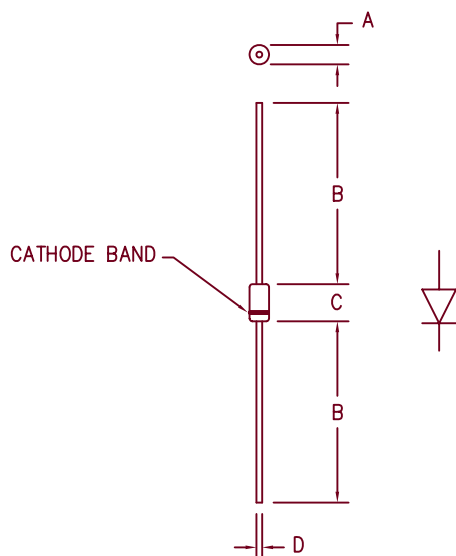


# 1 Amp Schottky Rectifier MSP140 — MSP150



| 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.  |

PLASTIC D041

| Catalog Number | Working Peak Reverse Voltage<br>$V_{RWM}$ | Repetitive Peak Reverse Voltage<br>$V_{RRM}$ | <ul style="list-style-type: none"> <li>• Schottky Barrier Rectifier</li> <li>• Guard Ring Protection</li> <li>• Low Forward Voltage</li> <li>• 150°C Junction Temperature</li> <li>• <math>V_{RRM}</math> 40 to 50 Volts</li> </ul> |
|----------------|-------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MSP140         | 40V                                       | 40V                                          |                                                                                                                                                                                                                                     |
| MSP145         | 45V                                       | 45V                                          |                                                                                                                                                                                                                                     |
| MSP150         | 50V                                       | 50V                                          |                                                                                                                                                                                                                                     |

| Electrical Characteristics                             |                      |                                                                             |
|--------------------------------------------------------|----------------------|-----------------------------------------------------------------------------|
| Average forward current                                | $I_F(AV)$ 1.0 Amps   | $T_A = 120^{\circ}C$ Square wave, $R_{\theta JL} = 35^{\circ}C/W$ , $L = 0$ |
| 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              | $T_{STG}$       | $-55^\circ\text{C}$ to $+175^\circ\text{C}$ |  |
| Operating junction temp range          | $T_J$           | $-55^\circ\text{C}$ to $+150^\circ\text{C}$ |  |
| Maximum thermal resistance $L = 1/4"$  | $R_{\theta JL}$ | 15°C/W Junction to Lead                     |  |
| Weight                                 |                 | 0.38 grams typical                          |  |



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05-25-07 Rev. 2

# MSP140 — MSP150

Figure 1  
Maximum Forward Characteristics

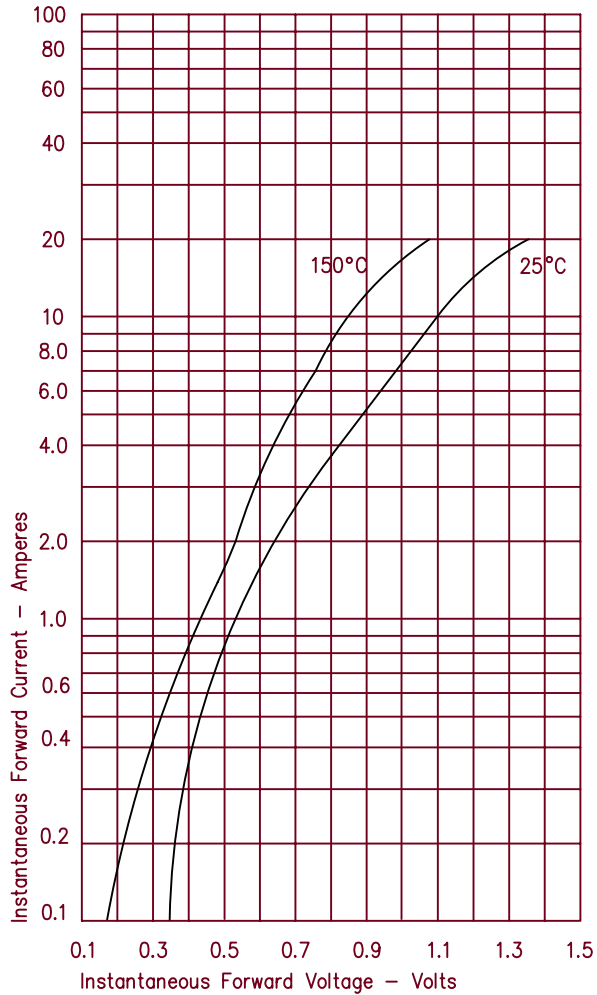


Figure 2  
Typical Reverse Characteristics

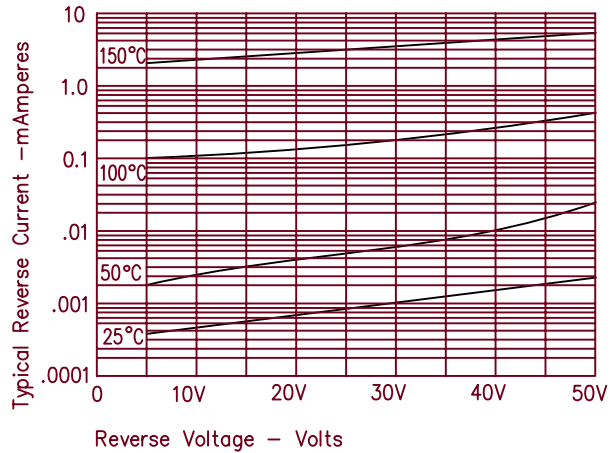


Figure 3  
Typical Junction Capacitance

