

**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

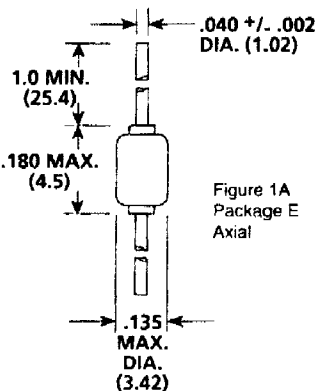


Figure 1A  
Package E  
Axial

**Maximum Ratings @ 25°C**

TYPE NUMBER	REVERSE VOLTAGE	OPERATING CURRENT (Note 1)	OPERATING CURRENT (Note 3)	PEAK FORWARD SURGE CURRENT (Note 2)	R <sub>θJL</sub> L = .375"	R <sub>θJEC</sub>
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.

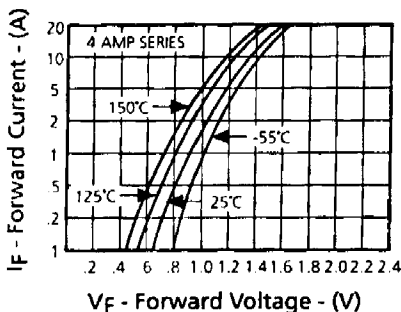
Note 2: Test pulse = 8.3ms, half sine wave.

Note 3: Independent of heatsinking.

**Electrical Characteristics @ 25°C**

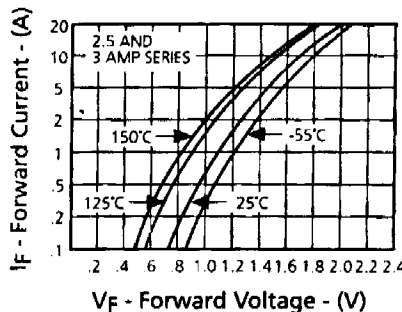
TYPE NUMBER	MINIMUM BREAK-DOWN VOLTAGE V <sub>R</sub> I <sub>R</sub> = 50μA	MAXIMUM FORWARD VOLTAGE V <sub>F</sub> @ I <sub>F</sub>		MAXIMUM D.C. REVERSE CURRENT @ RATED REVERSE VOLTAGE I <sub>R</sub>		MAXIMUM REVERSE RECOVERY TIME t <sub>rr</sub> Note 1	MAXIMUM JUNCTION CAPACITANCE C <sub>J</sub> V <sub>R</sub> = 10V	PEAK RECOVERY CURRENT I <sub>RM</sub> (rec) I <sub>F</sub> = 2A, 100A/μs	FORWARD RECOVERY VOLTAGE V <sub>FRM</sub> Max. I <sub>F</sub> = 0.5A tr = 12ns
		V @ I <sub>F</sub>	V @ I <sub>F</sub>	μA @ 25°C	μA @ 150°C				
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<sub>F</sub> = 0.5A, I<sub>RM</sub> = 1.0A, I<sub>R</sub>(REC) = 0.25A.



VF - Forward Voltage - (V)

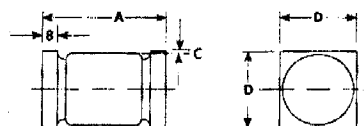
**FIGURE 2**  
Typical Forward Current  
vs  
Forward Voltage



VF - 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.

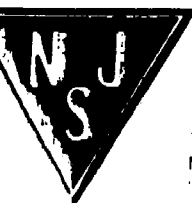
**SURFACE MOUNT DEVICES**

**CASE:** Voidless Hermetically Sealed Hard Glass.

**END CAP MATERIAL:** Solid Silver.

**END CAP CONFIGURATION:** Square.

**POLARITY:** Cathode Dot on End Cap.



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**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