

**Features**

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Epoxy Meets UL 94 V-0 Flammability Rating
- Glass Passivated Junction
- Fast Switching Speed For High Efficiency
- Lead Free Finish/RoHS Compliant(Note 1)("P" Suffix Designates Compliant. See Ordering Information)

**Maximum Ratings**

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Typical Thermal Resistance: 30°C/W Junction to Ambient

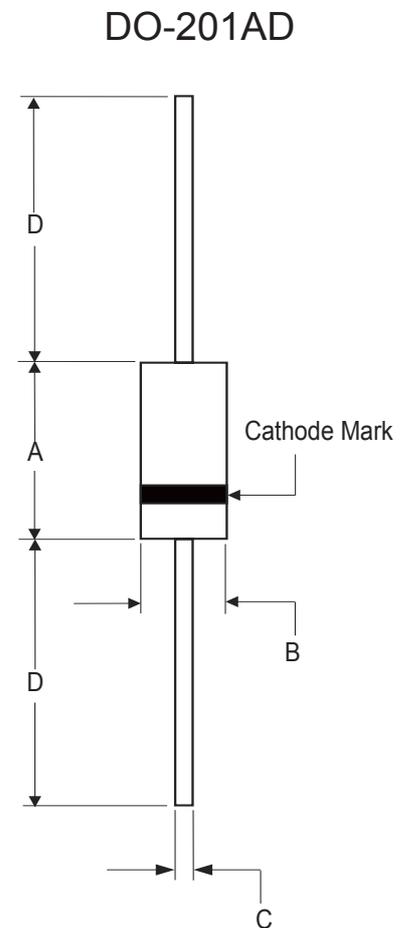
| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|--|---------------------|-----------------------------|
| FR501GP         | FR501GP        | 50V                                    | 35V                 | 50V                         |
| FR502GP         | FR502GP        | 100V                                   | 70V                 | 100V                        |
| FR503GP         | FR503GP        | 200V                                   | 140V                | 200V                        |
| FR504GP         | FR504GP        | 400V                                   | 280V                | 400V                        |
| FR505GP         | FR505GP        | 600V                                   | 420V                | 600V                        |
| FR506GP         | FR506GP        | 800V                                   | 560V                | 800V                        |
| FR507GP         | FR507GP        | 1000V                                  | 700V                | 1000V                       |

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

|  |             |                         |   |
|--|-------------|-------------------------|---|
| Average Forward Current  | $I_{F(AV)}$ | 5.0A                    | $T_A=55^\circ\text{C}$                            |
| Peak Forward Surge Current   | $I_{FSM}$   | 200A                    | 8.3ms, Half Sine                                  |
| Maximum Instantaneous Forward Voltage                                      | $V_F$       | 1.35V                   | $I_{FM}=5.0A;$<br>$T_J=25^\circ\text{C}$          |
| Maximum DC Reverse Current At Rated DC Blocking Voltage                    | $I_R$       | 10.0µA<br>150µA         | $T_J=25^\circ\text{C};$<br>$T_J=55^\circ\text{C}$ |
| Maximum Reverse Recovery Time<br>FR501GP-504GP<br>FR505GP<br>FR506GP-507GP | $t_{rr}$    | 150ns<br>250ns<br>500ns | $I_F=0.5A; I_R=1.0A;$<br>$I_{rr}=0.25A$           |
| Typical Junction Capacitance   | $C_J$       | 65pF                    | Measured at 1.0MHz<br>$V_R=4.0V$                  |

Note:1. High Temperature Solder Exemptions Applied, See EU Directive Annex 7a.

**5.0 Amp Fast Recovery Rectifier  
50 to 1000 Volts**



| DIM | INCHES |       | MM    |      | NOTE |
|-----|--------|-------|-------|------|------|
|     | MIN    | MAX   | MIN   | MAX  |      |
| A   | 0.287  | 0.374 | 7.30  | 9.50 |      |
| B   | 0.189  | 0.208 | 4.80  | 5.30 |      |
| C   | 0.048  | 0.052 | 1.20  | 1.30 |      |
| D   | 1.000  | ----  | 25.40 | ---- |      |

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

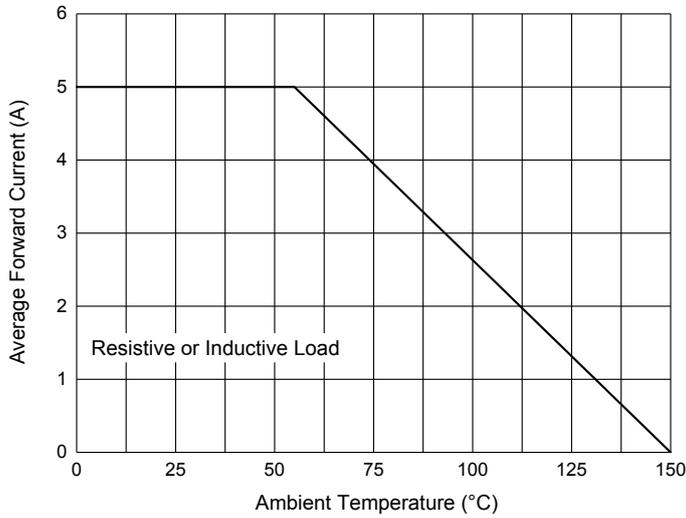


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

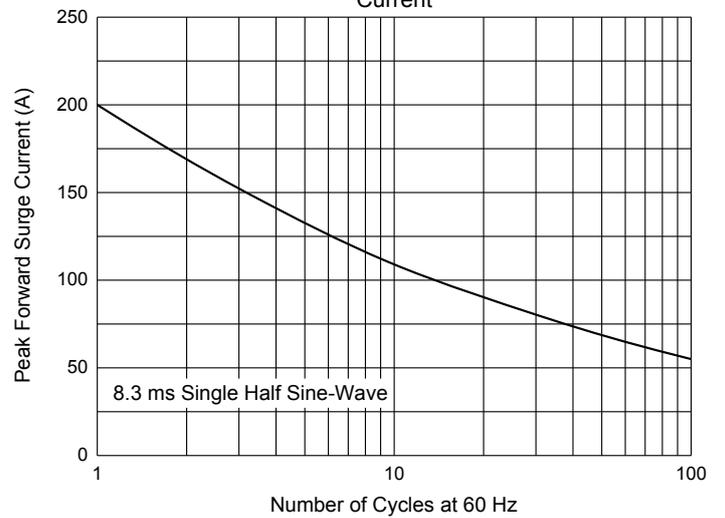


Fig. 3 - Typical Instantaneous Forward Characteristics

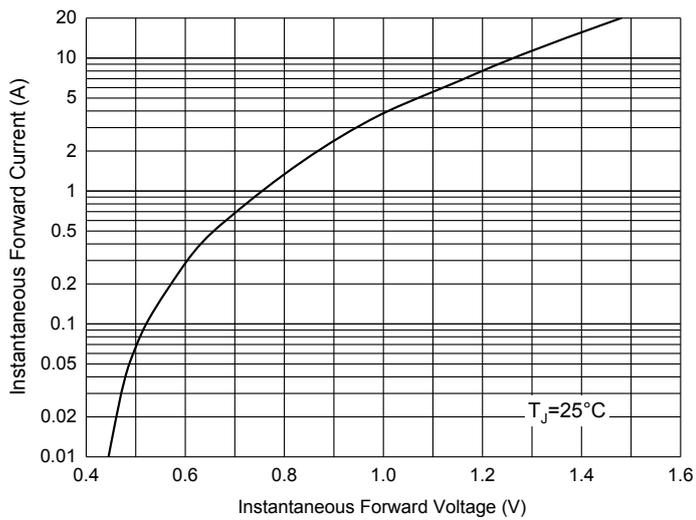
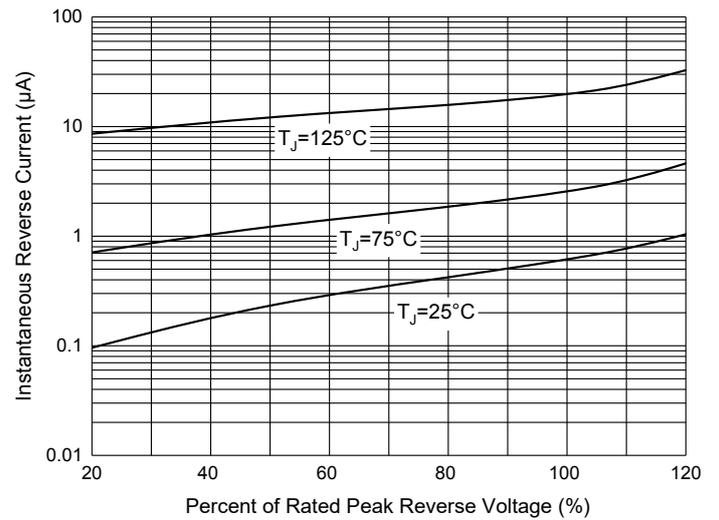


Fig. 4 - Typical Reverse Characteristics



## 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:500pcs/Box,12Kpcs/Carton  |

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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