

### FAST RECOVERY RECTIFIERS

VOLTAGE RANGE: 100 --- 600 V  
CURRENT: 16 A

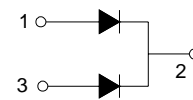
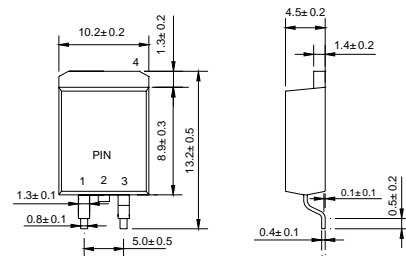
#### FEATURES

- ◇ Low cost
- ◇ Diffused junction
- ◇ Low leakage
- ◇ Low forward voltage drop
- ◇ High current capability
- ◇ Easily cleaned with Freon, Alcohol, Isopropanol and similar solvents
- ◇ The plastic material carries U/L recognition 94V-0

#### MECHANICAL DATA

- ◇ Case: JEDEC D<sup>2</sup>PAK, molded plastic
- ◇ Terminals: solderable per MIL-STD-202, Method 208
- ◇ Polarity: Color band denotes cathode
- ◇ Weight: 0.087 ounces, 2.2 grams
- ◇ Mounting position: Any

#### D<sup>2</sup>PAK



Dimensions in millimeters

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate by 20%.

		FR 1610BC	FR 1620BC	FR 1640BC	FR 1660BC	UNITS
Maximum recurrent peak reverse voltage	$V_{RRM}$	100	200	400	600	V
Maximum RMS voltage	$V_{RMS}$	70	140	280	420	V
Maximum DC blocking voltage	$V_{DC}$	100	200	400	600	V
Maximum average forward rectified current @ $T_A=75^\circ\text{C}$	$I_{F(AV)}$	16				A
Peak forward surge current 8.3ms single half-sine-wave superimposed on rated load @ $T_J=125^\circ\text{C}$	$I_{FSM}$	200				A
Maximum instantaneous forward voltage @ 8.0 A	$V_F$	1.3				V
Maximum reverse current @ $T_A=25^\circ\text{C}$ at rated DC blocking voltage @ $T_A=100^\circ\text{C}$	$I_R$	10 150				$\mu\text{A}$
Maximum reverse recovery time (Note1)	$t_{rr}$	150			250	ns
Typical junction capacitance (Note2)	$C_J$	65				pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	3.0				$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	- 55 --- + 150				$^\circ\text{C}$
Storage temperature range	$T_{STG}$	- 55 --- + 150				$^\circ\text{C}$

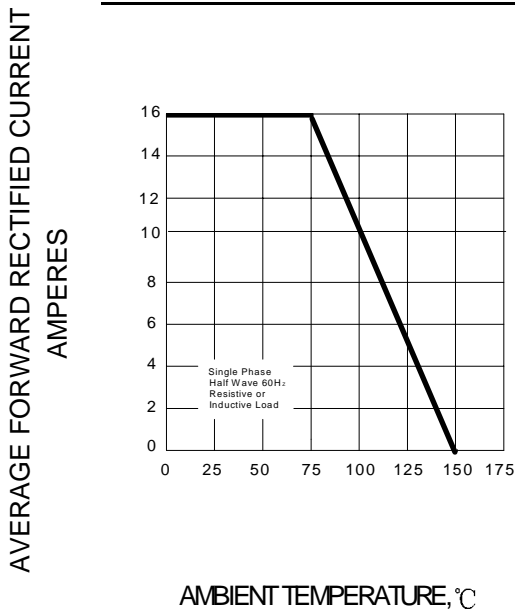
NOTE:1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

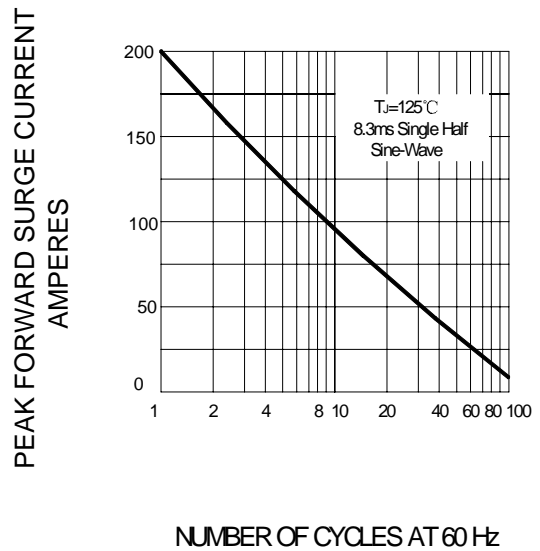
3. Thermal resistance from junction to ambient.

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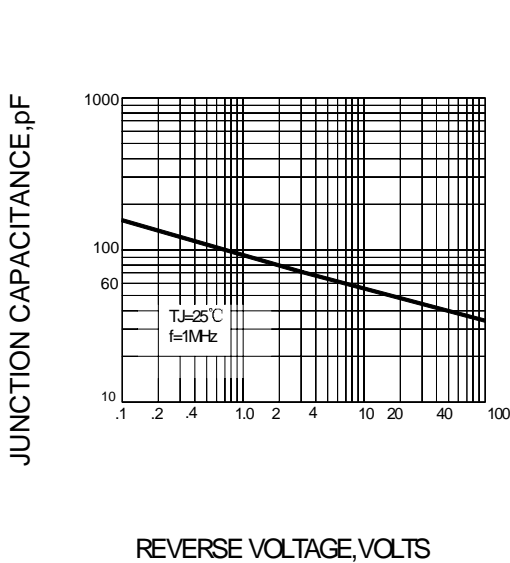
**FIG.1 – FORWARD DERATING CURVE**



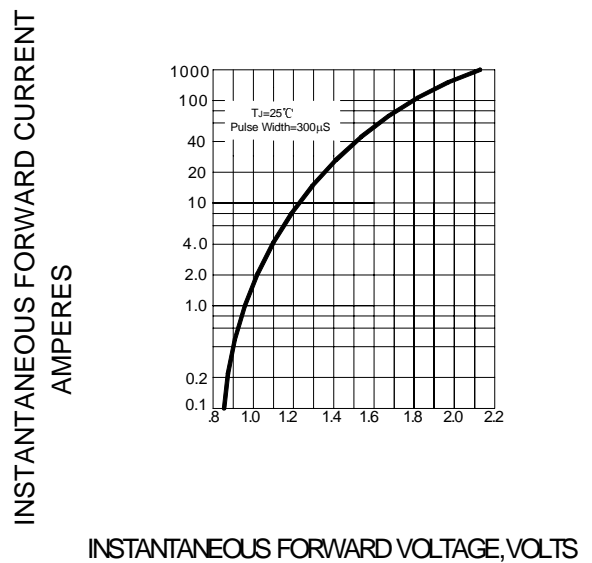
**FIG.2-PEAK FORWARD SURGE CURRENT**



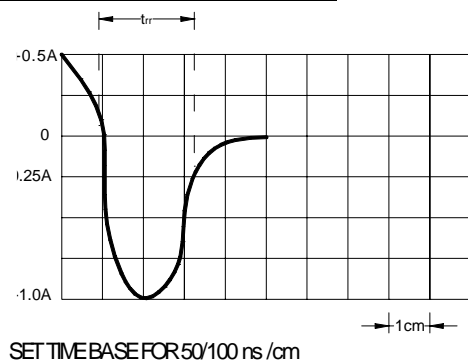
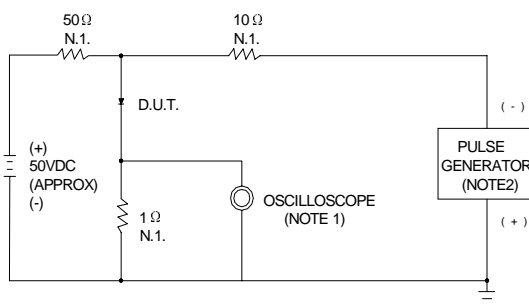
**FIG.3-TYPICAL JUNCTION CAPACITANCE**



**FIG.4 – TYPICAL FORWARD CHARACTERISTIC**



**FIG5 – REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



NOTES: 1. RISE TIME=7ns MAX. INPUT IMPEDANCE=1MΩ, 22pF  
2. RISE TIME=10ns MAX. SOURCE IMPEDANCE=50Ω

SET TIME BASE FOR 50/100 ns/cm