



Micro Commercial Components

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## Features

- Lead Free Finish/Rohs Compliant (Note1) ("P" Suffix designates Compliant. See ordering information)
- Fast Switching Speed For High Efficiency
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL rating 1
- Marking : Cathode band and type number

## Maximum Ratings

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

| MCC Part Number | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------------------------------|---------------------|-----------------------------|
| FR8A            | 50V                                    | 35V                 | 50V                         |
| FR8B            | 100V                                   | 70V                 | 100V                        |
| FR8D            | 200V                                   | 140V                | 200V                        |
| FR8G            | 400V                                   | 280V                | 400V                        |
| FR8K            | 800V                                   | 560V                | 800V                        |
| FR8M            | 1000V                                  | 700V                | 1000V                       |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                         |             |                                      |                                                       |
|---------------------------------------------------------|-------------|--------------------------------------|-------------------------------------------------------|
| Average Forward Current                                 | $I_{F(AV)}$ | 8 A                                  | $T_A = 55^\circ\text{C}$                              |
| Peak Forward Surge Current                              | $I_{FSM}$   | 300A                                 | 8.3ms, half sine                                      |
| Maximum Instantaneous Forward Voltage                   | $V_F$       | 1.30V                                | $I_{FM} = 8.0A$ ;<br>$T_A = 25^\circ\text{C}^*$       |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$       | 10 $\mu\text{A}$<br>50 $\mu\text{A}$ | $T_A = 25^\circ\text{C}$<br>$T_A = 100^\circ\text{C}$ |
| Maximum Reverse Recovery Time<br>FR8A-FR8G<br>FR8K-FR8M | $T_{rr}$    | 150ns<br>500ns                       | $I_F=0.5A$ , $I_R=1.0A$ ,<br>$I_{rr}=0.25A$           |

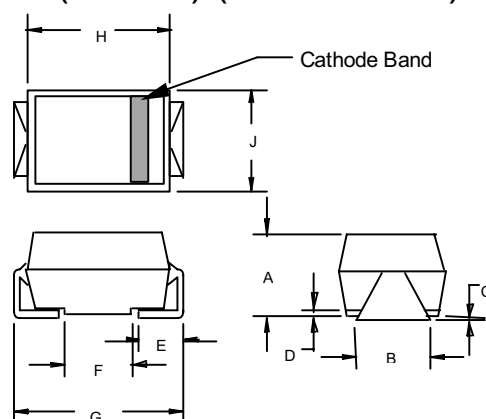
\*Pulse Test: Pulse Width 300 $\mu\text{sec}$ , Duty Cycle 1%

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

## FR8A THRU FR8M

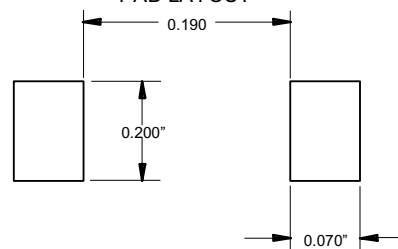
## 8 Amp Fast Recovery Rectifier 50 to 1000 Volts

### DO-214AB (HSMC) (Round Lead)



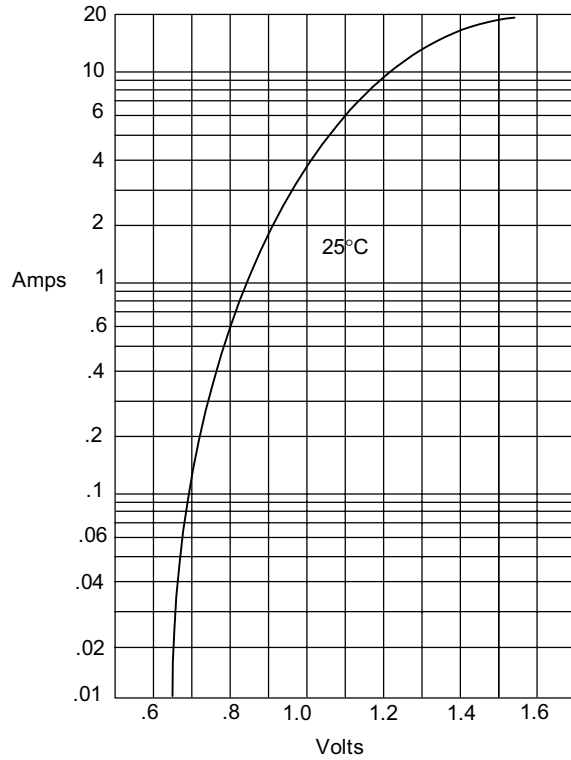
| DIM | INCHES |      | MM   |      | NOTE |
|-----|--------|------|------|------|------|
|     | MIN    | MAX  | MIN  | MAX  |      |
| A   | .200   | .214 | 5.08 | 5.43 |      |
| B   | .177   | .203 | 4.70 | 5.30 |      |
| C   | .002   | .005 | .05  | .13  |      |
| D   | —      | .02  | —    | .51  |      |
| E   | .047   | .056 | 1.20 | 1.42 |      |
| F   | .168   | .179 | 4.27 | 4.55 |      |
| G   | .309   | .322 | 7.85 | 8.18 |      |
| H   | .239   | .243 | 6.08 | 6.18 |      |
| J   | .234   | .240 | 5.95 | 6.10 |      |

### SUGGESTED SOLDER PAD LAYOUT



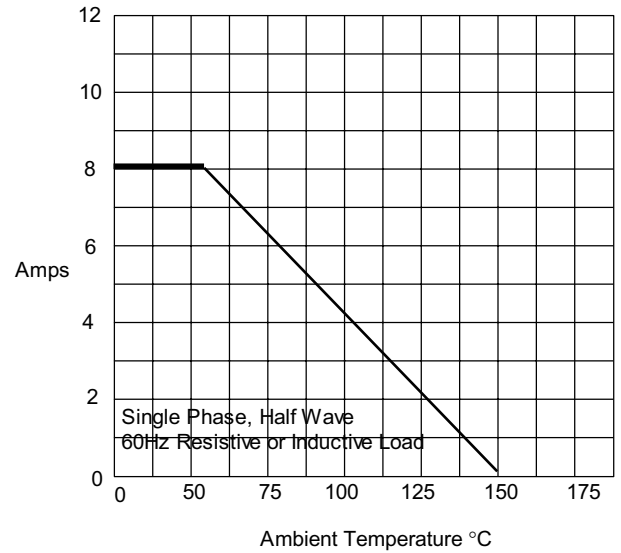
# FR8A thru FR8M

Figure 1  
Typical Forward Characteristics



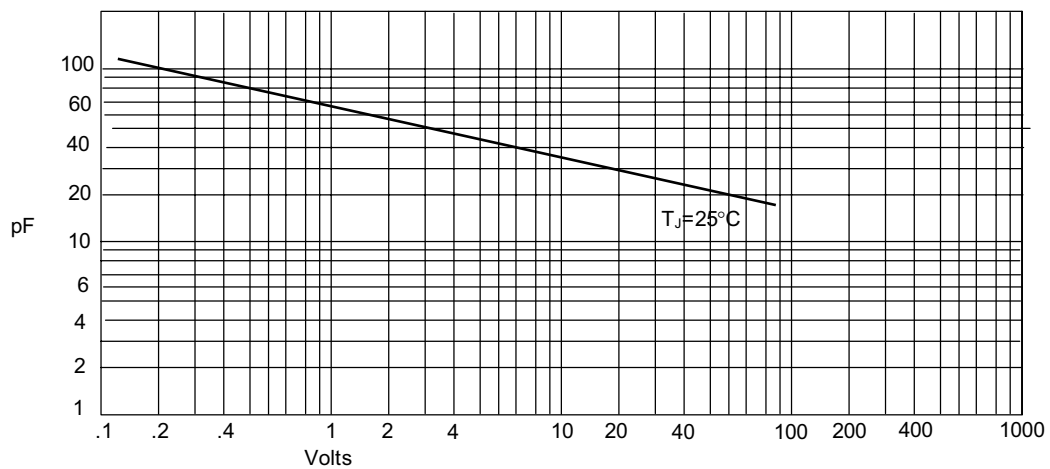
Instantaneous Forward Current - Amperes versus  
Instantaneous Forward Voltage - Volts

Figure 2  
Forward Derating Curve



Single Phase, Half Wave  
60Hz Resistive or Inductive Load

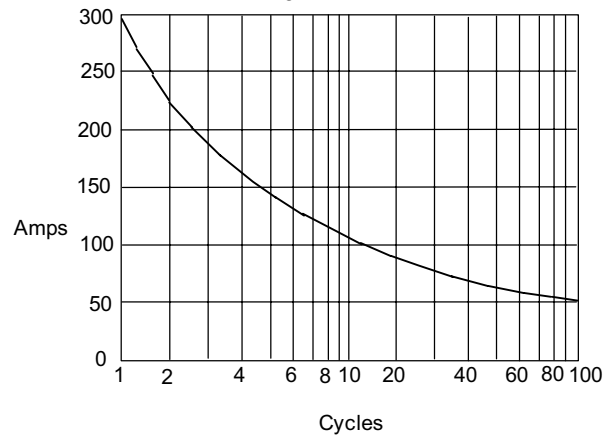
Figure 3  
Junction Capacitance



Junction Capacitance - pF versus  
Reverse Voltage - Volts

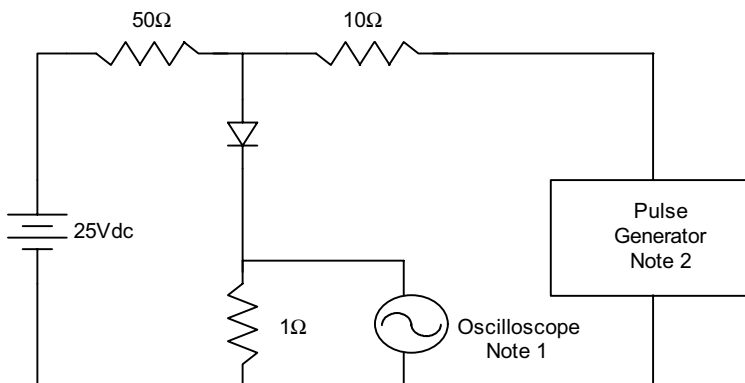
# FR8A thru FR8M

Figure 4  
Peak Forward Surge Current

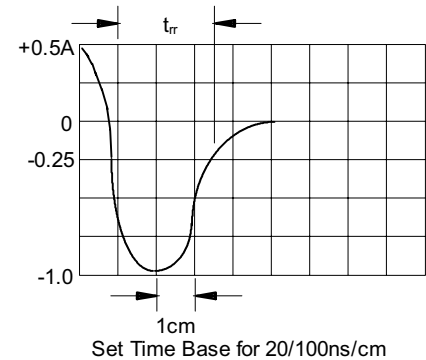


Peak Forward Surge Current - Amperes *versus*  
Number Of Cycles At 60Hz - Cycles

Figure 5  
Reverse Recovery Time Characteristic And Test Circuit Diagram



- 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



## Ordering Information

| Device           | Packing                |
|------------------|------------------------|
| (Part Number)-TP | Tape&Reel;1.5Kpcs/Reel |

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