Microsemi
SCOTTSDALE DIVISION

1N6661 thru 1N6663

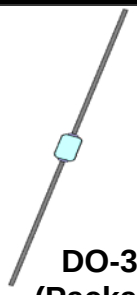
VOIDLESS-HERMETICALLY-SEALED STANDARD RECOVERY GLASS RECTIFIERS

ALSO AVAILABLE IN SURFACE MOUNT

DESCRIPTION

This "standard recovery" rectifier diode is military qualified to MIL-PRF-19500/587 and is ideal for high-reliability applications where a failure cannot be tolerated. These industry-recognized 500 mA rated rectifiers for working peak reverse voltages from 225 to 600 volts are hermetically sealed with void-less-glass construction using an internal "Category I" metallurgical bond. The surface mount MELF package configurations are also available by adding a "US" suffix (see separate data sheet for 1N6661US thru 1N6663US). Microsemi also offers numerous other rectifier products to meet higher and lower current ratings with various recovery time speed requirements including fast and ultrafast device types in both through-hole and surface mount packages.

APPEARANCE



DO-35 (Package C)

IMPORTANT: For the most current data, consult *MICROSEMI's* website: http://www.microsemi.com

FEATURES

- Popular JEDEC registered 1N6661 thru 1N6663 series
- Voidless hermetically sealed glass package
- Triple-Layer Passivation
- Internal "*Category I*" Metallurgical bonds
- Working Peak Reverse Voltage 225 to 600 Volts.
- JAN, JANTX, and JANTXV available per MIL-PRF-19500/587
- Surface mount equivalents also available in a square end-cap MELF configuration with "US" suffix (also see 1N6661US thru 1N6663US)

APPLICATIONS / BENEFITS

- Standard recovery 0.5 Amp rectifiers 225 to 600 V
- Military and other high-reliability applications
- General rectifier applications including bridges, half-bridges, catch diodes, etc.
- Forward surge current capability
- Extremely robust construction
- Low thermal resistance in small DO-35 package
- Inherently radiation hard as described in Microsemi MicroNote 050

MAXIMUM RATINGS

- Junction & Storage Temperature: -65°C to +175°C
- Thermal Resistance: 160°C/W junction to lead at 3/8 inch (10 mm) lead length from body
- Average Rectified Forward Current (I_O): 0.5 Amps @ T_A = 25ºC and 0.150 Amps at 150ºC
- Forward Surge Current: 5 Amps @ 8.3 ms half-sine
- Solder Temperatures: 260ºC for 10 s (maximum)

MECHANICAL AND PACKAGING

- CASE: Hermetically sealed void-less hard glass with Tungsten slugs
- TERMINATIONS: Axial leads are copper clad steel with Tin/Lead (Sn/Pb) finish
- MARKING: Body paint and part number, etc.
- POLARITY: Cathode band
- TAPE & REEL option: Standard per EIA-296
- WEIGHT: 150 mg (approx)
- See package dimensions on last page

ELECTRICAL CHARACTERISTICS

TYPE	WORKING PEAK REVERSE VOLTAGE V_{RWM}	MINIMUM BREAKDOWN VOLTAGE V_{BR} @ 100µA	AVERAGE RECTIFIED CURRENT (NOTE 2) I_O		MAXIMUM FORWARD VOLTAGE V_F @ 0.4 A (PULSED)	MAXIMUM REVERSE CURRENT I_R @ V_{RWM}		MAXIMUM SURGE CURRENT (NOTE1) I_{FSM}
	VOLTS	VOLTS	AMPS		VOLTS	µA		AMPS
			25°C	150°C		25°C	150°C	
1N6661	225	270	0.5	0.15	1.0	0.05	300	5
1N6662	400	480	0.5	0.15	1.0	0.05	300	5
1N6663	600	720	0.5	0.15	1.0	0.05	300	5

NOTE 1: T_A = 25°C, 10 surges of 8.3 ms @ 1 minute intervals

NOTE 2: Linearly derate at 2.8 mA/ºC between T_A=25ºC and 150ºC and 6.0 mA/ºC between T_A=150ºC and 175ºC

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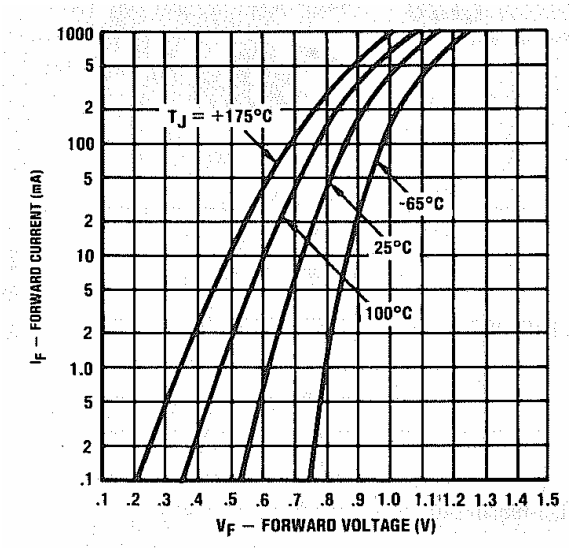
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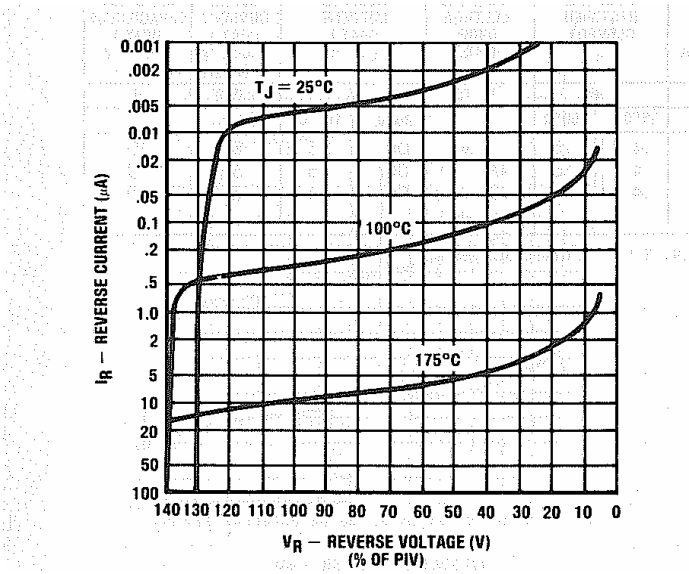
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SYMBOLS & DEFINITIONS

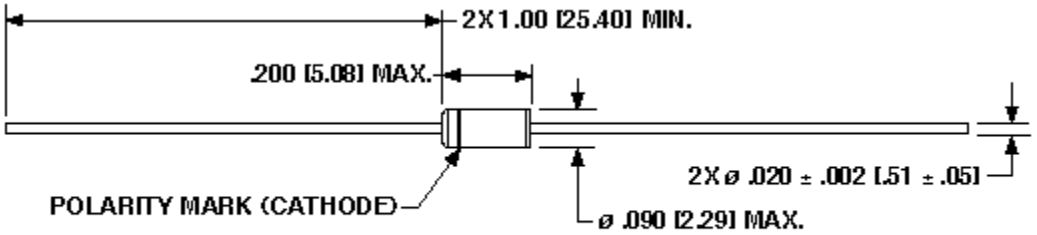
Symbol	Definition
V_{BR}	Minimum Breakdown Voltage: The minimum voltage the device will exhibit at a specified current.
V_{RWM}	Working Peak Reverse Voltage: The maximum peak voltage that can be applied over the operating temperature range.
V_F	Maximum Forward Voltage: The maximum forward voltage the device will exhibit at a specified current.
I_R	Maximum Leakage Current: The maximum leakage current that will flow at the specified voltage and temperature.

GRAPHS





PACKAGE DIMENSIONS



NOTE: DIMENSIONS IN INCHES [MM]

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