



FR30-005 THRU FR30-10

3A FAST RECOVERY PLASTIC RECTIFIER

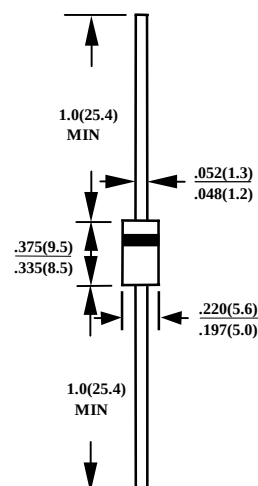
FEATURES

- FAST RECOVERY TIMES
- UL 94V-0 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 : 1.2 GRAMS

CASE-DO201AD



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	FR30-005	FR30-01	FR30-02	FR30-04	FR30-06	FR30-08	FR30-10	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 $T_A=55^{\circ}C$	I_O	3.0							A
PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD	I_{FSM}	150							A
TYPICAL JUNCTION CAPACITANCE (NOTE 1)	C_J	28							PF
TYPICAL THERMAL RESISTANCE (NOTE 2)	$R_{\theta ja}$	20							$^{\circ}C/W$
STORAGE TEMPERATURE RANGE	T_{STG}	-55 TO + 150							$^{\circ}C$
OPERATING TEMPERATURE RANGE	T_{OP}	-55 TO + 150							$^{\circ}C$

ELECTRICAL CHARACTERISTICS ($A_T T_A = 25^{\circ}C$ UNLESS OTHERWISE NOTED)

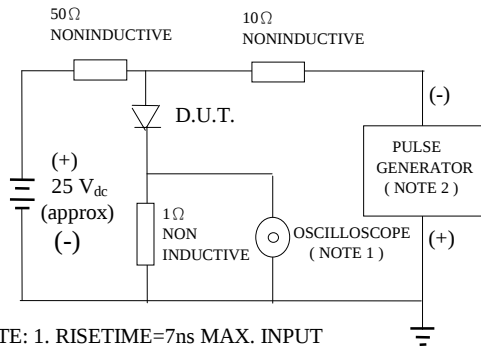
CHARACTERISTICS	SYMBOL	FR30-005	FR30-01	FR30-02	FR30-04	FR30-06	FR30-08	FR30-10	UNITS
MAXIMUM FORWARD VOLTAGE AT I_O DC	V_F	1.3							V
MAXIMUM REVERSE CURRENT AT 25°C	I_R	5							μA
MAXIMUM REVERSE CURRENT AT 100°C	I_R	50							μA
MAXIMUM REVERSE RECOVERY TIME (NOTE 3)	T_{RR}	150				250	500		nS

NOTE :

1. MEASURED AT 1 MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS
2. BOTH LEADS ATTACHED TO HEATSINK 63.5x 63.5x 1t(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 FR30-005 THRU FR30-10

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

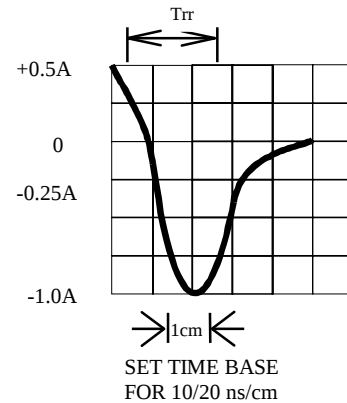


Fig. 2-MAXIMUM CURRENT DERATING CURVE

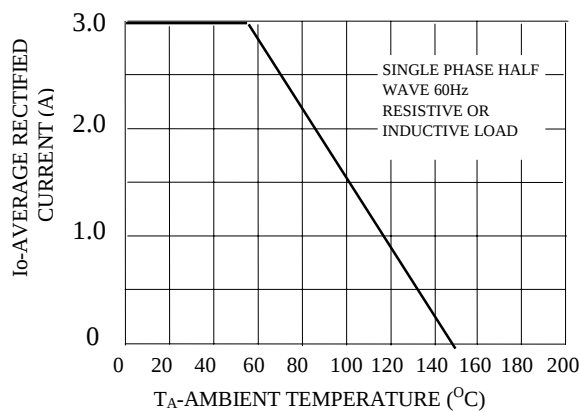


Fig. 3-MAXIMUM FORWARD SURGE NUMBER OF CYCLES

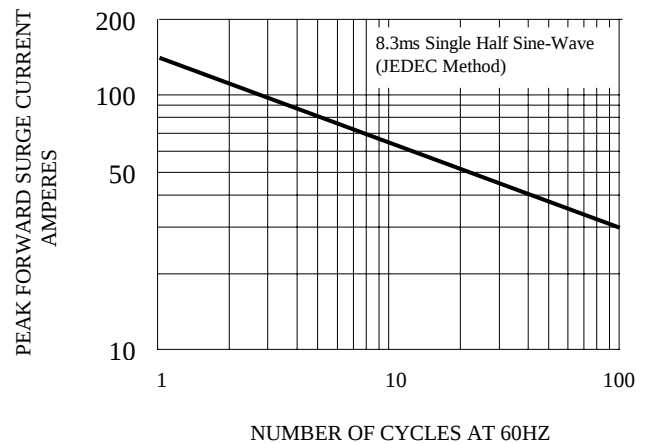


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

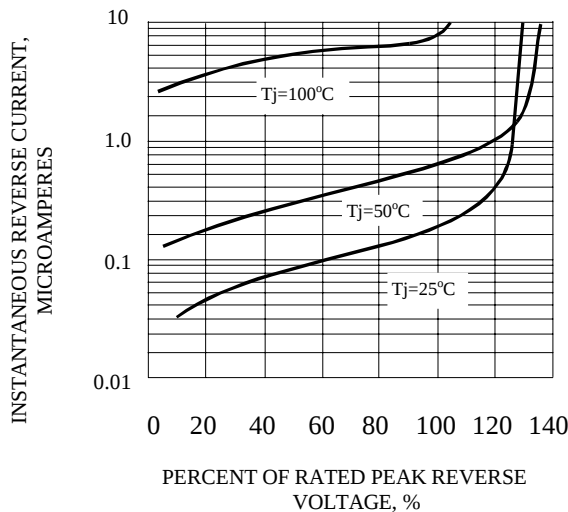


FIG. 5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

