Microsemi Corp.
The diode experts

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1N6620 thru 1N6625

ULTRA FAST RECTIFIERS

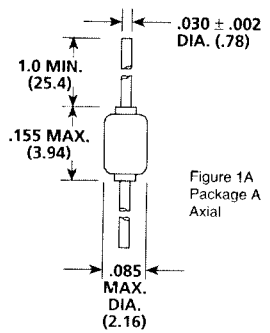

Figure 1A
Package A
Axial

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
- AXIAL AND SURFACE MOUNT AVAILABLE AS JANTX AND JANTXV PER MIL-S-19500/585

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"	$R_{\theta JEC}$
1N6620 and US	200	2.0A	1.2A	20A	38°C/W	20°C/W
1N6621 and US	400	2.0A	1.2A	20A	38°C/W	20°C/W
1N6622 and US	600	2.0A	1.2A	20A	38°C/W	20°C/W
1N6623 and US	800	1.5A	1.0A	20A	38°C/W	20°C/W
1N6624 and US	900	1.5A	1.0A	20A	38°C/W	20°C/W
1N6625 and US	1000	1.5A	1.0A	15A	38°C/W	20°C/W

Operating Temperature: -65°C to +175°C.
Storage Temperature: -65°C to +200°C.
Note 1: TL = +55°C, L=.375 inch for axial parts. Derate linearly at 0.80% / °C for TL > +55°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_R @ I_R = 50µA	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
				T_A=25°C	T_A=150°C				
	V	V @ A	V @ A	µA	µA	ns	pf	A	V
1N6620 and US	220	1.40V @ 1.2A	1.60V @ 2.0A	0.5	150	30	10	3.5	12
1N6621 and US	440	1.40V @ 1.2A	1.60V @ 2.0A	0.5	150	30	10	3.5	12
1N6622 and US	660	1.40V @ 1.2A	1.60V @ 2.0A	0.5	150	30	10	3.5	12
1N6623 and US	880	1.55V @ 1.0A	1.80V @ 1.5A	0.5	150	50	10	4.2	18
1N6624 and US	990	1.55V @ 1.0A	1.80V @ 1.5A	0.5	150	50	10	4.2	18
1N6625 and US	1100	1.75V @ 1.0A	1.95V @ 1.5A	1.0	200	60	10	5.0	30

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

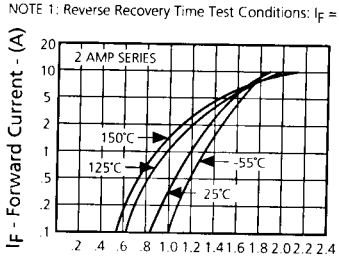

FIGURE 2
Typical Forward Current
vs
Forward Voltage

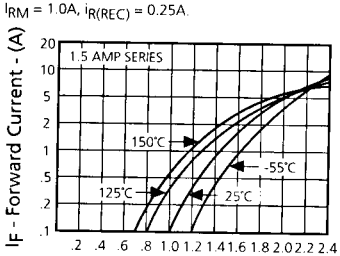

FIGURE 3
Typical Forward Current
vs
Forward Voltage

1N6620US thru 1N6625US

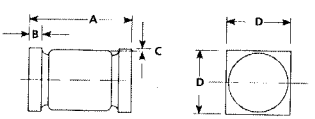

Figure 1B
Package A
Surface
Mount

	Inch		mm	
	MIN.	MAX.	MIN.	MAX.
A	0.185	0.200	4.699	5.080
B	0.019	0.028	0.483	0.711
C	0.003	—	0.076	—
D	0.097	0.103	2.464	2.616

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.

1N6620 thru 1N6625 AXIAL LEADED
1N6620US thru 1N6625US SURFACE MOUNT

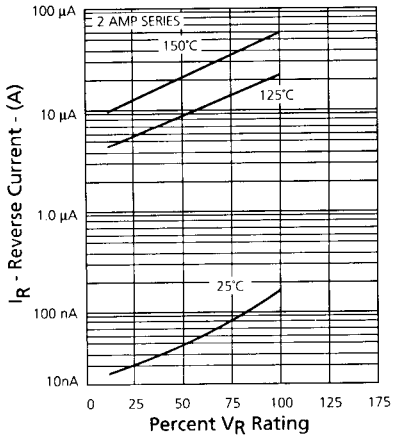

FIGURE 4
Typical Reverse Current vs
Applied Reverse Voltage

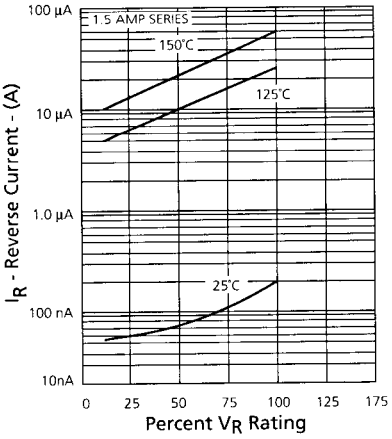

FIGURE 5
Typical Reverse Current vs
Applied Reverse Voltage

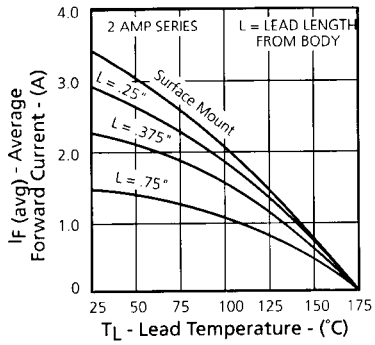

FIGURE 6
Average Forward Current vs
Lead Temperature (50% Duty Cycle, Square Wave)

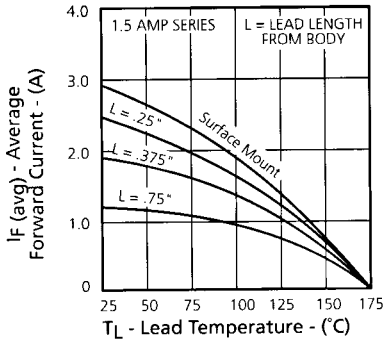

FIGURE 7
Average Forward Current vs
Lead Temperature (50% Duty Cycle, Square Wave)

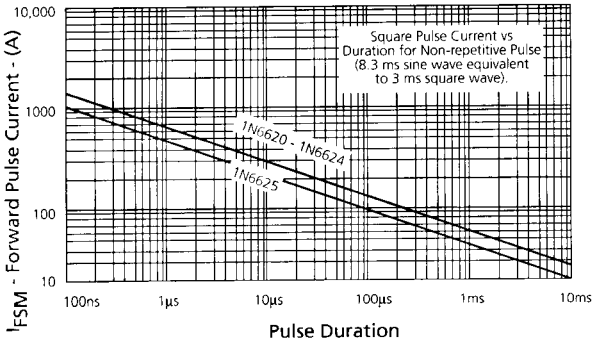

FIGURE 8
Forward Pulse Current vs Pulse Duration

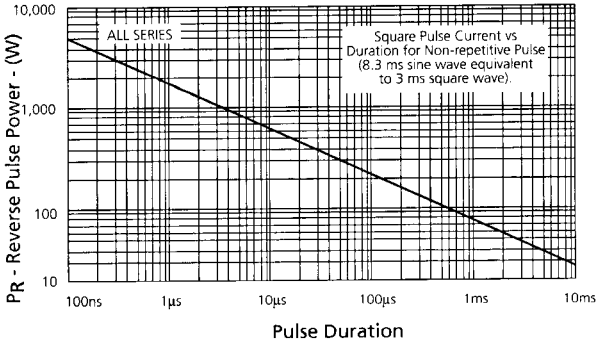

FIGURE 9
Reverse Pulse Power vs Pulse Duration