



# Frontier Electronics Corp.

667 E. COCHRAN STREET, SIMI VALLEY, CA 93065

TEL: (805) 522-9998 FAX: (805) 522-9989

E-mail: [frontiersales@frontierusa.com](mailto:frontiersales@frontierusa.com)

Web: <http://www.frontierusa.com>

## 2A GENERAL PURPOSE PLASTIC RECTIFIER

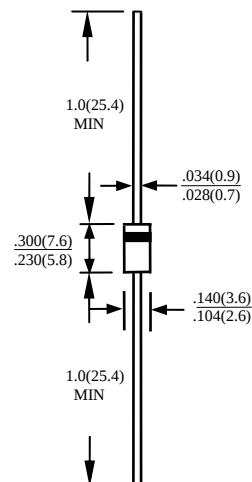
### GP20-005R THRU GP20-10R

#### FEATURES

- LOW FORWARD VOLTAGE
- HIGH CURRENT CAPABILITY
- LOW LEAKAGE CURRENT
- HIGH SURGE CAPABILITY
- BEVEL ROUND CHIP, AVALANCHE OPERATION

#### MECHANICAL DATA

- CASE: DO15, MOLDED PLASTIC USE UL 94V-0 RECOGNIZED FLAME RETARDANT EPOXY, DIMENSIONS IN INCHES AND (MILLIMETERS)
- TERMINAL: AXIAL LEADS, SOLDERABLE PER MIL-STD-202 METHOD 208
- POLARITY: COLOR BAND DENOTES CATHODE
- MOUNTING POSITION: ANY
- WEIGHT: 0.4 GRAMS



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          | GP20-005R    | GP20-01R | GP20-02R | GP20-04R | GP20-06R | GP20-08R | GP20-10R | 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<br>0.375"(9.5mm) LEAD LENGTH AT $T_A=55^{\circ}\text{C}$ | $I_O$           | 2.0          |          |          |          |          |          |          | A                           |
| PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF<br>SINE-WAVE SUPERIMPOSED ON RATED LOAD              | $I_{FSM}$       | 70           |          |          |          |          |          |          | A                           |
| TYPICAL JUNCTION CAPACITANCE (NOTE 1)                                                              | $C_J$           | 20           |          |          |          |          |          |          | PF                          |
| TYPICAL THERMAL RESISTANCE (NOTE 2)                                                                | $R_{\theta ja}$ | 25           |          |          |          |          |          |          | $^{\circ}\text{C}/\text{W}$ |
| OPERATING TEMPERATURE RANGE                                                                        | $T_{OP}$        | -55 TO + 175 |          |          |          |          |          |          | $^{\circ}\text{C}$          |

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

| CHARACTERISTICS                     | SYMBOL | GP20-005R | GP20-01R | GP20-02R | GP20-04R | GP20-06R | GP20-08R | GP20-10R | UNITS         |
|-------------------------------------|--------|-----------|----------|----------|----------|----------|----------|----------|---------------|
| MAXIMUM FORWARD VOLTAGE AT $I_O$ DC | $V_F$  | 1.1       |          |          |          |          |          |          | V             |
| MAXIMUM REVERSE CURRENT AT 25°C     | $I_R$  | 5         |          |          |          |          |          |          | $\mu\text{A}$ |
| MAXIMUM REVERSE CURRENT AT 100°C    | $I_R$  | 50        |          |          |          |          |          |          | $\mu\text{A}$ |

- NOTE: 1. MEASURED AT 1MHZ AND APPLIED REVERSE VOLTAGE OF 4.0 VOLTS  
2. BOTH LEADS ATTACHED TO HEAT SINK 35×35×1t(mm) COPPER PLATE AT LEAD LENGTH 5mm

# RATINGS AND CHARACTERISTIC CURVE GP20-005R THRU GP20-10R

FIG. 1- FORWARD CURRENT DERATING CURVE

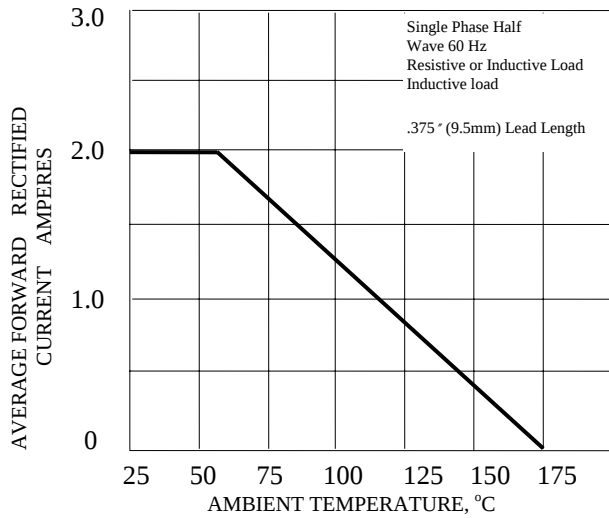


FIG. 2 -TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

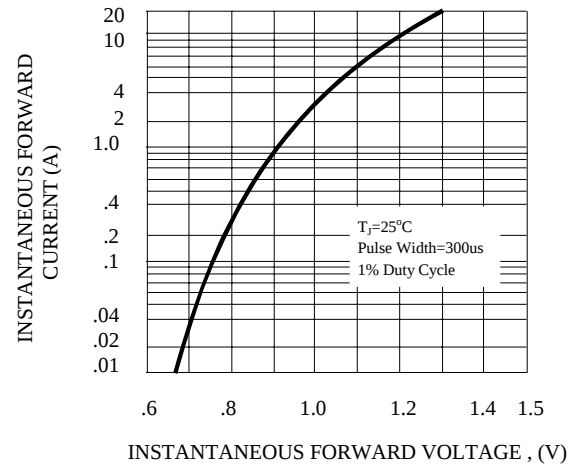


FIG. 3 -PEAK FORWARD SURGE CURRENT

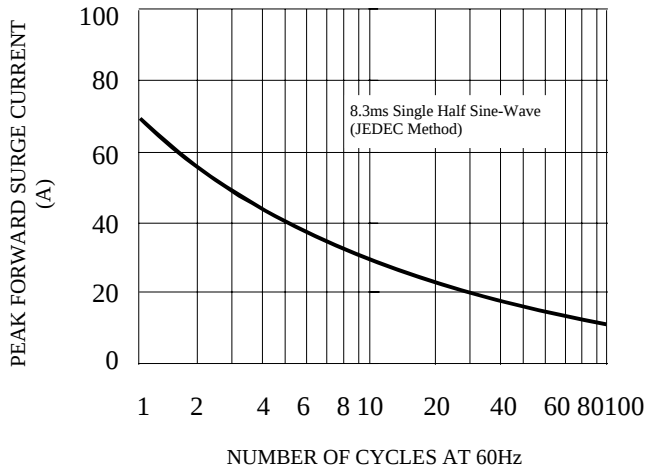


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

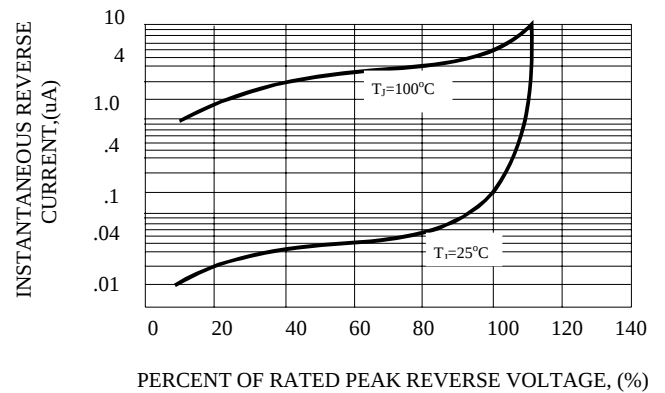


FIG. 5 -TYPICAL JUNCTION CAPACITANCE

