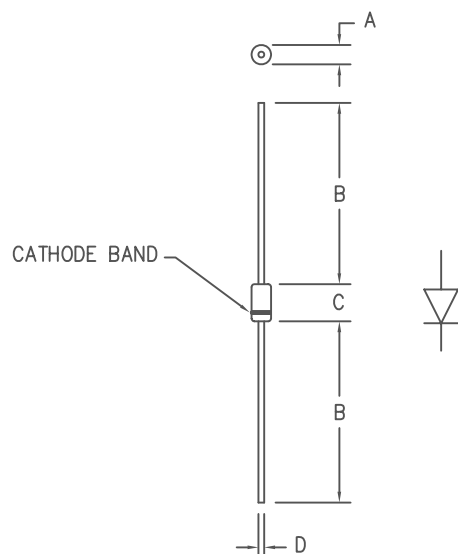


# 1 Amp Schottky Rectifier MSG140 — MSG150



| Dim. | Inches  |         | Millimeter |         | Notes |
|------|---------|---------|------------|---------|-------|
|      | Minimum | Maximum | Minimum    | Maximum |       |
| A    | .081    | .107    | 2.057      | 2.718   | Dia.  |
| B    | 1.10    | ---     | 27.94      | ---     |       |
| C    | .160    | .205    | 4.064      | 5.207   |       |
| D    | .028    | .034    | .711       | .864    | Dia.  |

GLASS HERMETIC DO41

| Catalog<br>Number | Working<br>Peak Reverse<br>Voltage | Repetitive<br>Peak Reverse<br>Voltage |
|-------------------|------------------------------------|---------------------------------------|
|                   | $V_{RWM}$                          | $V_{RRM}$                             |
| MSG140            | 40V                                | 40V                                   |
| MSG145            | 45V                                | 45V                                   |
| MSG150            | 50V                                | 50V                                   |

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- 150°C Junction Temperature
- $V_{RRM}$  40 to 50 Volts

## Electrical Characteristics

|                              |                      |                                        |
|------------------------------|----------------------|----------------------------------------|
| Average forward current      | $I_F(AV)$ 1.0 Amps   | $T_L = 105^\circ C$ Square wave        |
| Maximum surge current        | $I_{FSM}$ 50 Amps    | 8.3 ms, half sine, $T_J = 150^\circ C$ |
| Max peak forward voltage     | $V_{FM}$ .58 Volts   | $I_{FM} = 1.0A; T_J = 25^\circ C^*$    |
| Max peak reverse current     | $I_{RM}$ 100 $\mu A$ | $V_{RRM}, T_J = 25^\circ C$            |
| Typical junction capacitance | $C_J$ 60pF           | $V_R = 5.0V, T_J = 25^\circ C$         |

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

## Thermal and Mechanical Characteristics

|                               |                 |                                 |
|-------------------------------|-----------------|---------------------------------|
| Storage temperature range     | $T_{STG}$       | $-65^\circ C$ to $+175^\circ C$ |
| Operating junction temp range | $T_J$           | $-65^\circ C$ to $+150^\circ C$ |
| Maximum thermal resistance    | $R_{\theta JL}$ | 30°C/W Junction to Lead         |
| Weight                        |                 | 0.38 grams typical              |



8700 East Thomas Road, P.O. Box 1390  
Scottsdale, AZ 85252  
PH: (480) 941-6300  
FAX: (480) 947-1503  
www.microsemi.com

05-25-07 Rev. 3

# MSG140 — MSG150

Figure 1  
Maximum Forward Characteristics

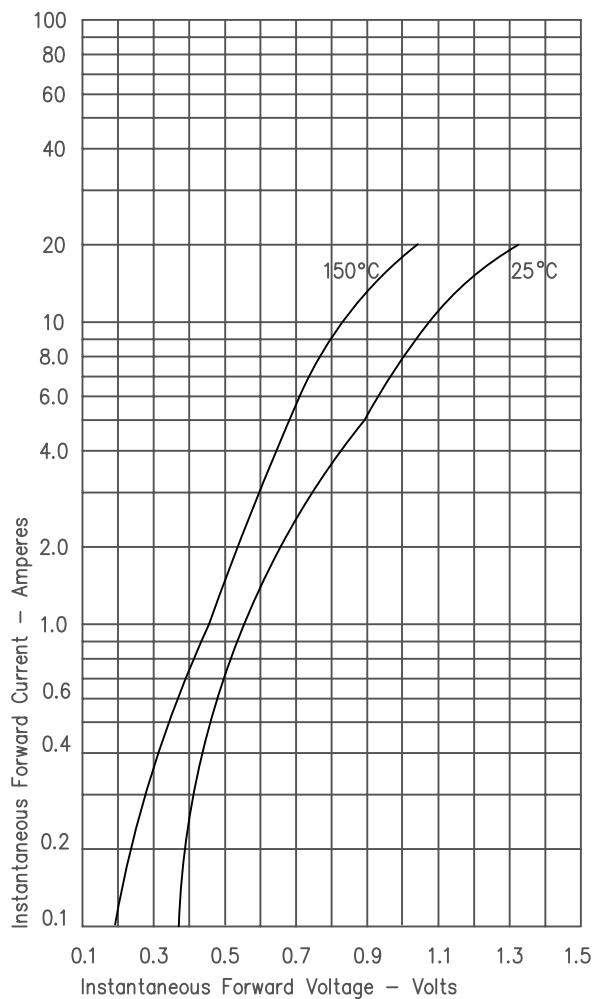


Figure 3  
Typical Junction Capacitance

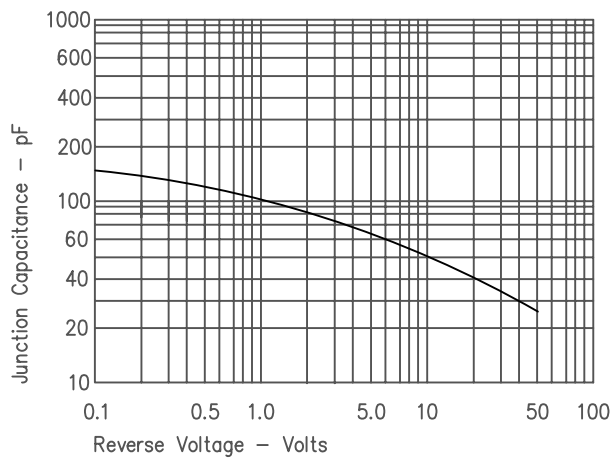


Figure 2  
Typical Reverse Characteristics

