rev. A**

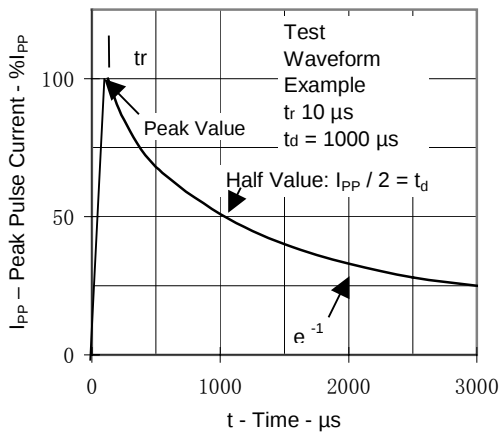
| PART NUMBER | MARKING CODE            |                 | REPETITIVE PEAK OFF-STAGE VOLTAGE $V_{DRM}$ (VOLTS) | SWITCHING VOLTAGE @100V/ $\mu$ s $V_s$ (VOLTS) | MINIMUM HOLDING CURRENT $dI/dt=1A/ms$ $I_H$ (mA) | SWITCHING CURRENT $I_s$ (mA) | SURGE RATINGS $I_{PP}$ 10*1000 $\mu$ S (Amps) | ON-STAGE CURRENT $I_T$ (A) | TYPICAL CAPACITANCE @50V,1MHz (pF) |
|-------------|-------------------------|-----------------|-----------------------------------------------------|------------------------------------------------|--------------------------------------------------|------------------------------|-----------------------------------------------|----------------------------|------------------------------------|
|             | FOR AXIAL DO-15 PACKAGE | FOR SMB PACKAGE |                                                     |                                                |                                                  |                              |                                               |                            |                                    |
| SP1100SA    | SP1100SAL               | GF              | 90                                                  | 130                                            | 150                                              | 800                          | 50                                            | 1                          | 60                                 |
| SP1300SA    | SP1300SAL               | GG              | 120                                                 | 160                                            | 150                                              | 800                          | 50                                            | 1                          | 40                                 |
| SP1500SA    | SP1500SAL               | GH              | 140                                                 | 180                                            | 150                                              | 800                          | 50                                            | 1                          | 40                                 |
| SP1800SA    | SP1800SAL               | GI              | 160                                                 | 220                                            | 150                                              | 800                          | 50                                            | 1                          | 40                                 |
| SP2300SA    | SP2300SAL               | GJ              | 190                                                 | 260                                            | 150                                              | 800                          | 50                                            | 1                          | 30                                 |
| SP2600SA    | SP2600SAL               | GK              | 220                                                 | 300                                            | 150                                              | 800                          | 50                                            | 1                          | 30                                 |
| SP3100SA    | SP3100SAL               | GL              | 275                                                 | 350                                            | 150                                              | 800                          | 50                                            | 1                          | 30                                 |
| SP3500SA    | SP3500SAL               | GM              | 300                                                 | 400                                            | 150                                              | 800                          | 50                                            | 1                          | 30                                 |
| SP4000SA    | SP4000SAL               | GO              | 360                                                 | 450                                            | 150                                              | 800                          | 50                                            | 1                          | 30                                 |
| SP1100SB    | SP1100SBL               | GS              | 90                                                  | 130                                            | 150                                              | 800                          | 80                                            | 1                          | 100                                |
| SP1300SB    | SP1300SBL               | GT              | 120                                                 | 160                                            | 150                                              | 800                          | 80                                            | 1                          | 70                                 |
| SP1500SB    | SP1500SBL               | GU              | 140                                                 | 180                                            | 150                                              | 800                          | 80                                            | 1                          | 70                                 |
| SP1800SB    | SP1800SBL               | GV              | 160                                                 | 220                                            | 150                                              | 800                          | 80                                            | 1                          | 70                                 |
| SP2300SB    | SP2300SBL               | GW              | 190                                                 | 260                                            | 150                                              | 800                          | 80                                            | 1                          | 50                                 |
| SP2600SB    | SP2600SBL               | GX              | 220                                                 | 300                                            | 150                                              | 800                          | 80                                            | 1                          | 50                                 |
| SP3100SB    | SP3100SBL               | GY              | 275                                                 | 350                                            | 150                                              | 800                          | 80                                            | 1                          | 40                                 |
| SP3500SB    | SP3500SBL               | GZ              | 300                                                 | 400                                            | 150                                              | 800                          | 80                                            | 1                          | 40                                 |
| SP4000SB    | SP4000SBL               | GN              | 360                                                 | 450                                            | 150                                              | 800                          | 80                                            | 1                          | 40                                 |
| SP1100SC    | SP1100SCL               | HF              | 90                                                  | 130                                            | 150                                              | 800                          | 100                                           | 1                          | 100                                |
| SP1300SC    | SP1300SCL               | HG              | 120                                                 | 160                                            | 150                                              | 800                          | 100                                           | 1                          | 70                                 |
| SP1500SC    | SP1500SCL               | HH              | 140                                                 | 180                                            | 150                                              | 800                          | 100                                           | 1                          | 70                                 |
| SP1800SC    | SP1800SCL               | HI              | 160                                                 | 220                                            | 150                                              | 800                          | 100                                           | 1                          | 70                                 |
| SP2300SC    | SP2300SCL               | HJ              | 190                                                 | 260                                            | 150                                              | 800                          | 100                                           | 1                          | 50                                 |
| SP2600SC    | SP2600SCL               | HK              | 220                                                 | 300                                            | 150                                              | 800                          | 100                                           | 1                          | 50                                 |
| SP3100SC    | SP3100SCL               | HL              | 275                                                 | 350                                            | 150                                              | 800                          | 100                                           | 1                          | 40                                 |
| SP3500SC    | SP3500SCL               | HM              | 300                                                 | 400                                            | 150                                              | 800                          | 100                                           | 1                          | 40                                 |
| SP4000SC    | SP4000SCL               | HS              | 360                                                 | 450                                            | 150                                              | 800                          | 100                                           | 1                          | 40                                 |

**Maximum Off-State Current @  $V_{DRM}$  : 5  $\mu$ A**

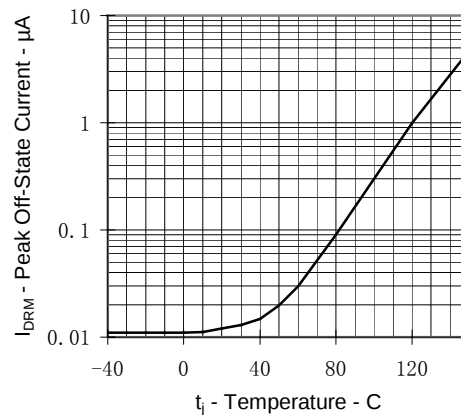
**Maximum On-State Voltage @  $I_T$  : 5 Volts**

**For AXIAL devices, use suffix L (e.g. P3100SAL). Electrical characteristics apply in both AXIAL and Surface Mounted Devices.**

**Fig.1 Pulse Wave Form Example**

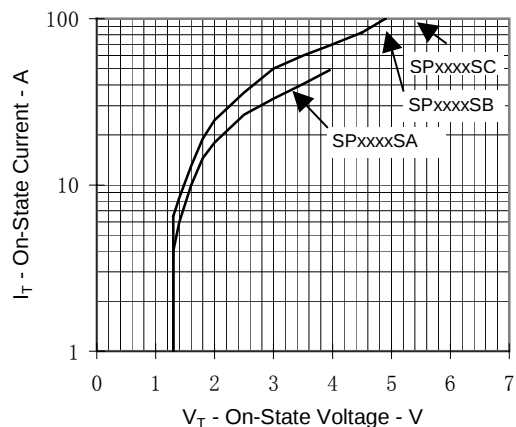


**Fig.2 Typical Peak Off-State Current vs Junction Temperature**

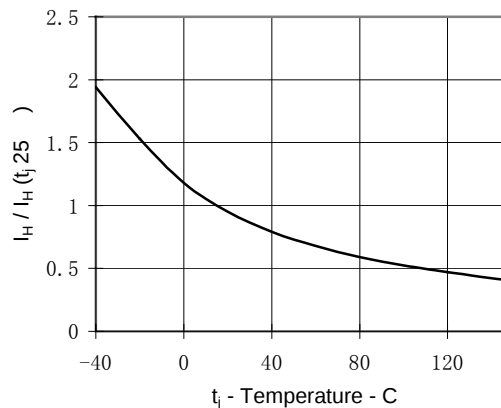


**Data Sheet 1253, Rev. A**

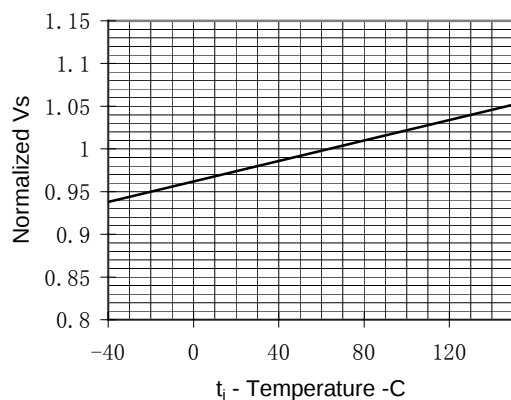
**Fig.3 Typical On-State Current vs On-State Voltage**



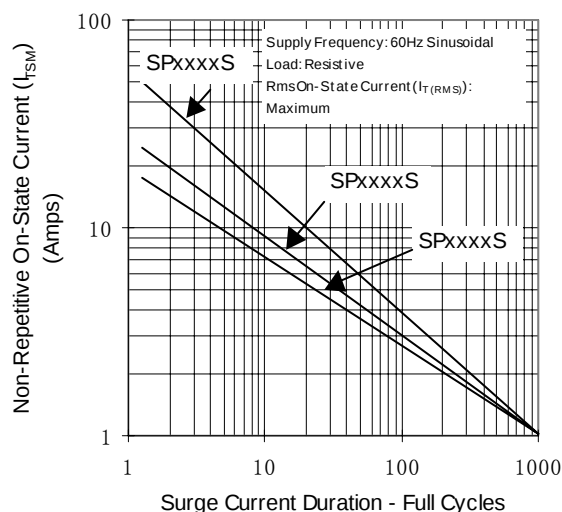
**Fig.4 Typical Holding Current Vs Junction Temperature**



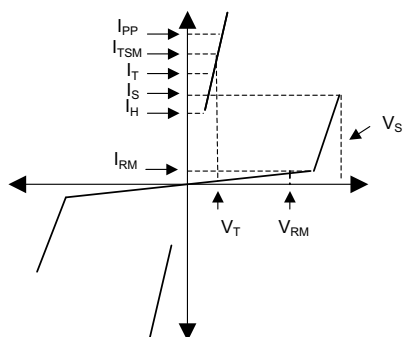
**Fig.5 Typical normalized  $V_S$  vs Junction Temperature**



**Fig.6 On-State Current vs Surge Current**



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



**TECHNICAL DATA**

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