

1N6626 thru 1N6631 ULTRA FAST RECTIFIERS

Features

- AXIAL AND SURFACE MOUNT CONFIGURATIONS
- HIGH VOLTAGE WITH ULTRA FAST RECOVERY TIME
- VERY LOW SWITCHING LOSS AT HIGH TEMPERATURE
- LOW CAPACITANCE
- METALLURGICALLY BONDED
- NON-CAVITY GLASS PACKAGE
- SURFACE MOUNT DIODES THERMALLY MATCHED FOR USE ON CERAMIC PRINTED WIRING BOARDS

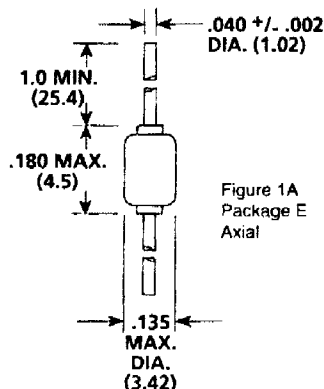


Figure 1A
Package E
Axial

Maximum Ratings @ 25°C

TYPE NUMBER	REVERSE VOLTAGE	OPERATING CURRENT (Note 1)	OPERATING CURRENT (Note 3)	PEAK FORWARD SURGE CURRENT (Note 2)	$R_{\theta JL}$ L = .375"	$R_{\theta JEC}$
1N6626 and US	200	4.0A	2.0A	75A	22°C/W	10°C/W
1N6627 and US	400	4.0A	2.0A	75A	22°C/W	10°C/W
1N6628 and US	600	4.0A	2.0A	75A	22°C/W	10°C/W
1N6629 and US	800	3.0A	1.4A	75A	22°C/W	10°C/W
1N6630 and US	900	3.0A	1.4A	75A	22°C/W	10°C/W
1N6631 and US	1000	2.5A	1.4A	60A	22°C/W	10°C/W

Operating Temperature: -65°C to +175°C.

Storage Temperature: -65°C to +200°C.

Note 1: TL = +75°C, L = .375 inch for axial parts. Derate linearly at 1.0% / °C for TL > +75°C. For surface mount devices, US suffix, these currents apply with a maximum end cap temperature of 110°C. Derate linearly at 1.5% / °C above 110°C.

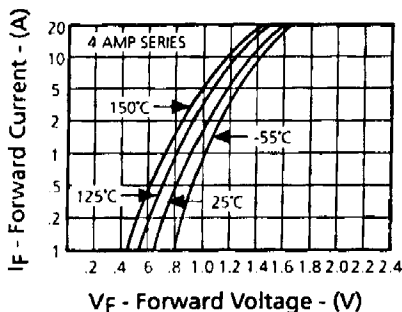
Note 2: Test pulse = 8.3ms, half sine wave.

Note 3: Independent of heatsinking.

Electrical Characteristics @ 25°C

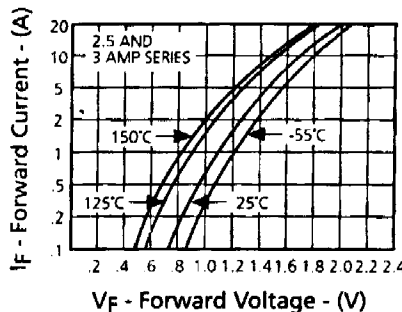
TYPE NUMBER	MINIMUM BREAK-DOWN VOLTAGE V_{BR} $I_R = 50\mu A$	MAXIMUM FORWARD VOLTAGE $V_F @ I_F$		MAXIMUM D.C. REVERSE CURRENT @ RATED REVERSE VOLTAGE I_R		MAXIMUM REVERSE RECOVERY TIME t_{rr} Note 1	MAXIMUM JUNCTION CAPACITANCE C_j $V_R = 10V$	PEAK RECOVERY CURRENT $I_{RM} (rec)$ $I_F = 2A$, 100A/μs	FORWARD RECOVERY VOLTAGE $V_{FRM} Max.$ $I_F = 0.5A$ $t_r = 12ns$
		$V_{0.1A}$	$V_{0.5A}$	μA	μA				
1N6626 and US	220	1.35V @ 1.2A	1.50V @ 4.0A	2.0	500	30	40	3.5	8
1N6627 and US	440	1.35V @ 1.2A	1.50V @ 4.0A	2.0	500	30	40	3.5	8
1N6628 and US	660	1.35V @ 1.2A	1.50V @ 4.0A	2.0	500	30	40	3.5	8
1N6629 and US	880	1.40V @ 1.0A	1.70V @ 3.0A	2.0	500	50	40	4.2	12
1N6630 and US	990	1.40V @ 1.0A	1.70V @ 3.0A	2.0	500	50	40	4.2	12
1N6631 and US	1100	1.60V @ 1.0A	1.95V @ 2.5A	4.0	600	60	40	5.0	20

NOTE 1: Reverse Recovery Time Test Conditions: $I_F = 0.5A$, $I_{RM} = 1.0A$, $I_R(REC) = 0.25A$.



V_F - Forward Voltage - (V)

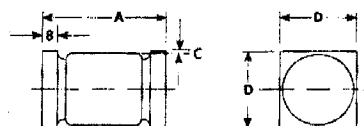
FIGURE 2
Typical Forward Current
vs
Forward Voltage



V_F - Forward Voltage - (V)

FIGURE 3
Typical Forward Current
vs
Forward Voltage

1N6626US thru 1N6631US



	Inch		mm	
	MIN.	MAX.	MIN.	MAX.
A	.205	.225	5.080	5.350
B	.019	.028	0.483	0.711
C	.003	—	0.076	—
D	.137	.142	3.480	3.759

Figure 1B
Package E
Surface
Mount

Mechanical Characteristics

AXIAL LEADED DEVICES

CASE: Voidless Hermetically Sealed Hard Glass.

LEAD MATERIAL: Solder Dipped Copper.

MARKING: Body Painted, Alpha Numeric.

POLARITY: Cathode Band.

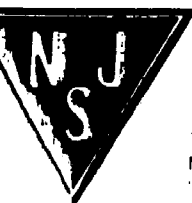
SURFACE MOUNT DEVICES

CASE: Voidless Hermetically Sealed Hard Glass.

END CAP MATERIAL: Solid Silver.

END CAP CONFIGURATION: Square.

POLARITY: Cathode Dot on End Cap.



THERMAL RESISTANCES

Symbol	Parameter		Value	Unit
$R_{th(j-a)}$	Junction to ambient	Lead length = 10 mm	100	°C/W
$R_{th(j-l)}$	Junction to lead	Lead length = 10 mm	45	°C/W

STATIC ELECTRICAL CHARACTERISTICS

Symbol	Parameter	Tests Conditions		1N5817	1N5818	1N5819	Unit
I_R^*	Reverse leakage current	$T_j = 25^\circ\text{C}$	$V_R = V_{RRM}$	0.5	0.5	0.5	mA
		$T_j = 100^\circ\text{C}$		10	10	10	mA
V_F^*	Forward voltage drop	$T_j = 25^\circ\text{C}$	$I_F = 1\text{ A}$	0.45	0.50	0.55	V
		$T_j = 25^\circ\text{C}$	$I_F = 3\text{ A}$	0.75	0.80	0.85	V