



**FRONTIER  
ELECTRONICS CO., LTD.**

**FR20-005G  
THRU  
FR20-10G**

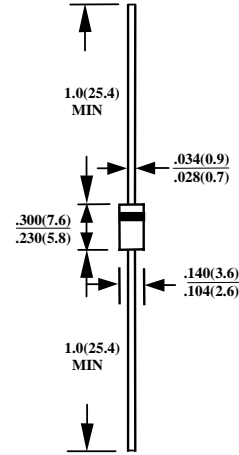
**2.0A FAST RECOVERY GLASS PASSIVATED RECTIFIER**

**FEATURES**

- FAST RECOVERY TIMES
- UL 94V0 FLAME RETARDANT EPOXY MOLDING COMPOUND
- GLASS PASSIVATED CHIP 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 -005G	FR20 -01G	FR20 -02G	FR20 -04G	FR20 -06G	FR20 -08G	FR20 -10G	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)	$R_{\theta jc}$	40							°C/W
STORAGE TEMPERATURE RANGE	$T_{STG}$	-55 TO + 150							°C
OPERATING TEMPERATURE RANGE	$T_{OP}$	-55 TO + 150							°C

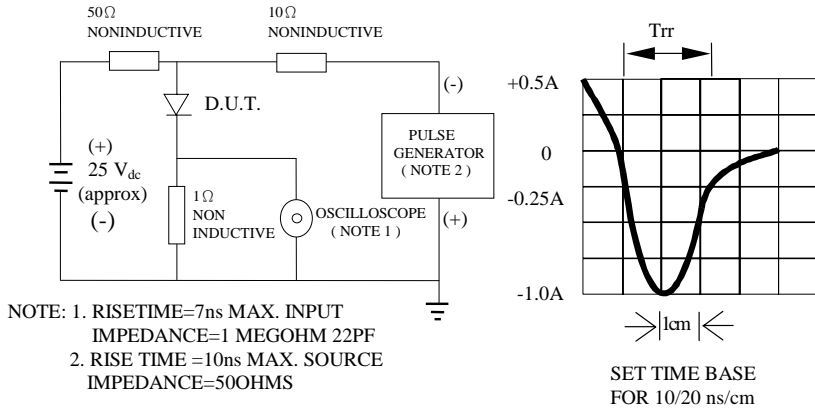
**ELECTRICAL CHARACTERISTICS (AT TA =25°C UNLESS OTHERWISE NOTED)**

CHARACTERISTICS	SYMBOL	FR20 -005G	FR20 -01G	FR20 -02G	FR20 -04G	FR20 -06G	FR20 -08G	FR20 -10G	UNITS
MAXIMUM FORWARD VOLTAGE AT $I_O$ 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

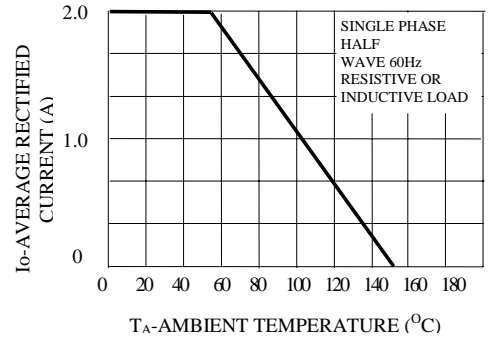
- NOTE :
1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS
  2. BOTH LEADS ATTACHED TO HEATSINK 20x20x1t(mm) COPPER PLATE AT LEAD LENGTH 5mm
  3. REVERSE RECOVERY TEST CONDITIONS:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{RR}=0.25A$

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

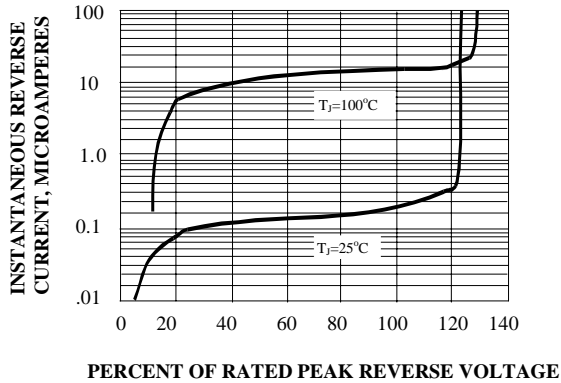
**FIG. 1-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC**



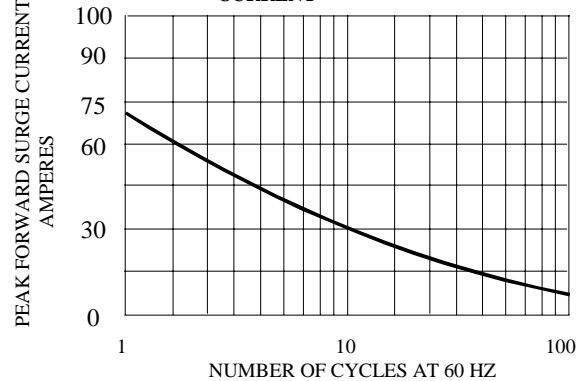
**Fig. 2-MAXIMUM FORWARD CURRENT DERATING CURVE**



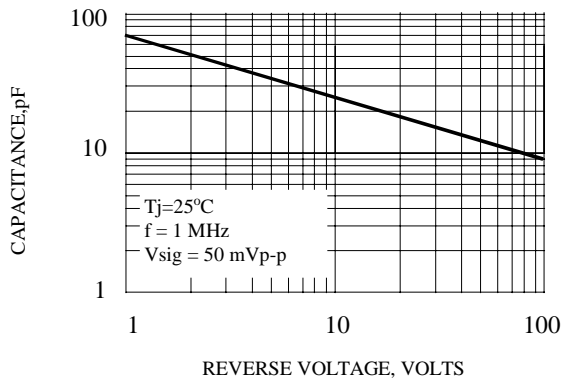
**FIG. 3-TYPICAL REVERSE CHARACTERISTICS**



**Fig. 4-MAXIMUM FORWARD SURGE CURRENT**



**FIG. 5-TYPICAL JUNCTION CAPACITANCE**



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

