

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
- ✓ JANS available per MIL-PRF-19500/578, /609

MAXIMUM RATINGS

- ✓ Operating and Storage Temperature: -65°C to +175°C
- ✓ Thermal Resistance (junction to lead):
1N6638,42: 150 °C
1N6639,40,41: 160 °C
- ✓ Thermal Resistance (junction to endcap):
1N6638,42: 40 °C (U, US)
1N6639,40,41: 50 °C (US only)

ELECTRICAL CHARACTERISTICS

TYPE NUMBER	WORKING PEAK REVERSE VOLTAGE	PEAK FORWARD SURGE CURRENT ¹	AVERAGE RECTIFIED FORWARD CURRENT	BREAKDOWN VOLTAGE
		I_{FSM} Amps	I_{AVG} μ Amps	
	Volts	55°C	75°C	V
1N6638/U/US	125	2.5	300	150
1N6639/US	75			100
1N6640/US	75			75
1N6641/US	75			75
1N6642/U/US	75			75

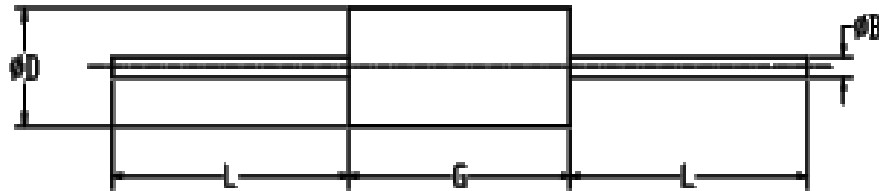
Note 1: 8.3ms surge, half sine wave

*Sensitron **space equivalent diodes** are manufactured and screened to MIL-PRF-19500 flow and guidelines starting from wafer fabrication through assembly and testing using our internal specification.

**TECHNICAL DATA
DATA SHEET 4081, REV D**

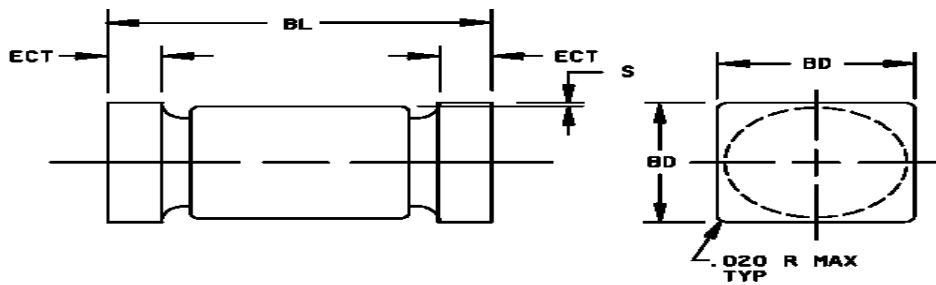
PACKAGE DIMENSIONS (inches/mm)

AXIAL



PACKAGE STYLE	DIMENSIONS - INCHES (MILLIMETERS)			
	ϕB	ϕD	G	L
DO-35	.018/.022 0.46/0.56	.056/.080 1.42/2.03	.130/.180 3.30/4.57	1.00/1.50 25.4/38.10

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

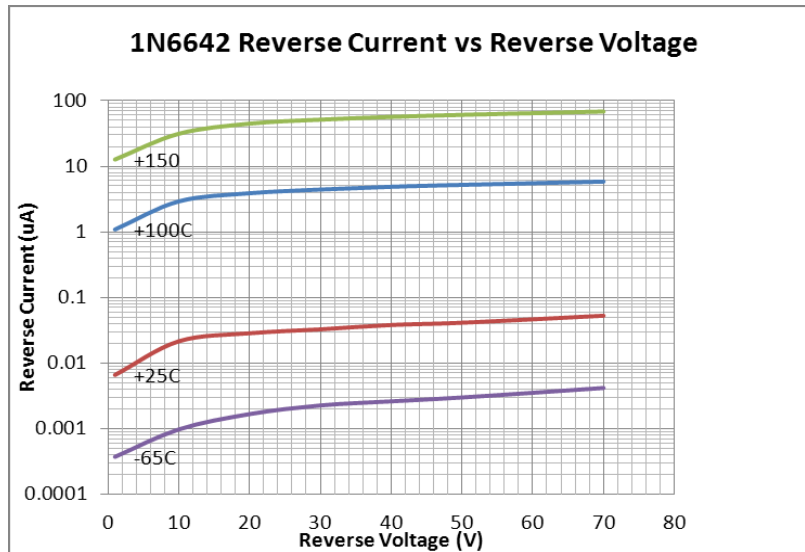


PACKAGE STYLE	DIMENSIONS - INCHES (MILLIMETERS)			
	BL	BD	S	ECT
D-5D	.165/.195 4.19/4.95	.070/.085 1.78/2.16	0.003 Min	.019/.028 0.48/0.71

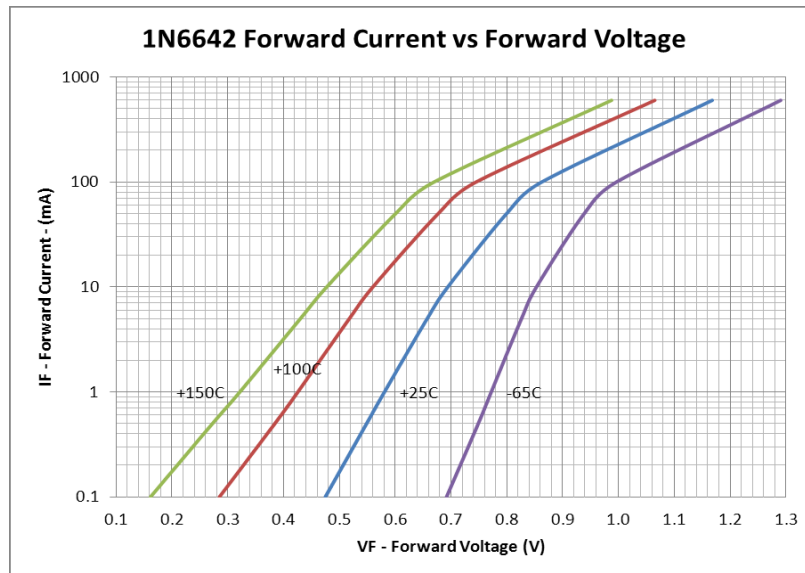
**TECHNICAL DATA
DATA SHEET 4081, REV D**

GRAPHS:

For 1N6638, 1N6642:

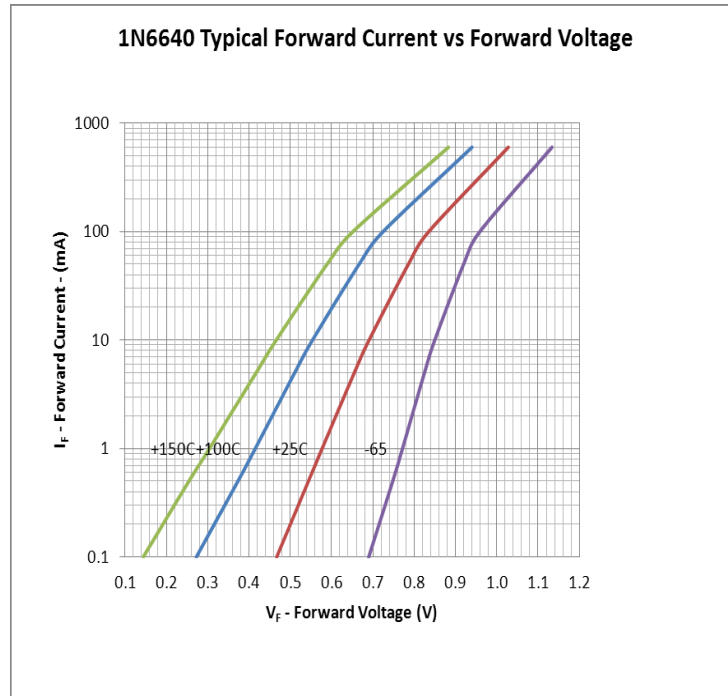


For 1N6638, 1N6642:

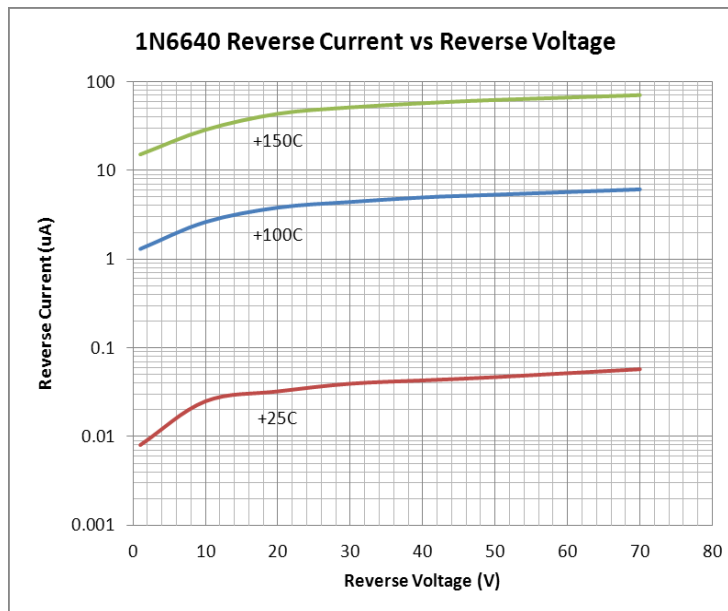


**TECHNICAL DATA
DATA SHEET 4081, REV D**

For 1N6639, 1N6640, 1N6641:



For 1N6639, 1N6640, 1N6641:



SENSITRON **SEMICONDUCTOR**

1N6638/US thru 1N6642/US

**SWITCHING / SIGNAL
DIODES**

TECHNICAL DATA DATA SHEET 4081, REV D

PART ORDERING INFORMATION

The following part numbers can be purchased in either axial or surface mount devices and screened and tested to the military screening flow. The parts are marked in accordance with the testing performed, example:

Sensitron Screening Level	*Part Number-- Leaded Package (example for 1N6638)	*Part Number-- Surface Mount Package (example for 1N6638US)
1N	1N6638	1N6638US, 1N6638U
JAN	JAN1N6638	JAN1N6638US, JAN1N6638U
JANTX	JANTX1N6638	JANTX1N6638US, JANTX1N6638U
JANTXV	JANTXV1N6638	JANTXV1N6638US, JANTXV1N6638U
SJ	SJ6638	SJ6638US, SJ6638U
SX	SX6638	SX6638US, SX6638U
SV	SV6638	SV6638US, SV6638U
JANS	JANS1N6638	JANS1N6638US, JANS1N6638U
SS	SS6638	SS6638US, SS6638U

*Parts can also be ordered Tape & Reel

DISCLAIMER:

1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).

2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.

3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.

4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.

5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.

7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.