



**FRONTIER
ELECTRONICS CO., LTD.**

1A GLASS PASSIVATED SUPER FAST RECOVERY RECTIFIER

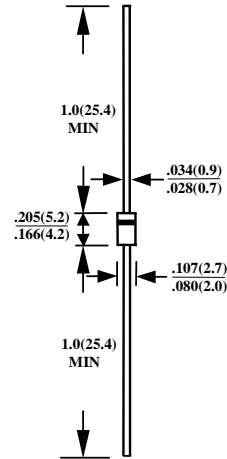
**SF10-005G
THRU
SF10-06G**

FEATURES

- LOW FORWARD VOLTAGE
- HIGH SURGE CAPABILITY
- SUPER FAST SWITCHING SPEED
- GOOD FOR SWITCHING MODE CIRCUIT
- GLASS PASSIVATED CHIP JUNCTION

MECHANICAL DATA

- CASE : MOLDED PLASTIC
- EPOXY : UL 94V-0 FLAME RETARDANT PLASTIC CASE
- LEADS : AXIAL LEADS, SOLDERABLE PER MIL-STD-202, METHOD 208
- MOUNTING POSITION : ANY
- WEIGHT : 0.34 GRAMS



CASE : DO41
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 | SF10 -005G | SF10 -01G | SF10 -015G | SF10 -02G | SF10 -03G | SF10 -04G | SF10 -05G | SF10 -06G | UNITS |
|---|-----------------|---------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|-------|
| MAXIMUM RECURRENT PEAK REVERSE VOLTAGE | V_{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V |
| MAXIMUM RMS VOLTAGE | V_{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 350 | 420 | V |
| MAXIMUM DC BLOCKING VOLTAGE | V_{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V |
| MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT .375" (9.5mm) LEAD LENGTH AT TA=55°C | I_O | 1.0 | | | | | | | | A |
| PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD | I_{FSM} | 30 | | | | | | | | A |
| TYPICAL JUNCTION CAPACITANCE (NOTE 1) | C_J | 15 | | | | 10 | | | | PF |
| TYPICAL THERMAL RESISTANCE (NOTE 2) | $R_{\theta jc}$ | 50 | | | | | | | | °C/W |
| STORAGE TEMPERATURE RANGE | T_{STG} | - 55 TO + 150 | | | | | | | | °C |
| OPERATING TEMPERATURE RANGE | T_{OP} | - 55 TO + 150 | | | | | | | | °C |

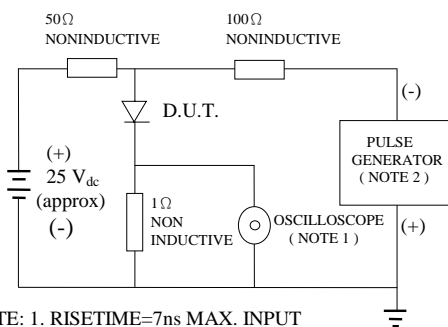
ELECTRICAL CHARACTERISTICS (At TA =25°C UNLESS OTHERWISE NOTED)

| CHARACTERISTICS | SYMBOL | SF10 -005G | SF10 -01G | SF10 -015G | SF10 -02G | SF10 -03G | SF10 -04G | SF10 -05G | SF10 -06G | UNITS |
|--|----------|---------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|-------|
| MAXIMUM FORWARD VOLTAGE AT I_O DC | V_F | 0.95 | | | | 1.25 | | 1.85 | | V |
| MAXIMUM REVERSE CURRENT AT 25°C | I_R | 10 | | | | | | | | μA |
| MAXIMUM REVERSE CURRENT AT 100°C | I_R | 100 | | | | | | | | μA |
| MAXIMUM REVERSE RECOVERY TIME (NOTE 3) | T_{RR} | 35 | | | | | | | | 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 LENTH 5mm
 3. REVERSE RECOVERY TEST CONDITIONS: $I_F=0.5A$, $I_R=1.0A$, $I_{RR}=0.25A$

RATINGS AND CHARACTERISTIC CURVE SF10-005G THRU SF10-06G

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

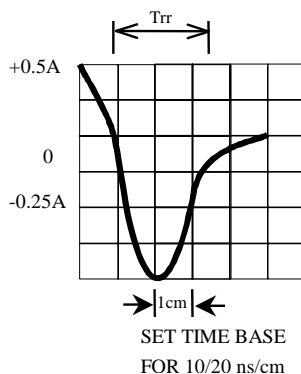


FIG. 2-TYPICAL FORWARD CURRENT DERATING CURVE

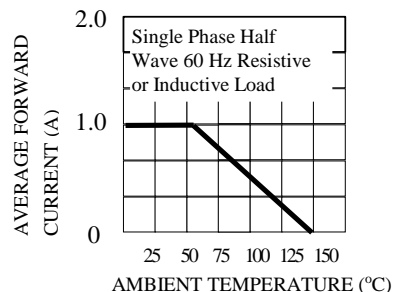


FIG. 3-TYPICAL REVERSE CHARACTERISTICS

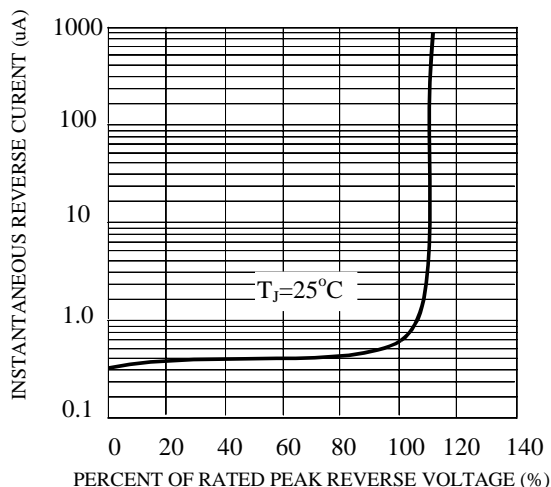


FIG. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

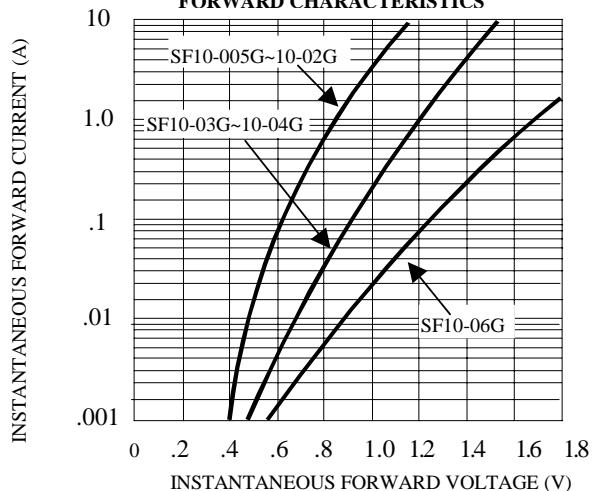


FIG. 5-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

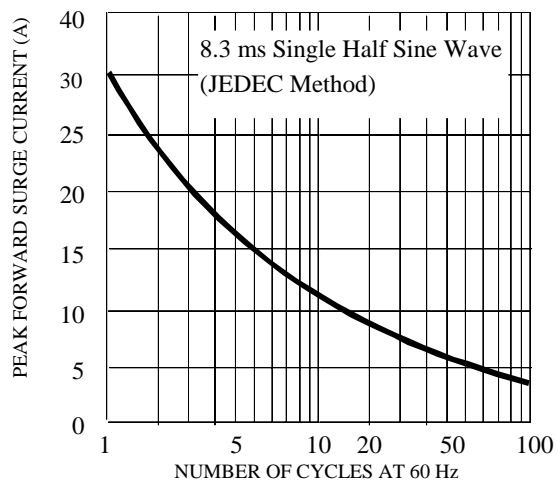


FIG. 6-TYPICAL JUNCTION CAPACITANCE

