

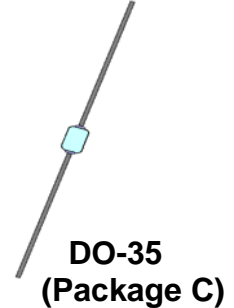
**VOIDLESS-HERMETICALLY-SEALED  
STANDARD RECOVERY GLASS  
RECTIFIERS**

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**



**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 @  $T_A = 25^\circ\text{C}$  and 0.150 Amps at 150°C
- Forward Surge Current: 5 Amps @ 8.3 ms half-sine
- Solder Temperatures: 260°C 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	MINIMUM BREAKDOWN VOLTAGE	AVERAGE RECTIFIED CURRENT (NOTE 2)		MAXIMUM FORWARD VOLTAGE	MAXIMUM REVERSE CURRENT		MAXIMUM SURGE CURRENT (NOTE1)
	$V_{RWM}$	$V_{BR} @ 100\mu\text{A}$	$I_O$		$V_F @ 0.4 \text{ A (PULSED)}$	$I_R @ V_{RWM}$		$I_{FSM}$
	VOLTS	VOLTS	AMPS		VOLTS	$\mu\text{A}$		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

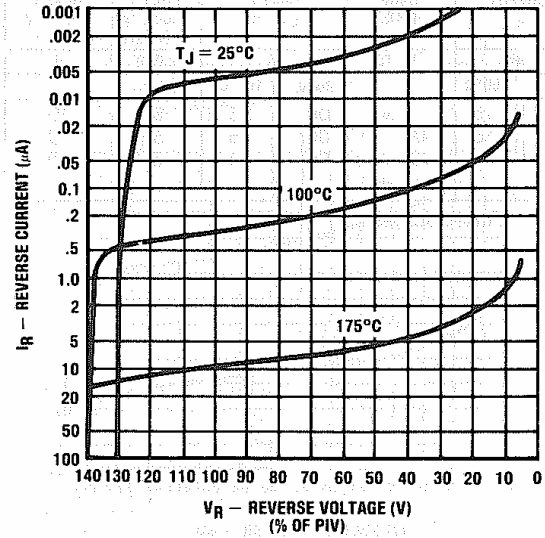
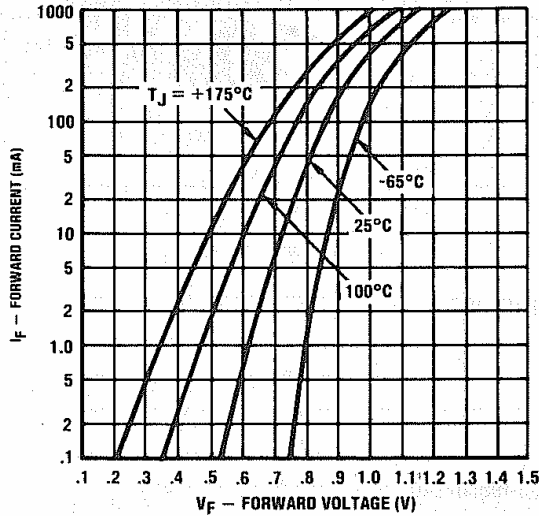
**NOTE 1:**  $T_A = 25^\circ\text{C}$ , 10 surges of 8.3 ms @ 1 minute intervals

**NOTE 2:** Linearly derate at 2.8 mA/°C between  $T_A=25^\circ\text{C}$  and 150°C and 6.0 mA/°C between  $T_A=150^\circ\text{C}$  and 175°C

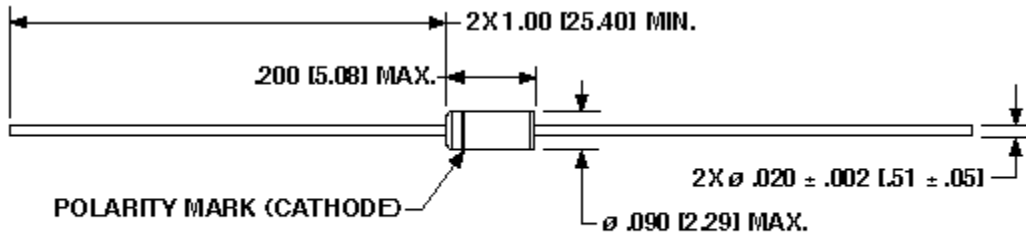
**SYMBOLS & DEFINITIONS**

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]