

### HIGH-RELIABILITY PRODUCTS

#### Features

- Low reverse leakage current
- Hermetically sealed in fused metal oxide
- Good thermal shock resistance
- Low forward voltage drop

These products are qualified to MIL-PRF-19500/578.

They can be supplied fully released as JAN, JANTX, JANTXV and JANS.

#### Quick reference data

$$V_{BR} = 75 - 150V$$

$$t_{rr} = 4.5 - 6.0ns$$

$$I_o = 300mA, T_A = 75^{\circ}C$$

$$V_F = 1.1 - 1.2V$$

### Absolute Maximum Rating

Electrical specifications @  $T_A = 25^{\circ}C$  unless otherwise specified.

Parameter	Symbol	1N6638	1N6642	1N6643	Units
Breakdown Voltage	$V_{BR}$	150	100	75	V
Working Reverse Voltage	$V_{RWM}$	125	75	50	V
Operating Current @75 °C , lead length 0.375"	$I_o$	300	300	300	mA
Non-Repetitive Surge Current (tp = 8.3ms, @25 °C)	$I_{FSM}$	2.5	2.5	2.5	A
Storage Temperature Range	$T_{STG}$	-65 to +175			°C

## Electrical Characteristics (T=25°C unless otherwise specified)

Parameter	Symbol	1N6638	1N6642	1N6643	Units
Forward Voltage Drop max. at 10mA, $T_j = 25^\circ\text{C}$	$V_{F1}$	0.8	0.8	0.8	V
Forward Voltage Drop max. $T_j = 25^\circ\text{C}$	$V_{F2}$	1.1 @ $I_F = 200\text{mA}$	1.2 @ $I_F = 100\text{mA}$	1.2 @ $I_F = 100\text{mA}$	V
Reverse Current max. $I_{R1}$ @ $V_R = 20\text{V}$ $I_{R2}$ @ $V_R = V_{RWM}$ $I_{R3}$ @ $V_R = 20\text{V}, T_A = 150^\circ\text{C}$ $I_{R4}$ @ $V_R = V_{RWM}, T_A = 150^\circ\text{C}$	$I_{R1}$ $I_{R2}$ $I_{R3}$ $I_{R4}$	35 500 50 100	25 500 50 100	50 500 75 100	nA nA uA uA
Forward Recovery Time max. $I_F = 200\text{mA}$	$t_{fr}$	20	20	20	ns
Reverse Recovery Time max. $I_{RM} = I_F = 10\text{mA}$	$t_{rr}$	4.5	5.0	6.0	ns
Junction Capacitance typ. $V_R = 0\text{V}$	$C_{T1}$	2.5	5.0	5.0	pF

## Thermal Characteristics

Parameter	Symbol	1N6638	1N6642	1N6643	Units
Thermal Resistance-Junction to Lead Lead length = 0.375"	$R_{\theta JL}$	150			$^\circ\text{C/W}$

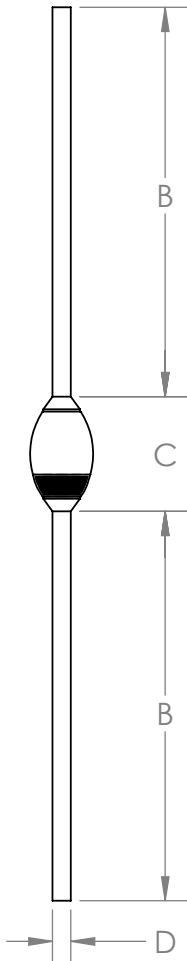
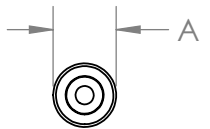
## Ordering Information

Part Number	Description
1N6638 1N6642 1N6643	Axial leaded hermeticallysealed <sup>(1)</sup>

Note:

(1) Available in bulk and tape and reel packaging. Please consult factory for quantities.

## Outline Drawing



Dimensions				
DIM	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.056	0.08	1.42	2.03
B	1.0	1.5	25.4	38.1
C	0.13	0.18	3.3	4.57
D	0.018	0.022	0.46	0.56