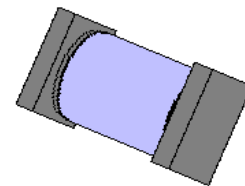


DESCRIPTION

These "standard recovery" rectifier diodes are military qualified to MIL-PRF-19500/587 and is ideal for high-reliability applications where a failure cannot be tolerated. They have a 500 mA rating with working peak reverse voltages from 225 to 600 volts and are hermetically sealed with void-less-glass construction using an internal "Category I" metallurgical bond. The axial-leaded package configurations are also available by deleting the "US" suffix (see separate data sheet for 1N6661 to 1N6663). 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


**Package "A"
or D-5A**

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
- Axial-leaded equivalents also available without the "US" suffix (see 1N6661 thru 1N6663)

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 MELF package
- Inherently radiation hard as described in Microsemi MicroNote 050

MAXIMUM RATINGS

- Junction & Storage Temperature: -65°C to +175°C
- Thermal Resistance: 35°C/W junction to end cap
- Average Rectified Forward Current (I_O): 0.5 Amps @ $T_{EC} = 110^\circ\text{C}$ and 0.150 Amps at $T_{EC} = 150^\circ\text{C}$
- 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: End caps are copper with Tin/Lead (Sn/Pb) finish
- MARKING: Body paint
- POLARITY: Cathode band
- TAPE & REEL option: Standard per EIA-481-B
- WEIGHT: 84 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 (NOTE 1)
	V_{RWM}	V_{BR} @ 100 μ A	I_O		V_F @ 0.4 A (PULSED)	I_R @ V_{RWM}		I_{FSM}
	VOLTS	VOLTS	AMPS		VOLTS	μ A		AMPS
			25°C	150°C		25°C	150°C	
1N6661US	225	270	0.5	0.15	1.0	0.05	300	5
1N6662US	400	480	0.5	0.15	1.0	0.05	300	5
1N6663US	600	720	0.5	0.15	1.0	0.05	300	5

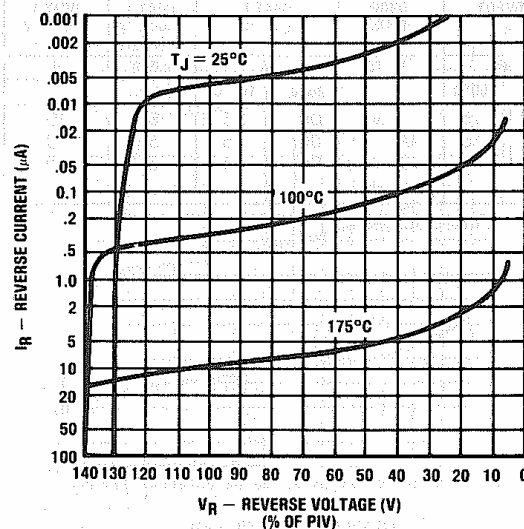
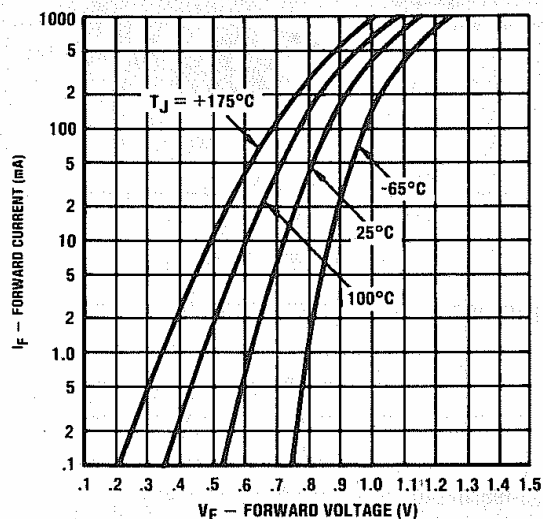
NOTE 1: $T_A = 25^\circ\text{C}$, 10 surges of 8.3 ms @ 1 minute intervals

NOTE 2: Linearly derate at 8.75 mA/°C between $T_{EC} = 110^\circ\text{C}$ to 150°C and 6.0 mA/°C between $T_{EC} = 150^\circ\text{C}$ to 175°C

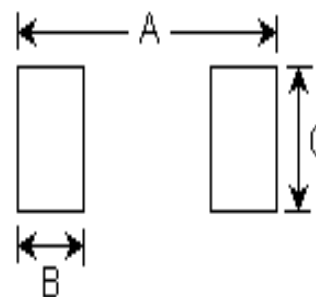
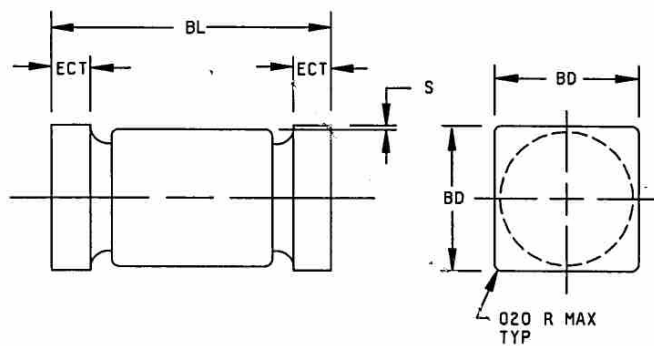
SYMBOLS & DEFINITIONS

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: This Package Outline has also previously been identified as "D-5A"

	INCHES		mm	
	MIN	MAX	MIN	MAX
BD	.097	.103	2.46	2.62
BL	.185	.200	4.70	5.08
ECT	.019	.028	0.48	0.71
S	.003	---	0.08	---

PAD LAYOUT

	INCHES	mm
A	0.246	6.25
B	0.067	1.70
C	0.105	2.67

Note: If mounting requires adhesive separate from the solder, an additional 0.060 inch diameter contact may be placed in the center between the pads as an optional spot for cement.