

• 1N6638, 1N6642, 1N6643 AVAILABLE IN JAN, JANTX, JANTXV, AND JANS  
PER MIL-PRF-19500/578

- SWITCHING DIODES
- NON-CAVITY GLASS PACKAGE
- METALLURGICALLY BONDED

1N6638

1N6642

1N6643

## MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C  
Storage Temperature: -65°C to +175°C  
Operating Current: 300 mA  
Derating: 3.0 mA/°C Above  $T_L = +75^\circ\text{C}$  @  $L = 3/8"$   
Surge Current:  $I_{FSM} = 2.5\text{A}$ , half sine wave,  $P_W = 8.3\text{ms}$

## ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

TYPES	$V_{BR}$ @ $I_R$ = 100 $\mu\text{A}$	$V_{RWM}$	$V_{F1}$ $I_{FM}$ = 10 mA (Pulsed)	$V_{F2}$ @ $I_{F2}$ (Pulsed)		$t_{fr}$ $I_F$ = 50 mA	$t_{rr}$
	$V_{(PK)}$ (min)	$V_{(PK)}$	V dc	V dc	mA	ns	ns
1N6638	150	125	0.8	1.1	200	20	4.5
1N6642	100	75	1.0	1.2	100	20	5.0
1N6643	75	50	1.0	1.2	100	20	6.0

TYPES	$I_{R1}$	$I_{R2}$	$I_{R3}$	$I_{R4}$	$C_{T1}$	$C_{T2}$
	$V_R$ = 20 V	@ $V_R$ = $V_{RWM}$	$V_R = 20\text{V}$ $T_A = 150^\circ\text{C}$	$V_R = V_{RWM}$ $T_A = 150^\circ\text{C}$	$V_R =$ 0V	$V_R =$ 1.5V
	nA dc	$\mu\text{A}$ dc	$\mu\text{A}$ dc	$\mu\text{A}$ dc	pF	pF
1N6638	35	0.5	50	100	2.5	2.0
1N6642	25	0.5	50	100	5.0	2.8
1N6643	50	0.5	75	160	5.0	2.8

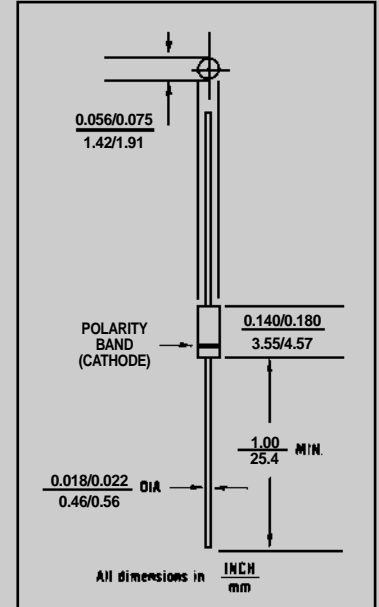


FIGURE 1

## DESIGN DATA

**CASE:** Hermetically sealed, "D" Body per MIL-PRF- 19500/578. D-5D

**LEAD MATERIAL:** Copper clad steel

**LEAD FINISH:** Tin / Lead

**THERMAL RESISTANCE:** ( $R_{\theta JL}$ ): 160 °C/W maximum at  $L = .375$

**THERMAL IMPEDANCE:** ( $Z_{\theta JX}$ ): 25 °C/W maximum

**POLARITY:** Cathode end is banded.

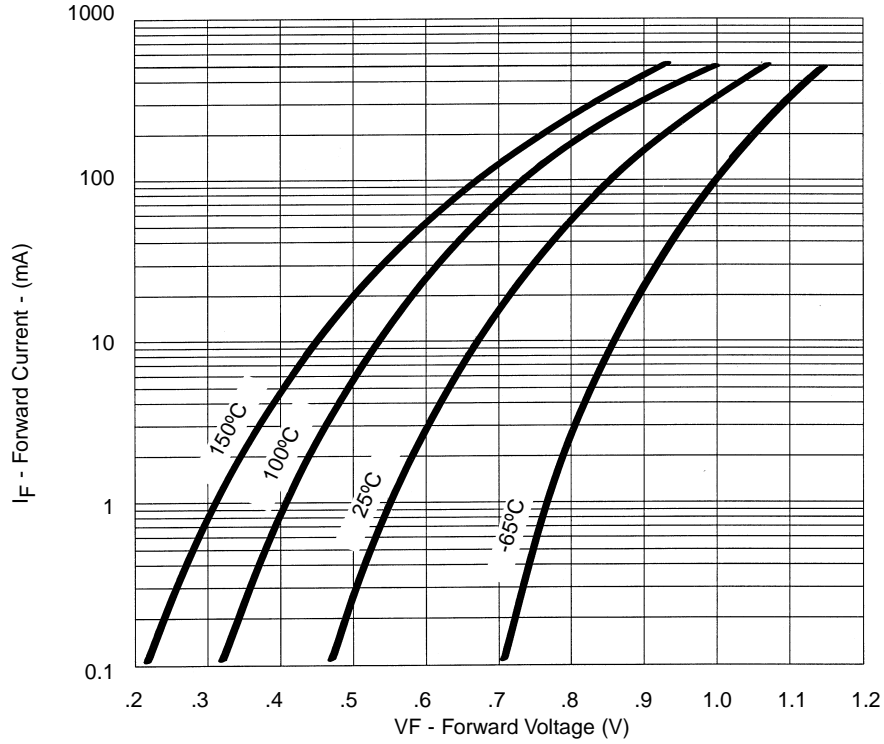
**MOUNTING POSITION:** Any



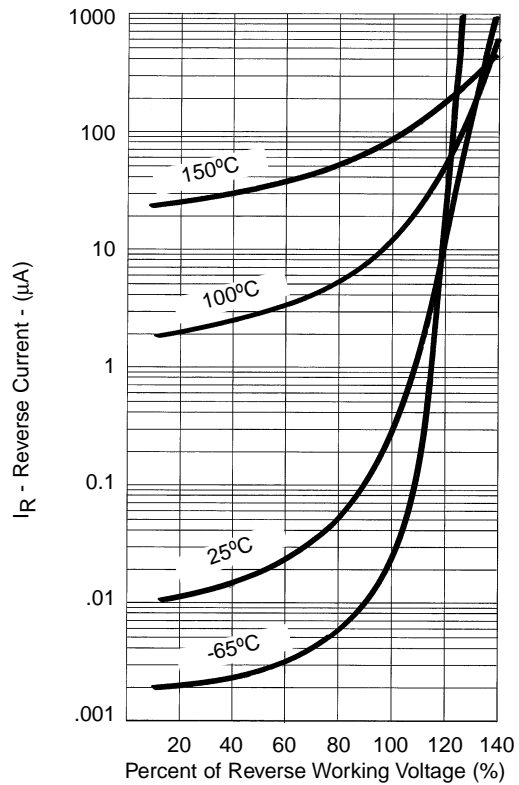
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# IN6638, IN6642 and IN6643



**FIGURE 2**  
Typical Forward Current  
vs Forward Voltage



**FIGURE 3**  
Typical Reverse Current  
vs Reverse Voltage

**NOTE :** All temperatures shown on graphs are junction temperatures