

Micro Commercial Components



Micro Commercial Components 20736 Marilla Street Chatsworth CA 91311

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FR301GP THRU FR307GP

Features

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

Maximum Ratings

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

| MCC | Device | Maximum | Maximum | Maximum |
|---------|---------|--------------|---------|----------|
| Catalog | Marking | Reccurrent | RMS | DC |
| Number | | Peak Reverse | Voltage | Blocking |
| | | Voltage | _ | Voltage |
| FR301GP | FR301GP | 50V | 35V | 50V |
| FR302GP | FR302GP | 100V | 70V | 100V |
| FR303GP | FR303GP | 200V | 40V | 200V |
| FR304GP | FR304GP | 400V | 280V | 400V |
| FR305GP | FR305GP | 600V | 420V | 600V |
| FR306GP | FR306GP | 800V | 560V | 800V |
| FR307GP | FR307GP | 1000V | 700V | 1000V |

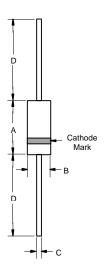
Electrical Characteristics @ 25°C Unless Otherwise Specified

| tiecti icai characteristics 🛎 25 c diffess differ wise specified | | | | |
|--|--------------------|-------|------------------------------|--|
| Average Forward | I _{F(AV)} | 3 A | T _A = 55°C | |
| Current | | | | |
| Peak Forward Surge | I _{FSM} | 150A | 8.3ms, half sine | |
| Current | | | | |
| Maximum | | | $I_{FM} = 3.0A;$ | |
| Instantaneous | V_{F} | 1.3V | $T_A = 25^{\circ}C$ | |
| Forward Voltage | | | | |
| Maximum DC | | | | |
| Reverse Current At | I_R | 5μΑ | $T_A = 25^{\circ}C$ | |
| Rated DC Blocking | | 100μΑ | $T_A = 55^{\circ}C$ | |
| Voltage | | • | | |
| Maximum Reverse | | | | |
| Recovery Time | | | | |
| FR301GP-304GP | T_{rr} | 150ns | $I_F=0.5A, I_R=1.0A,$ | |
| FR305GP | | 250ns | I _{rr} =0.25A | |
| FR306GP-307GP | | 500ns | | |
| Typical Junction | C_{J} | 50pF | Measured at | |
| Capacitance | | | 1.0MHz, V _R =4.0V | |

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

3 Amp Fast Recovery Rectifier 50 to 1000 Volts

DO-201AD



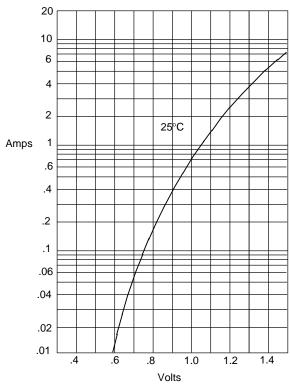
| DIMENSIONS | | | | | | | |
|------------|--------|------|-------|------|------|--|--|
| | | | | | | | |
| | INCHES | | MM | | | | |
| DIM | MIN | MAX | MIN | MAX | NOTE | | |
| Α | .287 | .374 | 7.30 | 9.50 | | | |
| В | .189 | .208 | 4.80 | 5.30 | | | |
| С | .048 | .052 | 1.20 | 1.30 | | | |
| D | 1 000 | | 25.40 | | | | |

FR301GP thru FR307GP

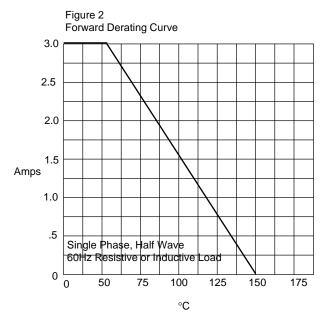
$\cdot M \cdot C \cdot C \cdot$

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Figure 1
Typical Forward Characteristics

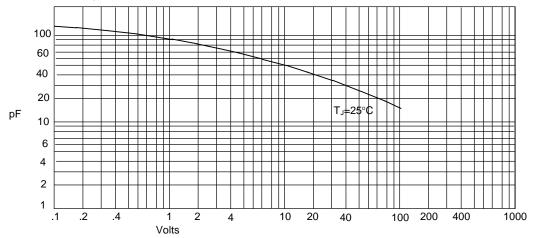


Instantaneous Forward Current - Amperes*versus* Instantaneous Forward Voltage - Volts



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

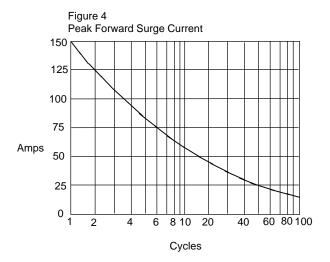




Junction Capacitance - pF*versus* Reverse Voltage - Volts

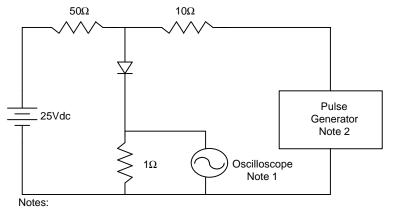
FR301GP thru FR307GP

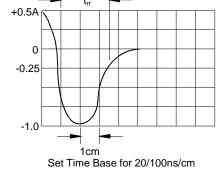




Peak Forward Surge Current - Amperesversus Number Of Cycles At 60Hz - Cycles

Figure 5
Reverse Recovery Time Characteristic And Test Circuit Diagram





- 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: 1.2Kpcs/Reel |
| Part Number-AP | Ammo Packing: 1.2Kpcs/Ammo Box |
| Part Number-BP | Bulk: 12Kpcs/Carton |

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

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Revision: B 4 of 4 2013/01/01