SENSITRON SEMICONDUCTOR

1N6638/US thru 1N6642/US

SWITCHING / SIGNAL DIODES

TECHNICAL DATA
DATA SHEET 4081, REV E

AVAILABLE AS
1N, JAN, JANTX, JANTXV
JANS
JAN EQUIVALENT*
SJ*, SX*, SV*, SS*

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] I_{FSM}	AVERAGE RECTIFIED FORWARD CURRENT	BREAKDOWN VOLTAGE	REVERSE RECOVERY TIME $I_{RM} = I_F =$ 10 mA	JUNCTION CAPACITANCE V_R=0
		Amps (pk)	mA			
	Volts (pk)	55°C	75°C	V(pk)	ns	pF
1N6638/U/US	125	2.5	300	150	4.5	2.5
1N6639/US	75			100	4.0	2.5
1N6640/US	75			75	4.0	2.5
1N6641/US	75			75	5.0	3.0
1N6642/U/US	75			75	5.0	5.0

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.*

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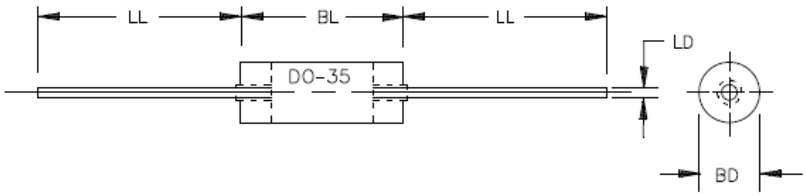
PACKAGE DIMENSIONS (inches/mm)

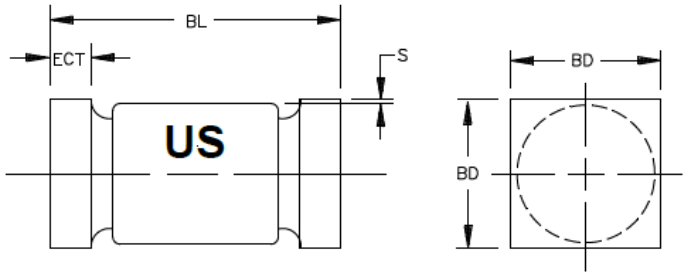
AXIAL



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 Φx 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 Φx symbology.

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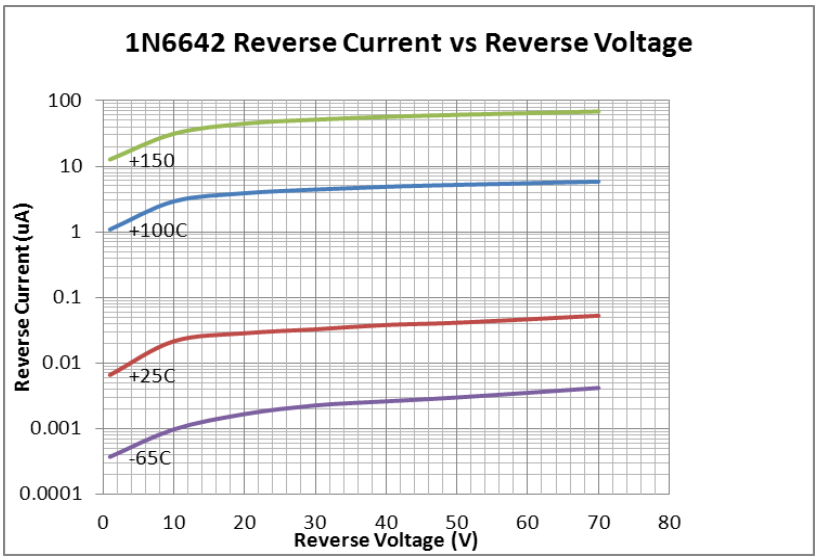
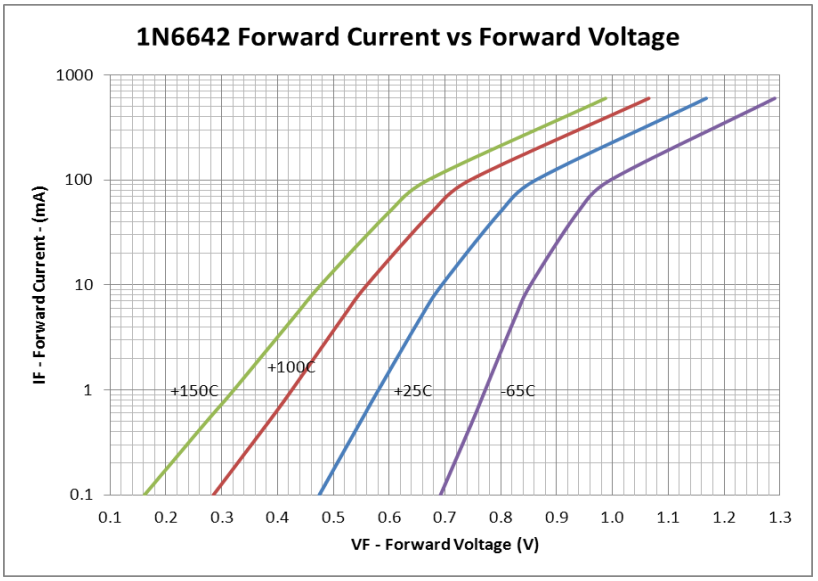
GRAPHS:

For 1N6638, 1N6642:



For 1N6638, 1N6642:



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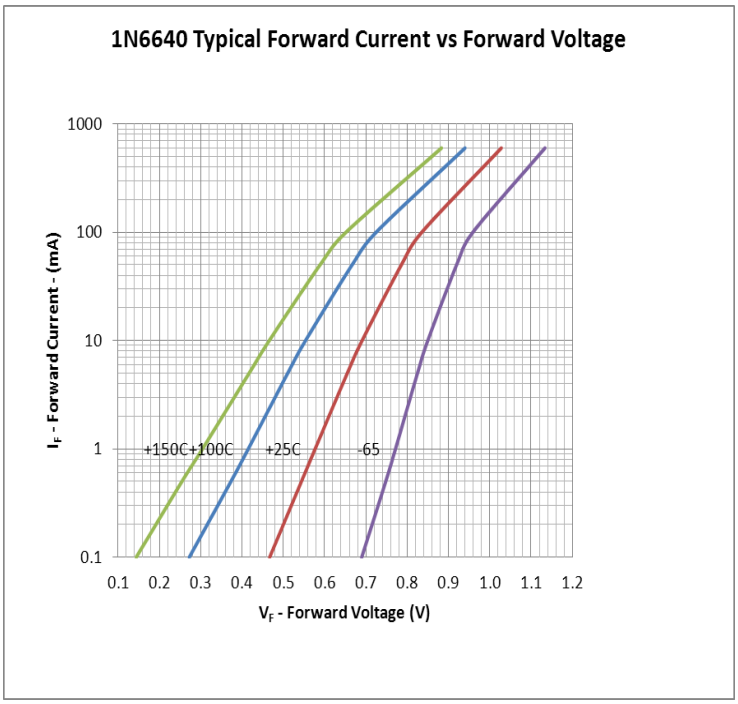
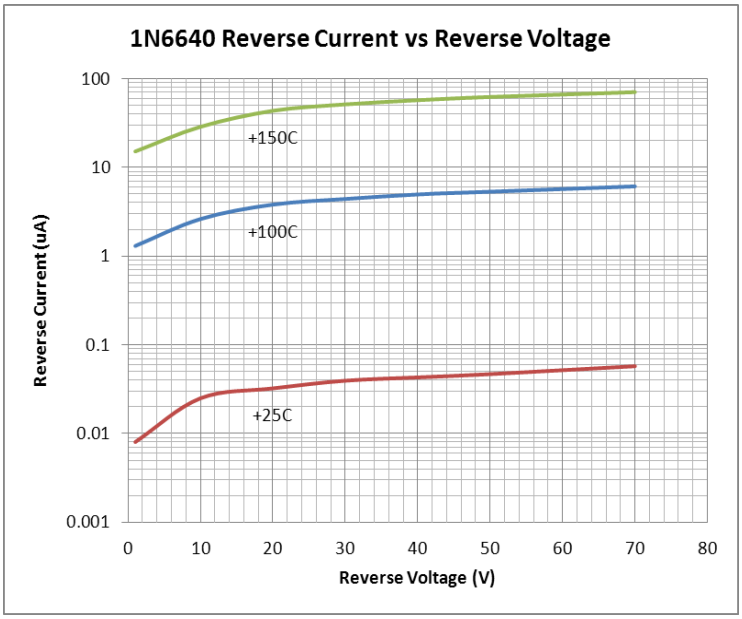
For 1N6639, 1N6640, 1N6641:



For 1N6639, 1N6640, 1N6641:



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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*

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