

## Switching / Signal Diodes

*Qualified per MIL-PRF-19500/578, /609*

### DESCRIPTION:

This metallurgically bonded switching/signal diode series is military qualified per MIL-PRF-19500/578, /609 and is targeted for space, commercial and military aircraft, military vehicles, shipboard markets and all high reliability applications.

### FEATURES / BENEFITS:

- ✓ Ultra fast recovery time
- ✓ Metallurgically bonded
- ✓ Small size, high density
- ✓ Very low capacitance
- ✓ Hot solder dipped
- ✓ JAN/JANTX/JANTXV/JANS quality levels  
available per MIL-PRF-19500/578, /609

### MAXIMUM RATINGS

- ✓ Operating and Storage Temperature: -65°C to +175°C
- ✓ Thermal Resistance (junction to lead): 150°C/W
- ✓ Thermal Resistance (junction to endcap): 40°C/W (U, US)

### ELECTRICAL CHARACTERISTICS

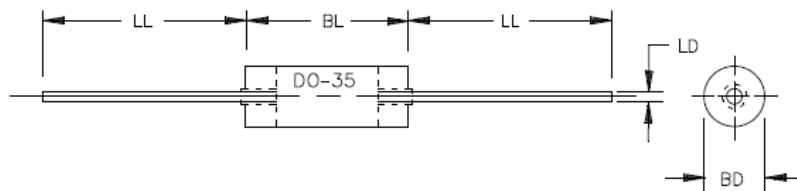
TYPE NUMBER	WORKING PEAK REVERSE VOLTAGE	PEAK FORWARD SURGE CURRENT <sup>1</sup>	AVERAGE RECTIFIED FORWARD CURRENT	BREAKDOWN VOLTAGE	REVERSE RECOVERY TIME <small>I<sub>RM</sub> = I<sub>F</sub> = 10 mA</small>
		<small>I<sub>FSM</sub></small> Amps (pk)	mA		
	Volts (pk)	55°C	75°C	V(pk)	ns
1N6638/U/US	125	2.5	300	150	4.5
1N6639/US	75			100	4.0
1N6640/US	50			75	4.0
1N6641/US	50			75	5.0
1N6642/U/US	75			100	5.0
1N6643/U/US	50			75	6.0

Note 1: 8.3ms surge, half sine wave

**TECHNICAL DATA**  
**DATA SHEET 4081, REV F.1**

**PACKAGE DIMENSIONS (inches/mm)**

**AXIAL**

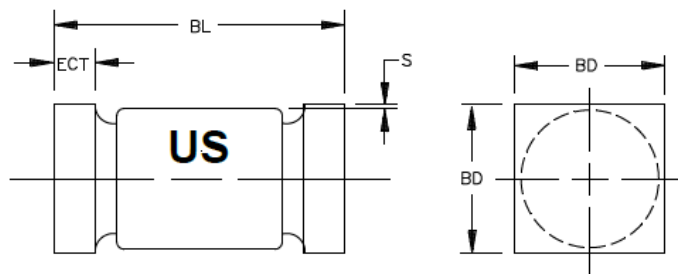


Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
BD	.056	.080	1.42	2.03	2
BL	.130	.180	3.30	4.57	
LD	.018	.022	0.46	0.56	3
LL	1.00	1.50	25.40	38.10	

**NOTES:**

1. Dimensions are in inches. Millimeters are given for general information only.
2. Dimension BD shall be measured at the largest diameter.
3. The specified lead diameter applies in the zone between .050 inch (1.27 mm) from the diode body to the end of the lead. Outside of this zone lead shall not exceed BD.
4. In accordance with ASME Y14.5M, diameters are equivalent to  $\phi$ x symbology.

**MELF (Add "U" or "US" to Part Number)**



Symbol	Dimensions			
	Inches		Millimeters	
	Min	Max	Min	Max
BD	.070	.085	1.78	2.16
BL	.165	.195	4.19	4.95
ECT	.019	.028	0.48	0.71
S	.003		0.08	

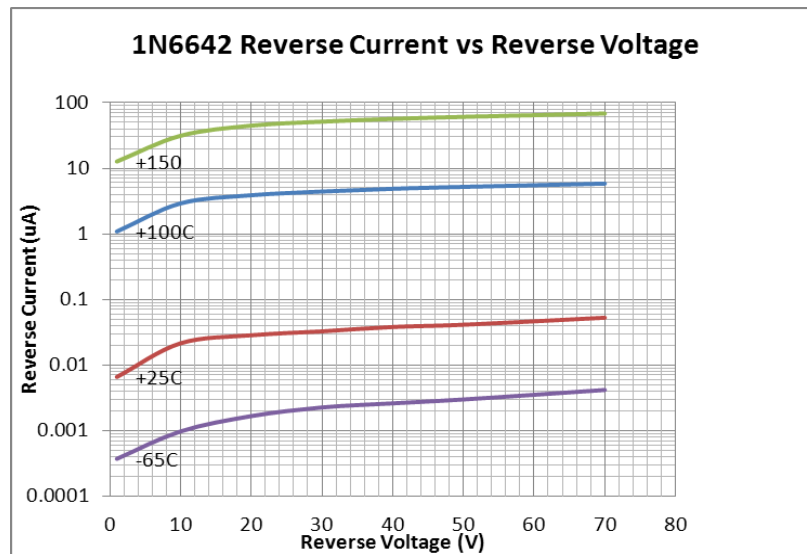
**NOTES:**

1. Dimensions are in inches. Millimeters are given for general information only.
2. Dimensions are pre-solder dip.
3. U-suffix parts are structurally identical to the US-suffix parts.
4. In accordance with ASME Y14.5M, diameters are equivalent to  $\phi$ x symbology.

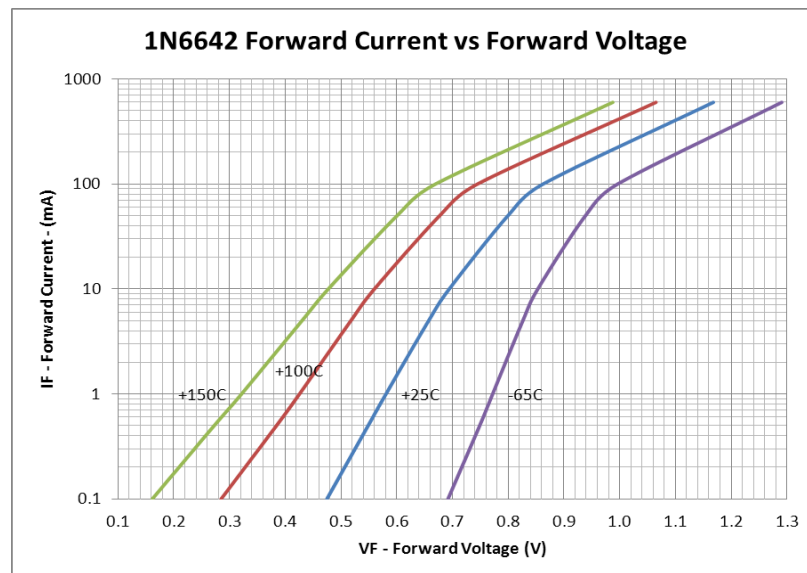
**TECHNICAL DATA  
DATA SHEET 4081 REV F.1**

**GRAPHS:**

For 1N6638, 1N6642, 1N6643:

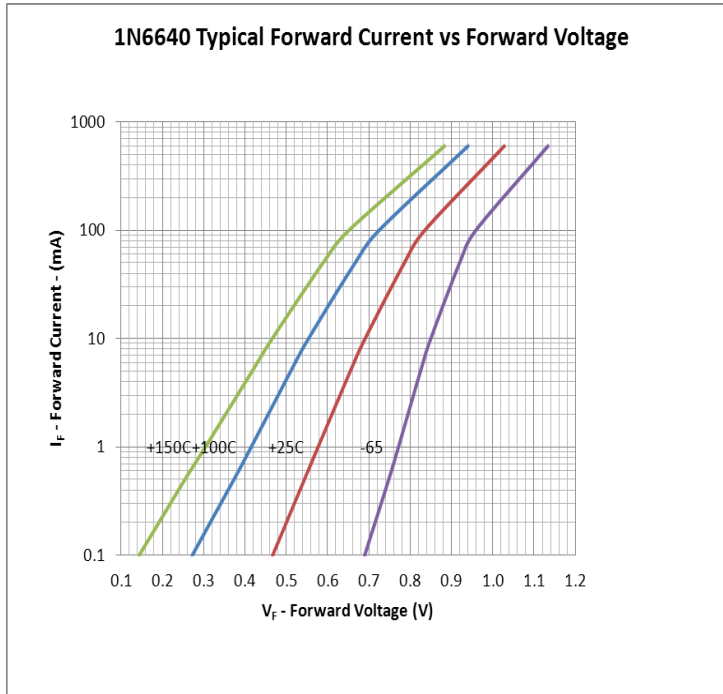


For 1N6638, 1N6642, 1N6643:

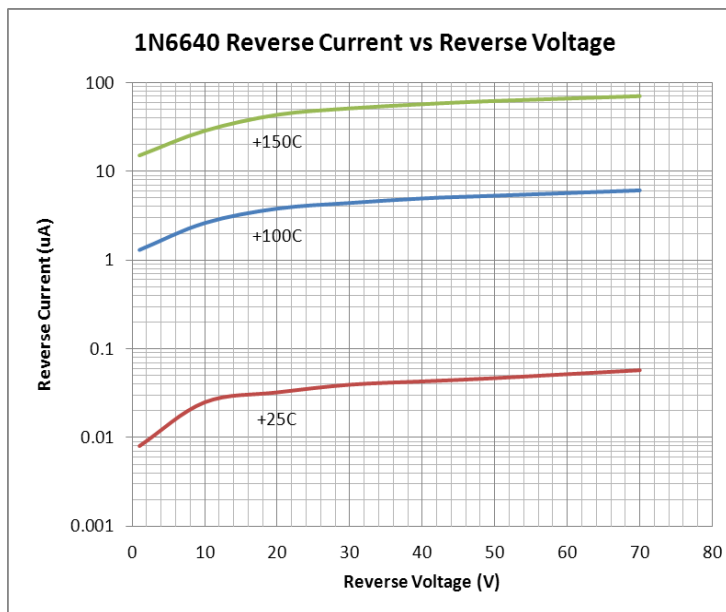


**TECHNICAL DATA  
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For 1N6639, 1N6640, 1N6641:



For 1N6639, 1N6640, 1N6641:



# **SENSITRON** **SEMICONDUCTOR**

1N6638/US thru 1N6643/US

**SWITCHING / SIGNAL  
DIODES**

**TECHNICAL DATA  
DATA SHEET 4081, REV F.1**

## **PART ORDERING INFORMATION**

<b>Quality Level</b>	<b>*Part Number-- Leaded Package</b> <i>(example for 1N6638)</i>	<b>*Part Number-- Surface Mount Package</b> <i>(example for 1N6638US)</i>
<b>1N</b>	1N6638	1N6638US, 1N6638U
<b>JAN</b>	JAN1N6638	JAN1N6638US, JAN1N6638U
<b>JANTX</b>	JANTX1N6638	JANTX1N6638US, JANTX1N6638U
<b>JANTXV</b>	JANTXV1N6638	JANTXV1N6638US, JANTXV1N6638U
<b>JANS</b>	JANS1N6638	JANS1N6638US, JANS1N6638U

*\*Parts can also be ordered Tape & Reel*

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