1N5819

Axial Lead Schottky Diode

Rev. V1

Features

- Low Forward Voltage: 550 mV @ I_F = 1 A
- High Reverse Breakdown Voltage: 30 V
- Hermetically Sealed Glass, DO-7
- Flexible Axial-lead Mounting Terminals
- RoHS* Compliant

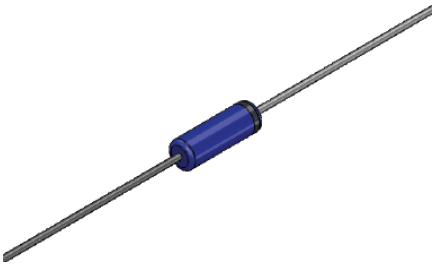
Description

The 1N5819 silicon Schottky diode offers a large reverse breakdown voltage with low forward voltage. The die, which is passivated with an advanced high-reliability passivation for very fast settling time and low leakage current, is packaged in the industry standard DO-7 hermetically sealed axial leaded glass package.

This rugged device is capable of reliable operation in all military, commercial and industrial applications.

The 1N5819 is designed to be used in wide variety of applications, such as in high frequency rectifiers, reverse polarity protection and more.

Hermetically Sealed Glass, DO-7



Electrical Specifications: T_A = +25°C

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Reverse Breakdown Voltage (V_B)	I_R = 10 µA	V	30	—	—
Reverse Leakage Current (I_R)	V_R = 30 V, T_A = +25°C V_R = 30 V, T_A = +100°C	µA mA	—	—	500 10
Forward Voltage (V_F)	I_F = 1 A	mV	—	550	—
Total Capacitance (C_T4)	V_R = 4 V, 1 MHz	pF	—	110	—

Ordering Information[1,2]

Part Number	Package
1N5819-R	3000 piece reel
1N5819-B	100 piece bulk in bag
1N5819-FP	50 piece per flat pack

* Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

Static and Moisture Sensitivity

These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these HBM Class 0 devices. The moisture sensitivity level is MSL 1.

Environmental Capabilities

These electronic devices are capable of meeting the environmental requirements of MIL-STD-750 and MIL-STD-883.

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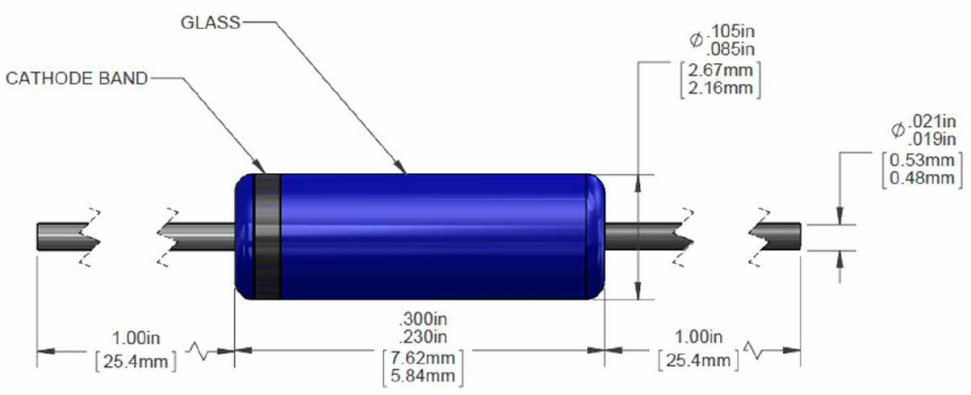
Absolute Maximum Ratings[1,2]

Parameter	Absolute Maximum
DC Power Dissipation	1.25 W Infinite heat sink, T_C = +25°C Derate power linearity from 1.25 W @ +25°C to 0 W @ +125°C
Average Rectified Forward Current	1 A
Reverse DC Voltage	30 V
Junction Temperature	+125°C
Operating Temperature	-65°C to +125°C
Storage Temperature	-65°C to +150°C
Assembly Temperature	+260°C, t = 10 sec.

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

Hermetically Sealed Glass, DO-7



Lead Material: copper clad steel
Lead Finish: tin/lead
Marking: part number and cathode band
Weight: 0.2 grams
Polarity: diode to be operated with the cathode band end negative
Mounting Position: any

Time-Temperature Profile for Sn 60 / Pb 40 or RoHS Type Solders

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average ramp-up rate (TL to TP)	3°C/second maximum	3°C/second maximum
Preheat - Temperature Minimum (TSMIN) - Temperature Maximum (TSMAX) - Time (Minimum to maximum) (ts)	100°C 150°C 60-120 seconds	150°C 200°C 60-180 seconds
TSMAX to TL - Ramp-up Rate	—	3°C/second maximum
Time Maintained above: - Temperature (TL) - Time (tL)	183°C 60-150 seconds	217°C 60-150 seconds
Peak Temperature (TP)	225 +0 / -5°C	260 +0 / -5°C
Time within 5°C of actual Peak Temperature (TP)	10-30 seconds	20-40 seconds
Ramp-down Rate	6°C/second maximum	6°C/second maximum
Time 25°C to Peak Temperature	6 minutes maximum	8 minutes maximum

Solder Re-Flow Time-Temperature Function