Micro Commercial Components
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# FR601GP THRU FR607GP

## 6 Amp Glass Passivated Fast Recovery Rectifier 50 to 1000 Volts

## Features

- Glass Passivated Junction
- Low Leakage
- Low Forward Voltage Drop
- High Current Capability
- Fast Switching Speed For High Efficiency

## Maximum Ratings

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

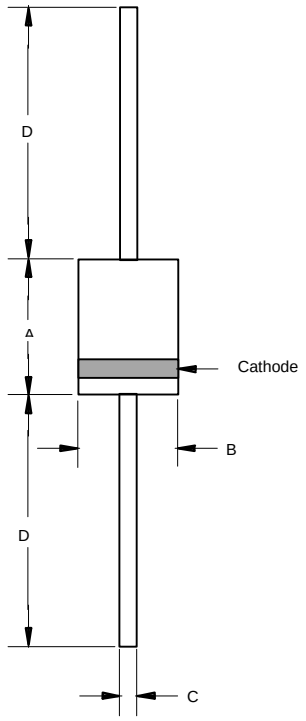
| MCC Catalog Number | Device Marking | Maximum Reccurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|---|---|---|---|---|
| FR601GP | --- | 50V | 35V | 50V |
| FR602GP | --- | 100V | 70V | 100V |
| FR603GP | --- | 200V | 140V | 200V |
| FR604GP | --- | 400V | 280V | 400V |
| FR605GP | --- | 600V | 420V | 600V |
| FR606GP | --- | 800V | 560V | 800V |
| FR607GP | --- | 1000V | 700V | 1000V |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| | | | |
|---|---|---|---|
| Average Forward Current | $I_{F(AV)}$ | 6 A | $T_A$ = 55°C |
| Peak Forward Surge Current | $I_{FSM}$ | 300A | 8.3ms, half sine |
| Maximum Instantaneous Forward Voltage | $V_F$ | 1.3V | $I_{FM}$ = 6.0A; $T_A$ = 25°C |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$ | 10µA<br>150µA | $T_A$ = 25°C<br>$T_A$ = 55°C |
| Maximum Reverse Recovery Time<br>FR601GP-604GP<br>FR605GP<br>FR606GP-607GP | $T_{rr}$ | <br>150ns<br>250ns<br>500ns | <br>$I_F$=0.5A, $I_R$=1.0A, $I_{rr}$=0.25A |
| Typical Junction Capacitance | $C_J$ | 150pF | Measured at 1.0MHz, $V_R$=4.0V |

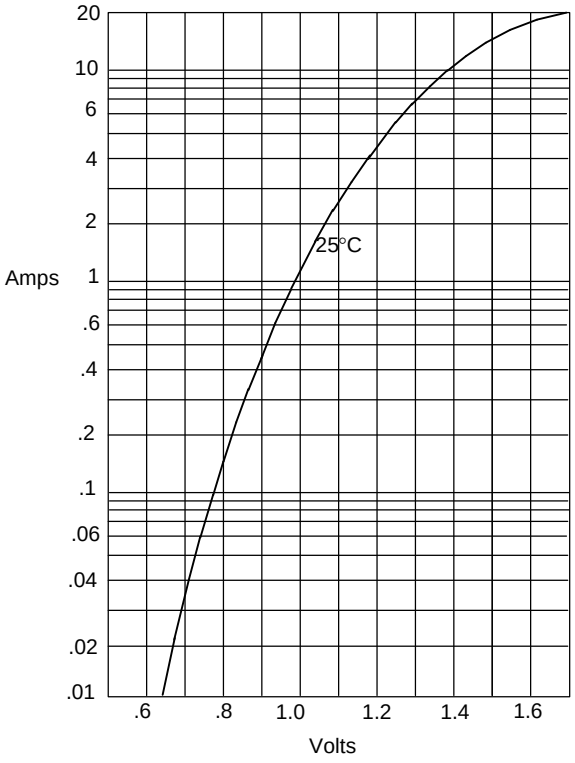
*Pulse Test: Pulse Width 300µsec, Duty Cycle 1%

R-6



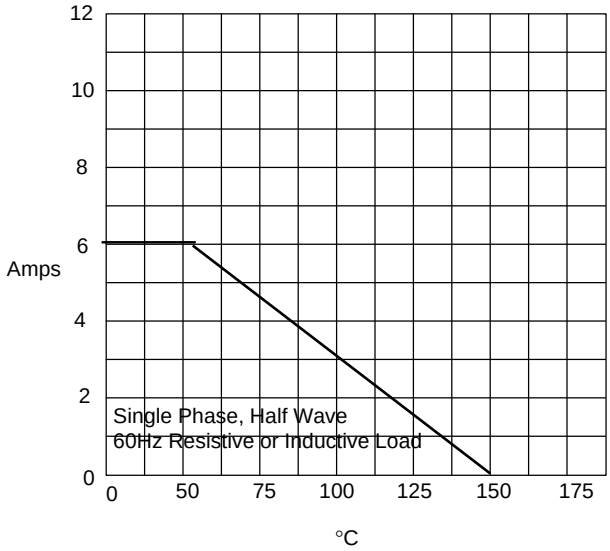

| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| | INCHES | | MM | | |
| DIM | MIN | MAX | MIN | MAX | NOTE |
| A | .340 | .360 | 8.60 | 9.10 | |
| B | .340 | .360 | 8.60 | 9.10 | |
| C | .048 | .052 | 1.20 | 1.30 | |
| D | 1.000 | --- | 25.40 | --- | |

Figure 1
Typical Forward Characteristics



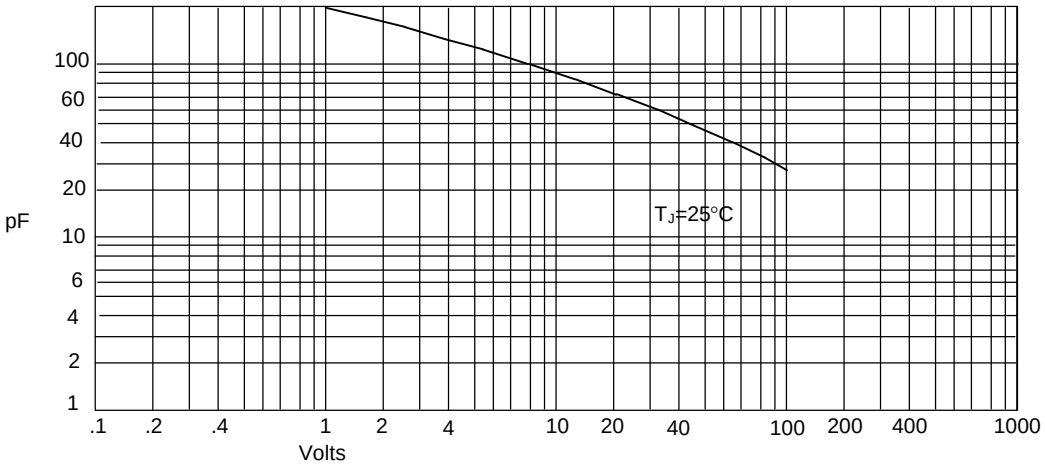

Instantaneous Forward Current - Amperes *versus*
Instantaneous Forward Voltage - Volts

Figure 2
Forward Derating Curve



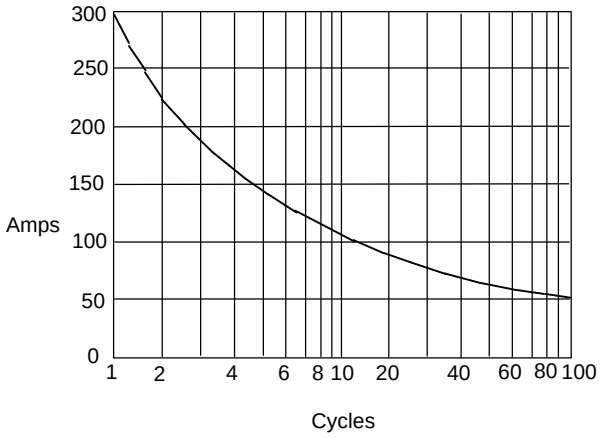

Average Forward Rectified Current - Amperes *versus*
Ambient Temperature -°C

Figure 3
Junction Capacitance



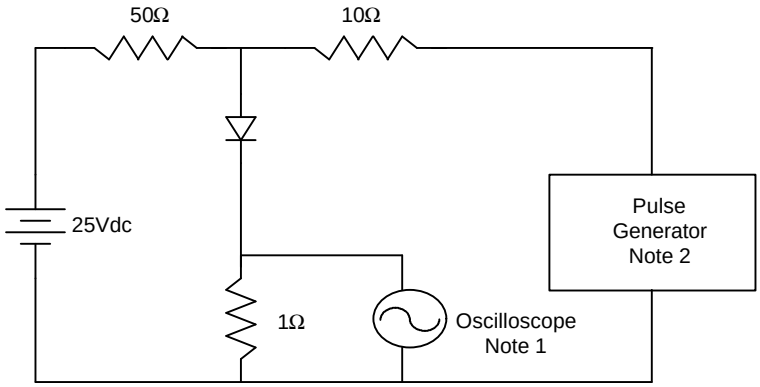

Junction Capacitance - pF *versus*
Reverse Voltage - Volts

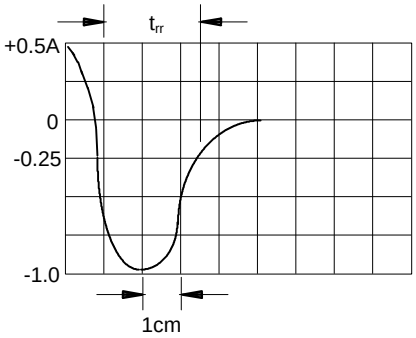
Figure 4
Peak Forward Surge Current




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

Figure 5
Reverse Recovery Time Characteristic And Test Circuit Diagram




Set Time Base for 20/100ns/cm

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