



Solid State Devices, Inc.

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**SPD5817 thru SPD5819
 SPD5817SMS thru SPD5819SMS
 SPD5817VSMS thru SPD5819VSMS**

Designer's Data Sheet

Part Number / Ordering Information^{2/}
 SPD 5817 ___ SMS ___

Screening^{3/}
 TX = TX Level
 TXV = TXV Level,
 S = S-Level
 ___ = Not Screened

Package
 SMS = Square Tab Surface Mount
 ___ = Axial Lead

Extra Inspection
 V = MIL-STD-750, METHOD 2076
 ___ = None

Voltage / Family 5817 = 20V
 5818 = 30V
 5819 = 40V

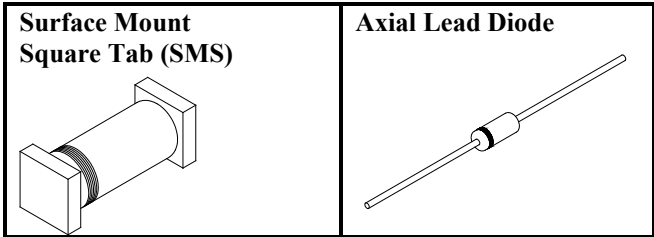
**1 AMP
 20-40 VOLTS
 SCHOTTKY RECTIFIER**

- FEATURES:**
- Extremely Low Forward Voltage Drop
 - High Surge Capability
 - Hermetically Sealed
 - Low Profile Surface Mount Package Available
 - TX, TXV, and Space Level Screening Available
 - Extra Inspection per MIL-STD-750, Method 2076 Available

| MAXIMUM RATINGS | | Symbol | Value | Units |
|--|----------------------------|-------------------------|-------------|--------------------|
| Peak Repetitive Reverse Voltage and DC Blocking Voltage | SPD5817, SMS ^{1/} | V_{RRM} | 20 | Volts |
| | SPD5818, SMS ^{1/} | V_{RWM} | 30 | |
| | SPD5819, SMS ^{1/} | V_R | 40 | |
| Average Rectified Forward Current (Resistive Load, 60 Hz, Sine Wave, $T_A=25^\circ\text{C}$) | | I_O | 1 | Amps |
| Peak Surge Current (8.3 ms Pulse, Half Sine Wave Superimposed on I_O , allow junction to reach equilibrium between pulses, $T_A=25^\circ\text{C}$) | | I_{FSM} | 50 | Amps |
| Operating and Storage Temperature | | $T_{OP} \ \& \ T_{stg}$ | -55 to +125 | $^\circ\text{C}$ |
| Maximum Thermal Resistance | Junction to Lead, L= 3/8" | $R_{\theta JL}$ | 70 | $^\circ\text{C/W}$ |
| | Junction to End Tab | $R_{\theta JE}$ | 40 | |

NOTES:

- ^{1/} Part number may have letter 'V' preceding 'SMS'.
^{2/} For ordering information, price, and availability, contact factory.
^{3/} Screening per MIL-PRF-19500.





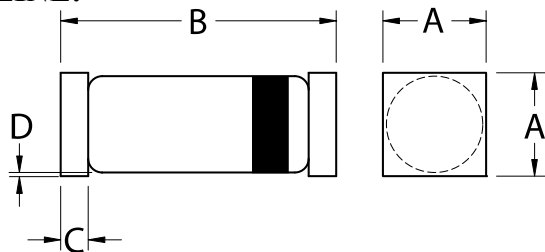
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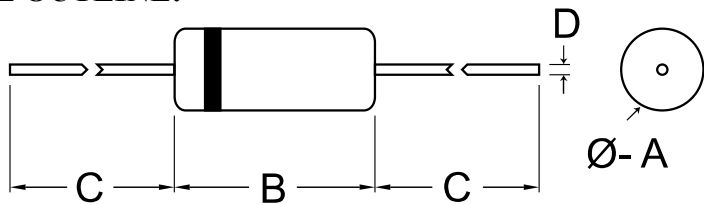
| ELECTRICAL CHARACTERISTICS ^{1/} | | Symbol | Max | Unit |
|---|--------------|---------------|------------|---------------------------|
| Instantaneous Forward Voltage Drop ($I_F = 1A_{DC}$, $T_A = 25^\circ C$, 300-500 μs Pulse) | SPD5817, SMS | V_{F1} | 0.55 | Volts |
| | SPD5818, SMS | V_{F2} | 0.65 | |
| | SPD5819, SMS | V_{F3} | 0.70 | |
| Instantaneous Forward Voltage Drop ($I_F = 1A_{DC}$, $T_A = -55^\circ C$, 300-500 μs Pulse) | SPD5817, SMS | V_{F4} | 0.57 | Volts |
| | SPD5818, SMS | V_{F5} | 0.67 | |
| | SPD5819, SMS | V_{F6} | 0.72 | |
| Reverse Leakage Current (Rated V_R , $T_A = 25^\circ C$, 300 μs minimum Pulse) | | I_{R1} | 100 | μA |
| Reverse Leakage Current (Rated V_R , $T_A = 100^\circ C$, 300 μs minimum Pulse) | | I_{R2} | 10 | mA |
| Junction Capacitance ($V_R = 5 V_{DC}$, $T_A = 25^\circ C$, $f = 1 MHz$) | | C_J | 110 | pF |

SMS CASE OUTLINE:



| DIMENSIONS ^{2/} | | |
|---------------------------------|-------|-------|
| CODE | MIN. | MAX. |
| A | .125" | .135" |
| B | .180" | .235" |
| C | .022" | .028" |
| D | .005" | --- |

LEADED CASE OUTLINE:



| DIMENSIONS ^{2/} | | |
|---------------------------------|-------|-------|
| CODE | MIN. | MAX. |
| A | .080" | .107" |
| B | .155" | .185" |
| C | 1.00" | --- |
| D | .028" | .032" |

NOTES: 1/ Part number may have letter 'V' preceding 'SMS'.
 2/ Dimensions are prior to solder dipping