



# Frontier Electronics Corp.

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## HIGH VOLTAGE SILICON RECTIFIER

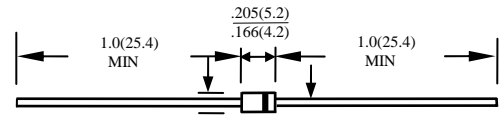
### GP02-25-LFR THRU GP02-60-LFR

#### FEATURES

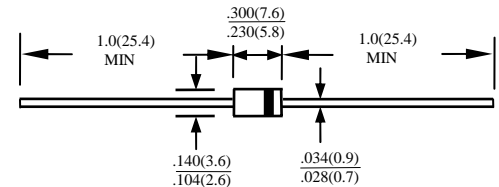
- AVALANCHE OPERATION
- UL 94V0 FLAME RETARDANT EPOXY MOLDING COMPOUND
- BEVELED ROUND CHIP
- LOW COST
- ROHS

#### MECHANICAL DATA

- CASE: TRANSFER MOLDED, DIMENSIONS IN INCHES AND (MILLIMETERS)
- LEADS: SOLDERABLE PER MIL-STD-202, METHOD 208
- POLARITY: CATHODE INDICATED BY COLOR BAND
- WEIGHT: 0.34 GRAMS (DO-41)  
0.40 GRAMS (DO-15)



CASE: DO41  
GP02-25-LFR~GP02-30-LFR



CASE: DO15  
GP02-35-LFR~GP02-60-LFR

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           | GP02-25<br>-LFR | GP02-30<br>-LFR | GP02-35<br>-LFR | GP02-40<br>-LFR | GP02-50<br>-LFR | GP02-60<br>-LFR | UNITS |
|---|------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------|
| MAXIMUM RECURRENT PEAK REVERSE VOLTAGE  | V <sub>RRM</sub> | 2500            | 3000            | 3500            | 4000            | 5000            | 6000            | V     |
| MAXIMUM RMS VOLTAGE   | V <sub>RMS</sub> | 1750            | 2100            | 2450            | 2800            | 3500            | 4200            | V     |
| MAXIMUM DC BLOCKING VOLTAGE   | V <sub>DC</sub>  | 2500            | 3000            | 3500            | 4000            | 5000            | 6000            | V     |
| MAXIMUM AVERAGE FORWARD RECTIFIED CURRENT<br>0.375" (9.5mm) LEAD LENGTH AT TA=55°C        | I <sub>O</sub>   | 0.2             |                 |                 |                 |                 |                 | A     |
| PEAK FORWARD SURGE CURRENT, 8.3ms SINGLE HALF<br>SINE-WAVE SUPERIMPOSED ON RATED LOAD     | I <sub>FSM</sub> | 25              |                 |                 |                 | 20              |                 | A     |
| TYPICAL JUNCTION CAPACITANCE MEASURED AT 1MHZ<br>AND APPLIED REVERSE VOLTAGE AT 4.0 VOLTS | C <sub>J</sub>   | 7               |                 |                 |                 | 5               |                 | PF    |
| TYPICAL THERMAL RESISTANCE (NOTE 1)   | R <sub>θja</sub> | 50              |                 |                 |                 |                 |                 | °C/W  |
| STORAGE TEMPERATURE RANGE   | T <sub>STG</sub> | - 55 TO + 150   |                 |                 |                 |                 |                 | °C    |
| OPERATING TEMPERATURE RANGE   | T <sub>OP</sub>  | - 55 TO + 125   |                 |                 |                 |                 |                 | °C    |

#### ELECTRICAL CHARACTERISTICS (AT T<sub>A</sub> =25°C UNLESS OTHERWISE NOTED)

| CHARACTERISTICS                              | SYMBOL         | GP02-25<br>-LFR | GP02-30<br>-LFR | GP02-35<br>-LFR | GP02-40<br>-LFR | GP02-50<br>-LFR | GP02-60<br>-LFR | UNITS |
|--|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-------|
| MAXIMUM FORWARD VOLTAGE AT I <sub>O</sub> DC | V <sub>F</sub> | 3.0             |                 | 5.0             |                 | 7.0             |                 | V     |
| MAXIMUM REVERSE CURRENT AT 25°C              | I <sub>R</sub> | 5               |                 |                 |                 |                 |                 | μA    |
| MAXIMUM REVERSE CURRENT AT 100°C             | I <sub>R</sub> | 50              |                 |                 |                 |                 |                 | μA    |

NOTE: 1. BOTH LEADS ATTACHED TO HEAT SINK 20×20×11(mm) COPPER PLATE AT LEAD LENGTH 5mm

# RATINGS AND CHARACTERISTICS CURVES GP02-25-LFR THRU GP02-60-LFR

FIG. 1 MAXIMUM CURRENT RATING  
EFFECT OF COPPER AREA.  
RESISTIVE/INDUCTIVE LOAD

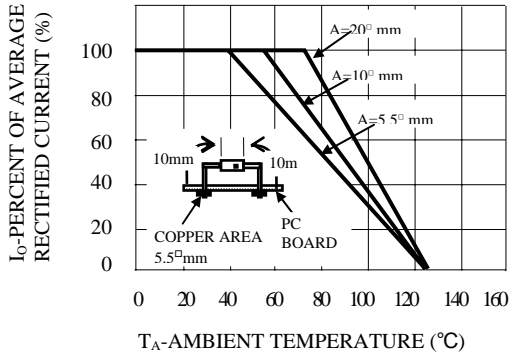


FIG. 2 MAXIMUM CURRENT RATING  
CAPACITIVE LOAD,  
10mm LEAD LENGTHS

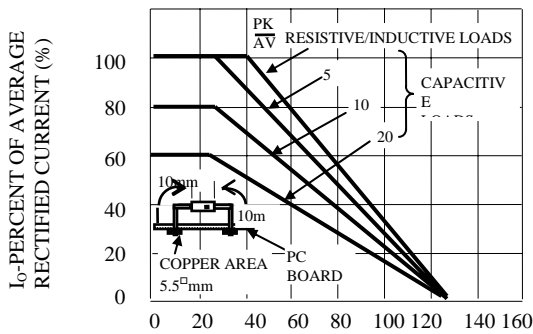


FIG. 3 MAXIMUM CURRENT RATING  
EFFECT OF COPPER AREA.  
RESISTIVE/INDUCTIVE LOAD

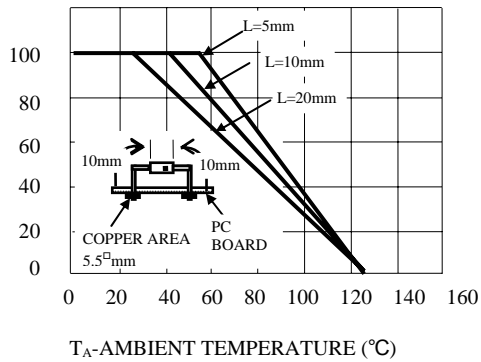


FIG. 4 TYPICAL REVERSE CHARACTERISTICS  
AT  $T_J=25^{\circ}C$

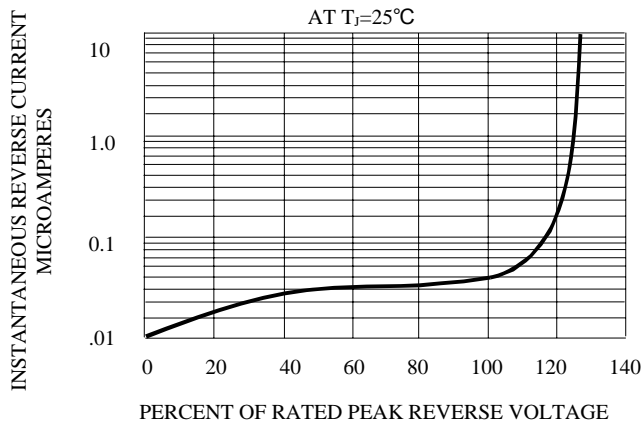


FIG. 5 MAXIMUM FORWARD SURGE  
VS NUMBER OF CYCLES

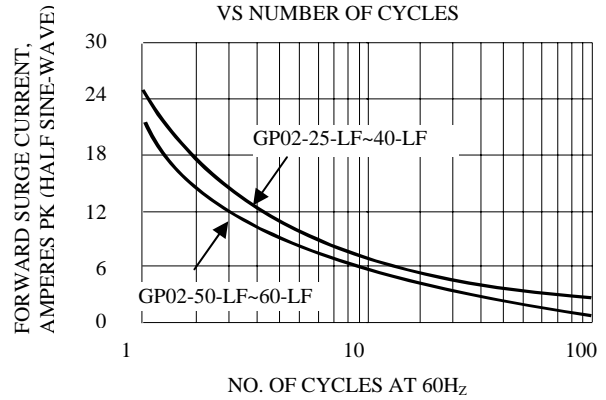


FIG. 6 TYPICAL JUNCTION CAPACITANCE

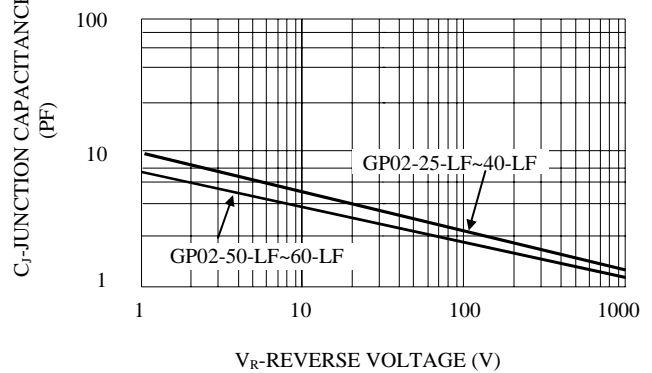


FIG. 7 TYPICAL FORWARD CHARACTERISTICS

