



**FRONTIER
ELECTRONICS CO., LTD.**

**FR30-005
THRU
FR30-10**

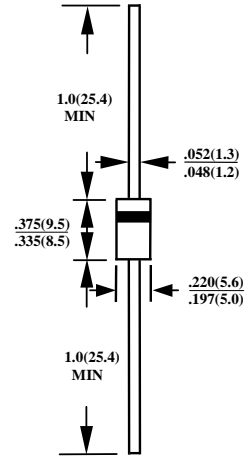
3A FAST RECOVERY PLASTIC RECTIFIER

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 TA=55°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 | | | | | | | °C/W |
| STORAGE TEMPERATURE RANGE | T_{STG} | -55 TO + 150 | | | | | | | °C |
| OPERATING TEMPERATURE RANGE | T_{OP} | -55 TO + 150 | | | | | | | °C |

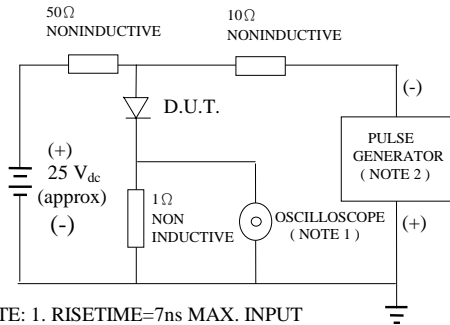
ELECTRICAL CHARACTERISTICS (A_T T_A =25°C UNLESS OTHERWISE NOTED)

| 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 63.5x63.5x1t(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

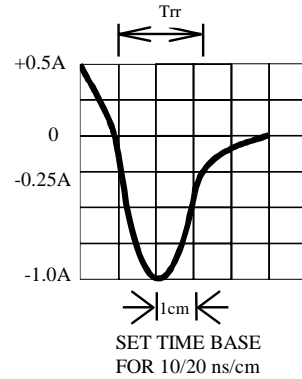


Fig. 2-MAXIMUM CURRENT DERATING CURVE

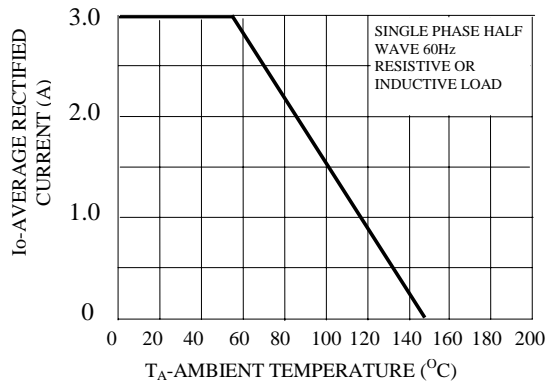


Fig. 3-MAXIMUM FORWARD SURGE NUMBER OF CYCLES

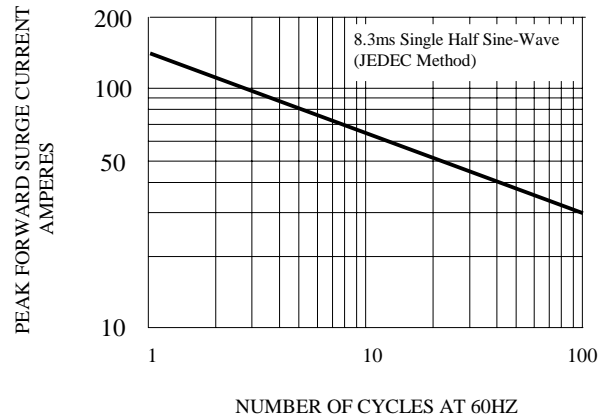


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

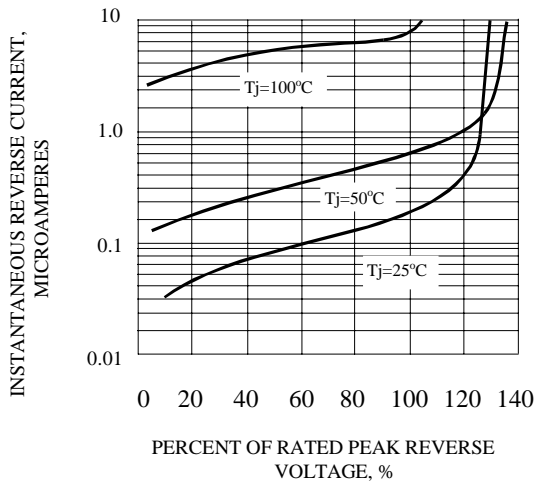


FIG. 5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

