



Micro Commercial Components

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FR151GP THRU FR157GP

1.5 Amp Glass Passivated Fast Recovery Rectifier 50 to 1000 Volts

Features

- Halogen free available upon request by adding suffix "-HF"
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Glass Passivated Junction
- Fast Switching Speed For High Efficiency
- Lead Free Finish/RoHS Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)

Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C

| MCC Catalog Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|--------------------|----------------|--|---------------------|-----------------------------|
| FR151GP | FR151GP | 50V | 35V | 50V |
| FR152GP | FR152GP | 100V | 70V | 100V |
| FR153GP | FR153GP | 200V | 140V | 200V |
| FR154GP | FR154GP | 400V | 280V | 400V |
| FR155GP | FR155GP | 600V | 420V | 600V |
| FR156GP | FR156GP | 800V | 560V | 800V |
| FR157GP | FR157GP | 1000V | 700V | 1000V |

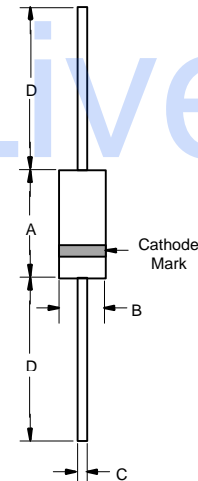
Electrical Characteristics @ 25°C Unless Otherwise Specified

| | | | |
|--|-------------|-------------------------|---|
| Average Forward Current | $I_{F(AV)}$ | 1.5 A | $T_A = 55^\circ\text{C}$ |
| Peak Forward Surge Current | I_{FSM} | 50A | 8.3ms, half sine |
| Maximum Instantaneous Forward Voltage | V_F | 1.3V | $I_{FM} = 1.5\text{A}; T_A = 25^\circ\text{C}$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | I_R | 5.0µA 100µA | $T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$ |
| Maximum Reverse Recovery Time FR151GP-154GP FR155GP FR156GP-157GP | T_{rr} | 150ns 250ns 500ns | $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$ |
| Typical Junction Capacitance | C_J | 20pF | Measured at 1.0MHz, $V_R=4.0\text{V}$ |

*Pulse Test: Pulse Width 300µsec, Duty Cycle 1%

Note: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7.

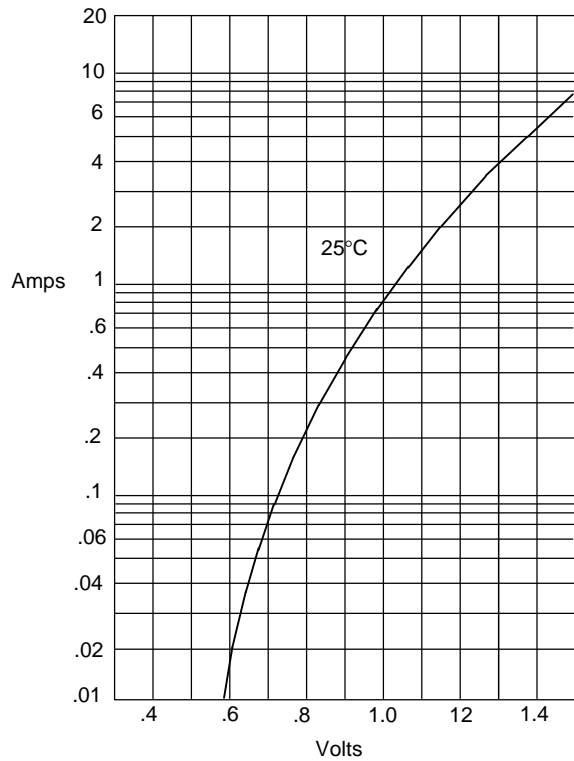
DO-15



| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|-------|------|------|
| | MIN | MAX | MIN | MAX | |
| A | .230 | .300 | 5.80 | 7.60 | |
| B | .104 | .140 | 2.60 | 3.60 | |
| C | .026 | .034 | .70 | .90 | |
| D | 1.000 | --- | 25.40 | --- | |

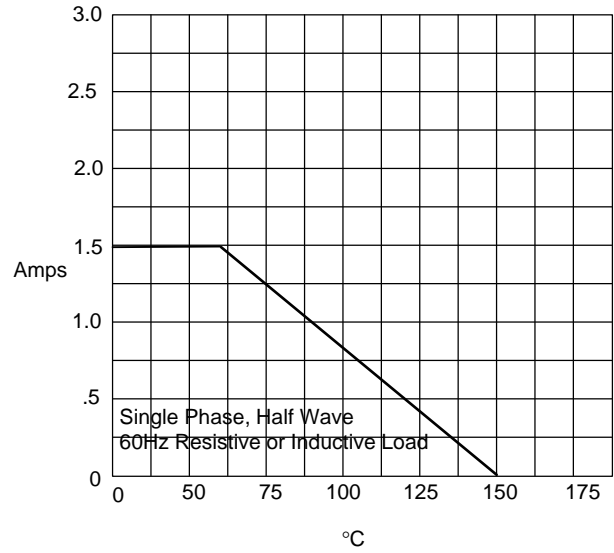
FR151GP thru FR157GP

Figure 1
Typical Forward Characteristics



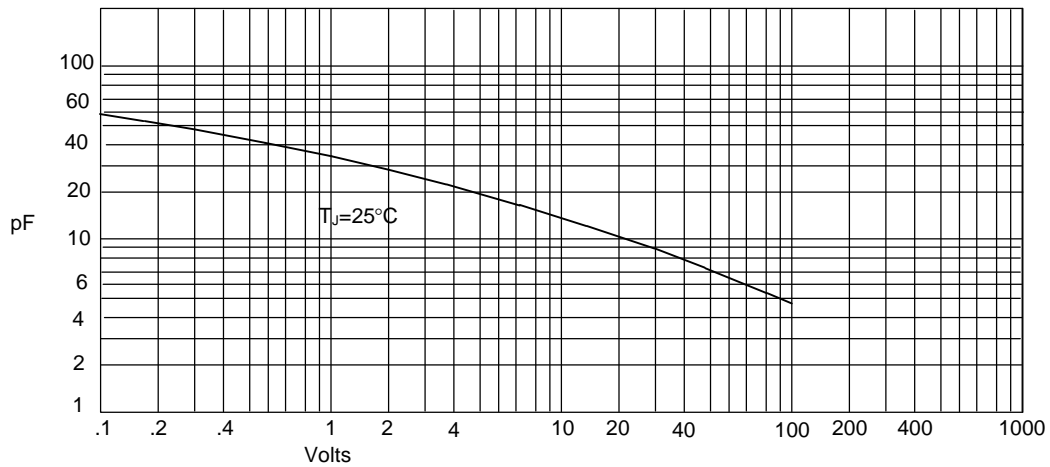
Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve

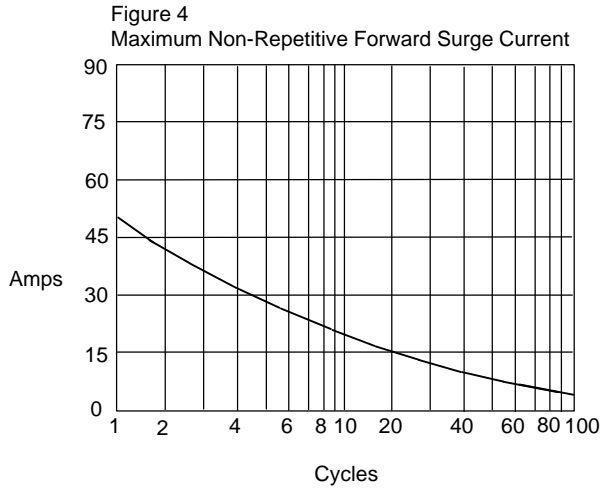


Average Forward Rectified Current - Amperes *versus*
Ambient Temperature - °C

Figure 3
Junction Capacitance

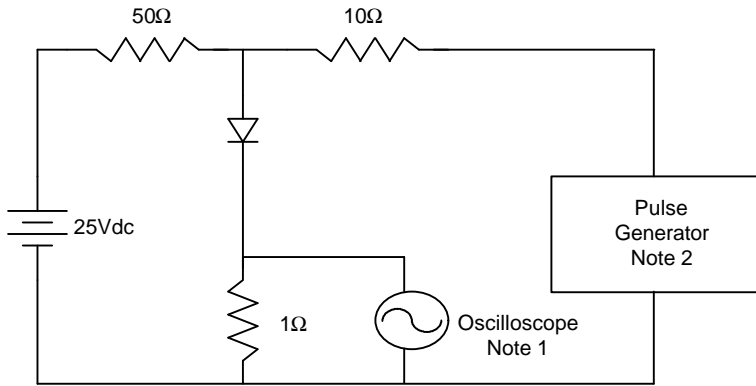


Junction Capacitance - pF *versus*
Reverse Voltage - Volts

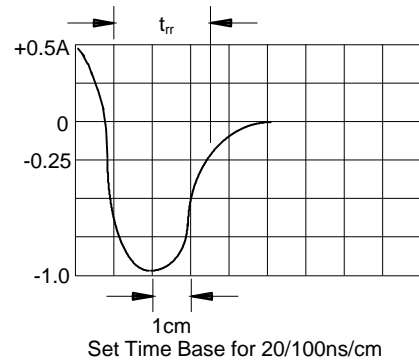


Peak Forward Surge Current - Amperes versus
Number Of Cycles At 60Hz - Cycles

Figure 5
Reverse Recovery Time Characteristic And Test Circuit Diagram



- Notes:
1. Rise Time = 7ns max.
Input impedance = 1 megohm, 22pF
 2. Rise Time = 10ns max.
Source impedance = 50 ohms
 3. Resistors are non-inductive





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Ordering Information :

| Device | Packing |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 4Kpcs/Reel |
| Part Number-BP | Bulk: 25Kpcs/Carton |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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