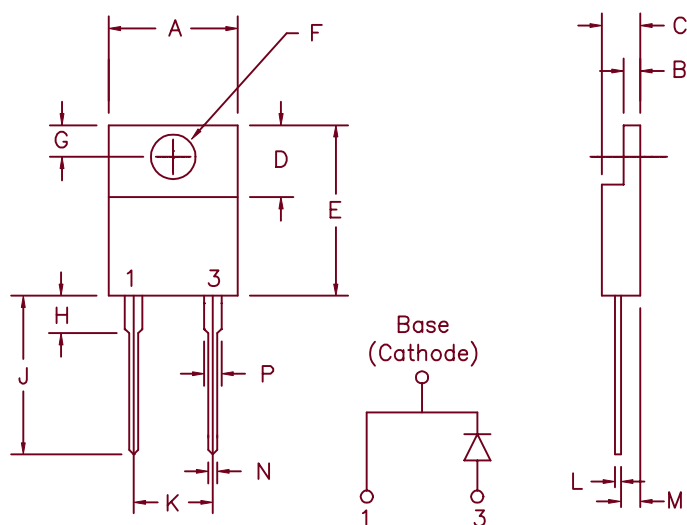


# 10 Amp Schottky Rectifier MS10100



| Dim. | Inches  |         | Millimeter |         | Notes |
|------|---------|---------|------------|---------|-------|
|      | Minimum | Maximum | Minimum    | Maximum |       |
| A    | .390    | .415    | 9.91       | 10.54   |       |
| B    | .045    | .055    | 1.14       | 1.40    |       |
| C    | .180    | .190    | 4.57       | 4.83    |       |
| D    | .245    | .260    | 6.22       | 6.60    |       |
| E    | .550    | .650    | 13.97      | 16.51   |       |
| F    | .139    | .155    | 3.53       | 3.94    | Dia.  |
| G    | .100    | .120    | 2.54       | 3.05    |       |
| H    | ---     | .250    | ---        | 6.35    |       |
| J    | .500    | .580    | 12.70      | 14.73   |       |
| K    | .190    | .210    | 4.83       | 5.33    |       |
| L    | .014    | .025    | 0.35       | 0.63    |       |
| M    | .080    | .115    | 2.03       | 2.92    |       |
| N    | .028    | .038    | 0.71       | 0.96    |       |
| P    | .045    | .055    | 1.14       | 1.40    |       |

Similar to TO-220AC

| Microsemi Catalog Number | Industry Part Number          | Repetitive Peak Reverse Voltage | Transient Peak Reverse Voltage |
|--------------------------|-------------------------------|---------------------------------|--------------------------------|
| MS10100                  | 8TQ100<br>MBR7100<br>MBR10100 | 100V                            | 100V                           |

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- 175°C junction temperature
- $V_{RRM}$  100 Volts
- Reverse energy test

## Electrical Characteristics

|                              |                      |                                                                    |
|------------------------------|----------------------|--------------------------------------------------------------------|
| Average Forward Current      | $I_F(AV)$ 10 Amps    | $T_C = 149^\circ C$ , Square wave, $R_{\theta JC} = 2.5^\circ C/W$ |
| Maximum Surge Current        | $I_{FSM}$ 225 Amps   | 8.3ms, half sine, $T_J = 175^\circ C$                              |
| Max. Peak Forward Voltage    | $V_{FM}$ .65 Volts   | $I_{FM} = 10A$ , $T_J = 175^\circ C^*$                             |
| Max. Peak Forward Voltage    | $V_{FM}$ .85 Volts   | $I_{FM} = 10A$ , $T_J = 25^\circ C^*$                              |
| Max. Peak Reverse Current    | $I_{RM}$ 10 mA       | $V_{RRM}$ , $T_J = 125^\circ C^*$                                  |
| Max. Peak Reverse Current    | $I_{RM}$ 500 $\mu A$ | $V_{RRM}$ , $T_J = 25^\circ C$                                     |
| Typical Junction Capacitance | $C_J$ 440 pF         | $V_R = 5.0V$ , $T_J = 25^\circ C$                                  |

\*Pulse test: Pulse width 300  $\mu sec$ . Duty cycle 2%

## Thermal and Mechanical Characteristics

|                               |                 |                                  |
|-------------------------------|-----------------|----------------------------------|
| Storage temp range            | $T_{STG}$       | $-55^\circ C$ to $+175^\circ C$  |
| Operating junction temp range | $T_J$           | $-55^\circ C$ to $+175^\circ C$  |
| Max thermal resistance        | $R_{\theta JC}$ | $2.5^\circ C/W$ junction to case |
| Mounting torque               |                 | 8-12 inch pounds (6-32 screw)    |
| Weight                        |                 | .08 ounces (2.3 grams) typical   |

11-16-01 Rev. 2

# MS10100

Figure 1  
Typical Forward Characteristics

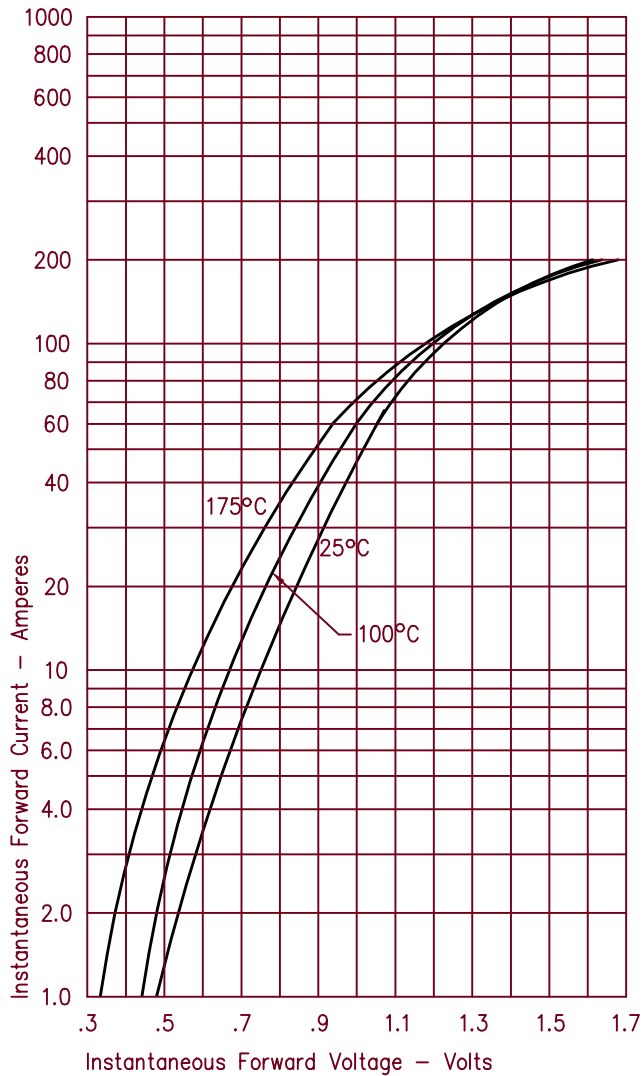


Figure 3  
Typical Junction Capacitance

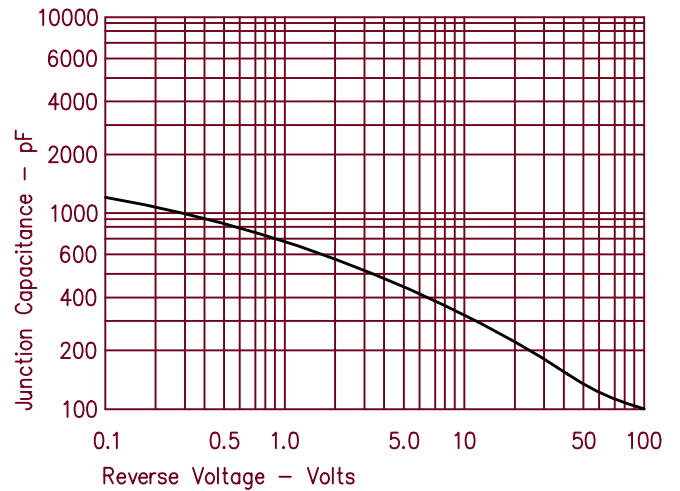


Figure 4  
Forward Current Derating

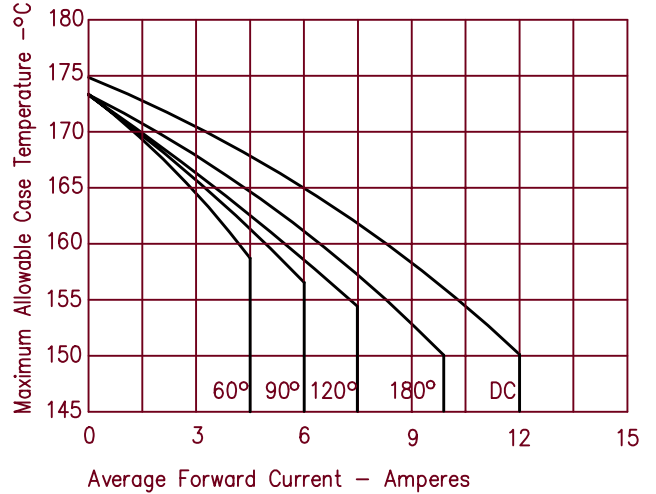


Figure 2  
Typical Reverse Characteristics

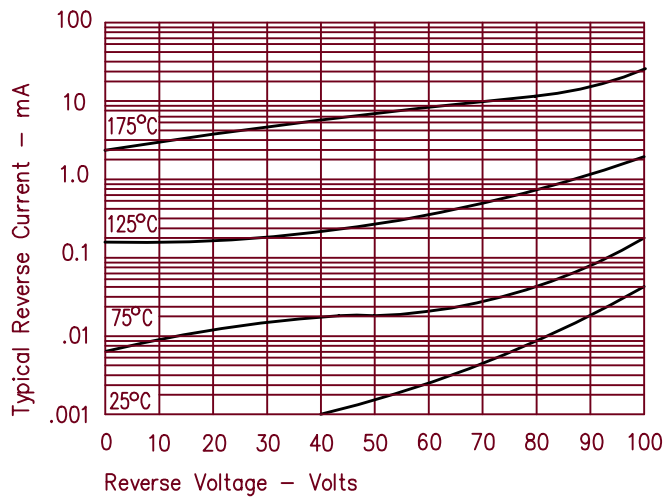


Figure 5  
Maximum Forward Power Dissipation

