



**FR20-005  
THRU  
FR20-10**

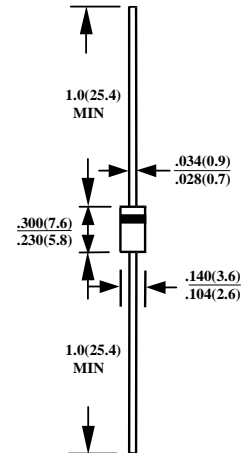
**2.0A FAST RECOVERY PLASTIC RECTIFIER**

**FEATURES**

- FAST RECOVERY TIMES
- UL 94V0 FLAME RETARDANT EPOXY MOLDING COMPOUND
- DIFFUSED JUNCTION
- LOW COST
- HIGH SURGE CURRENT CAPABILITY

**MECHANICAL DATA**

- CASE : TRANSFER MOLDED
- LEADS : SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY : CATHODE INDICATED BY COLOR BAND
- WEIGHT : 0.4 GRAMS



CASE : DO15  
DIMENSIONS IN INCHES AND (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 CURRENT BY 20%

RATINGS	SYMBOL	FR20-005	FR20-01	FR20-02	FR20-04	FR20-06	FR20-08	FR20-10	UNITS
MAXIMUM RECURRENT PEAK REVERSE VOLTAGE	$V_{RRM}$	50	100	200	400	600	800	1000	V
MAXIMUM RMS VOLTAGE	$V_{RMS}$	35	70	140	280	420	560	700	V
MAXIMUM DC BLOCKING VOLTAGE	$V_{DC}$	50	100	200	400	600	800	1000	V
MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT .375" (9.5mm) LEAD LENGTH AT TA=55°C	$I_O$	2.0							A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	$I_{FSM}$	70							A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	$C_J$	40							PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	$R_{\theta ja}$	30							°C/W
STORAGE TEMPERATURE RANGE	$T_{STG}$	-55 TO + 150							°C
OPERATING TEMPERATURE RANGE	$T_{OP}$	-55 TO + 150							°C

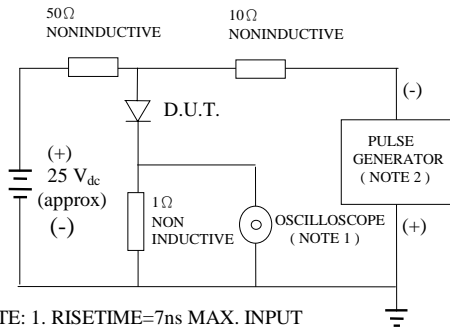
**ELECTRICAL CHARACTERISTICS (A<sub>T</sub> T<sub>A</sub> =25°C UNLESS OTHERWISE NOTED)**

CHARACTERISTICS	SYMBOL	FR20-005	FR20-01	FR20-02	FR20-04	FR20-06	FR20-08	FR20-10	UNITS
MAXIMUM FORWARD VOLTAGE AT I <sub>O</sub> DC	$V_F$	1.3							V
MAXIMUM REVERSE CURRENT AT 25°C	$I_R$	5							μA
MAXIMUM REVERSE CURRENT AT 100°C	$I_R$	50							μA
MAXIMUM REVERSE RECOVERY TIME(NOTE 3)	$T_{RR}$	150			250		500		nS

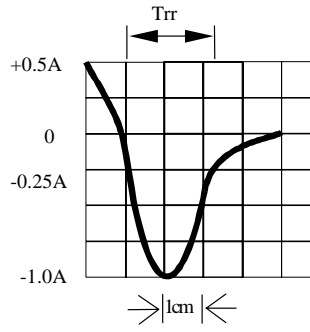
- NOTE : 1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS  
2. BOTH LEADS ATTACHED TO HEATSINK 35x35x1t(mm) COPPER PLATE AT LEAD LENGTH 5mm  
3. REVERSE RECOVERY TEST CONDITIONS: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

# RATINGS AND CHARACTERISTIC CURVE FR20-005 THRU FR20-10

**FIG. 1-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**

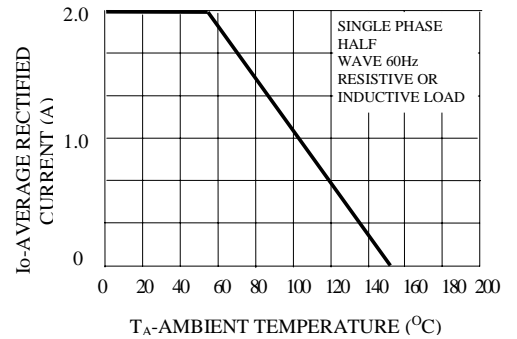


NOTE: 1. RISE TIME = 7ns MAX. INPUT IMPEDANCE = 1 MEGOHM 22PF  
 2. RISE TIME = 10ns MAX. SOURCE IMPEDANCE = 50OHMS

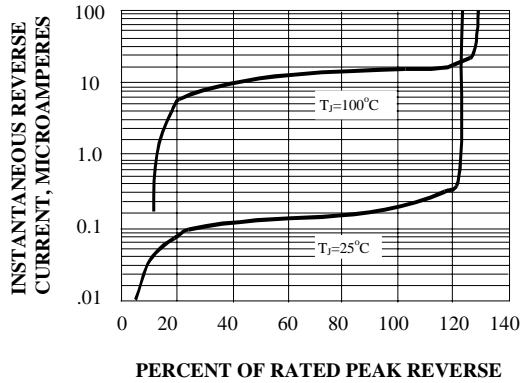


SET TIME BASE FOR 10/20 ns/cm

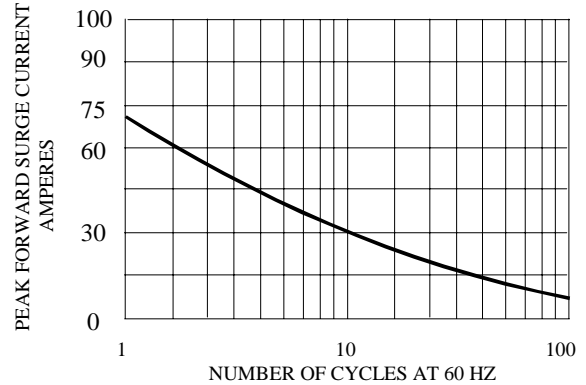
**Fig. 2-MAXIMUM CURRENT DERATING CURVE**



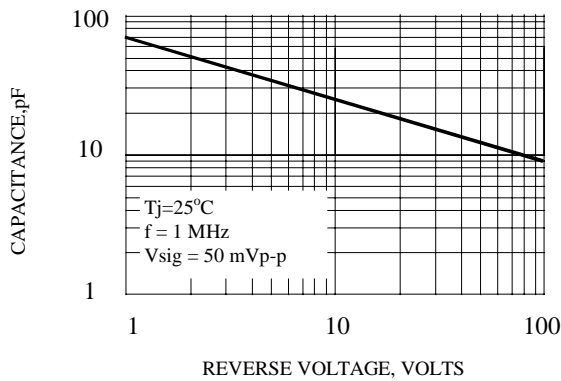
**FIG. 3-TYPICAL REVERSE CHARACTERISTICS**



**Fig. 4-MAXIMUM FORWARD SURGE NUMBER OF CYCLES**



**FIG. 5-TYPICAL JUNCTION CAPACITANCE**



**FIG. 6-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**

