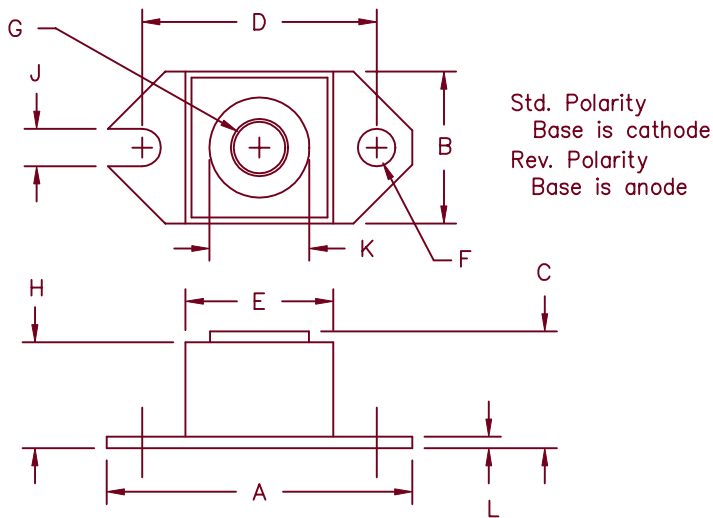


# 180 Amp Schottky Rectifier HS18035 — HS18045



| Dim. | Inches  |         | Millimeter    |         | Notes |
|------|---------|---------|---------------|---------|-------|
|      | Minimum | Maximum | Minimum       | Maximum |       |
| A    | 1.52    | 1.56    | 38.86         | 39.62   |       |
| B    | .725    | .775    | 18.42         | 19.69   |       |
| C    | .605    | .625    | 15.37         | 15.88   |       |
| D    | 1.182   | 1.192   | 30.02         | 30.28   |       |
| E    | .745    | .755    | 18.92         | 19.18   | Sq.   |
| F    | .152    | .160    | 3.86          | 4.06    | Dia.  |
| G    |         |         | 1/4-20 UNC-2B |         |       |
| H    | .570    | .580    | 14.49         | 14.73   |       |
| J    | .156    | .160    | 3.96          | 4.06    |       |
| K    | .495    | .505    | 12.57         | 12.83   | Dia.  |
| L    | .120    | .130    | 3.05          | 3.30    |       |

| Microsemi Catalog Number | Industry Part Number | Working Peak Reverse Voltage | Repetitive Peak Reverse Voltage |   |
|--------------------------|----------------------|------------------------------|---------------------------------|---|
| HS18035*                 | 180NQ035<br>MBR20035 | 35V                          | 35V                             | <ul style="list-style-type: none"> <li>● Schottky Barrier Rectifier</li> <li>● Guard Ring Protection</li> <li>● 180 Amperes/35-45 Volts</li> <li>● 150°C Junction Temperature</li> <li>● Reverse Energy Tested</li> </ul> |
| HS18040*                 | 180NQ040<br>MBR20040 | 40V                          | 40V                             |   |
| HS18045*                 | 180NQ045<br>MBR20045 | 45V                          | 45V                             |   |

\* Add Suffix R for Reverse Polarity

| Electrical Characteristics         |                     |   |
|------------------------------------|---------------------|---|
| Average forward current            | $I_F(AV)$ 180 Amps  | $T_C = 83^\circ C$ , Square wave, $R_{\theta JC} = .32^\circ C/W$ |
| Maximum surge current              | $I_{FSM}$ 3000 Amps | 8.3ms, half sine, $T_J = 150^\circ C$                             |
| Maximum repetitive reverse current | $I_{R(OV)}$ 2 Amps  | $f = 1\text{ KHZ}$ , $25^\circ C$                                 |
| Max peak forward voltage           | $V_{FM}$ 0.41 Volts | $I_{FM} = 180A$ : $T_J = 125^\circ C^*$                           |
| Max peak forward voltage           | $V_{FM}$ 0.55 Volts | $I_{FM} = 180A$ : $T_J = 25^\circ C^*$                            |
| Max peak reverse current           | $I_{RM}$ 3.5 Amp    | $V_{RRM}$ , $T_J = 125^\circ C^*$                                 |
| Max peak reverse current           | $I_{RM}$ 10mA       | $V_{RRM}$ , $T_J = 25^\circ C$                                    |
| Typical junction capacitance       | $C_J$ 7000pF        | $V_R = 5.0V$ , $T_C = 25^\circ C$                                 |

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

| Thermal and Mechanical Characteristics |                 |                                   |
|--|-----------------|-----------------------------------|
| Storage temp range                     | $T_{STG}$       | $-55^\circ C$ to $150^\circ C$    |
| Operating junction temp range          | $T_J$           | $-55^\circ C$ to $150^\circ C$    |
| Max thermal resistance                 | $R_{\theta JC}$ | $0.32^\circ C/W$ Junction to case |
| Typical thermal resistance (greased)   | $R_{\theta CS}$ | $0.12^\circ C/W$ Case to sink     |
| Terminal Torque                        |                 | 35-40 inch pounds                 |
| Mounting Base Torque                   |                 | 20-25 inch pounds                 |
| Weight                                 |                 | 1.1 ounces (32 grams) typical     |

# HS18035 — HS18045

Figure 1  
Typical Forward Characteristics

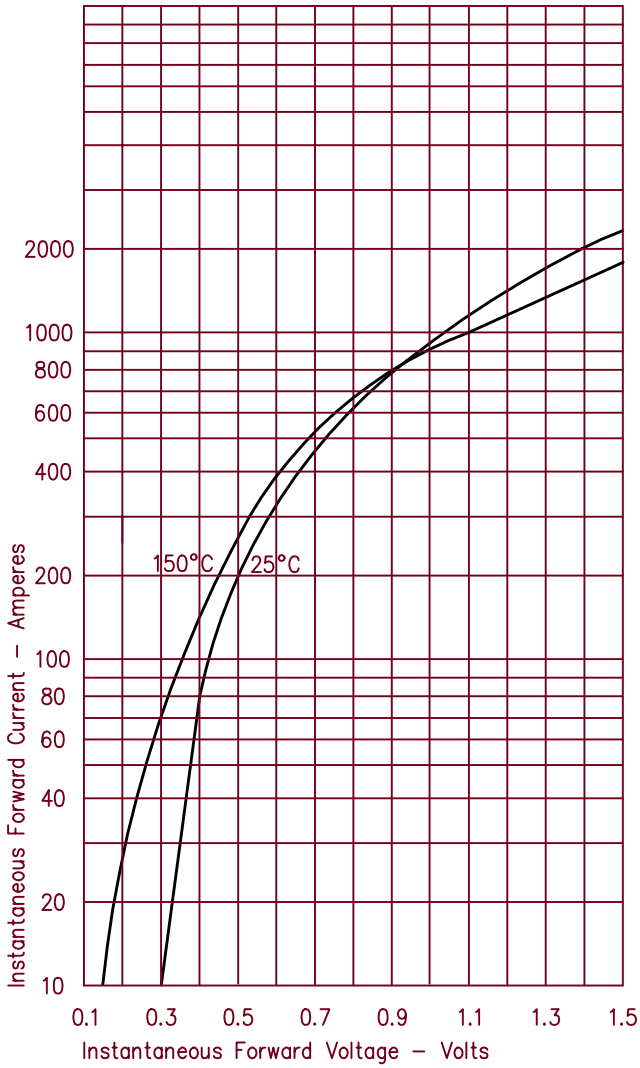


Figure 3  
Typical Junction Capacitance

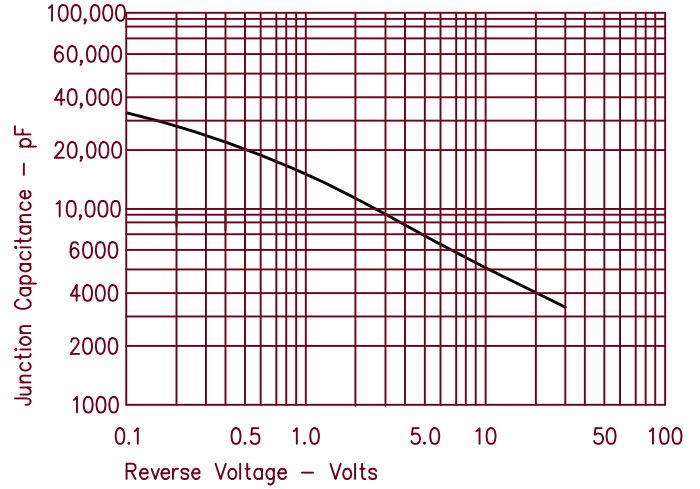


Figure 4  
Forward Current Derating

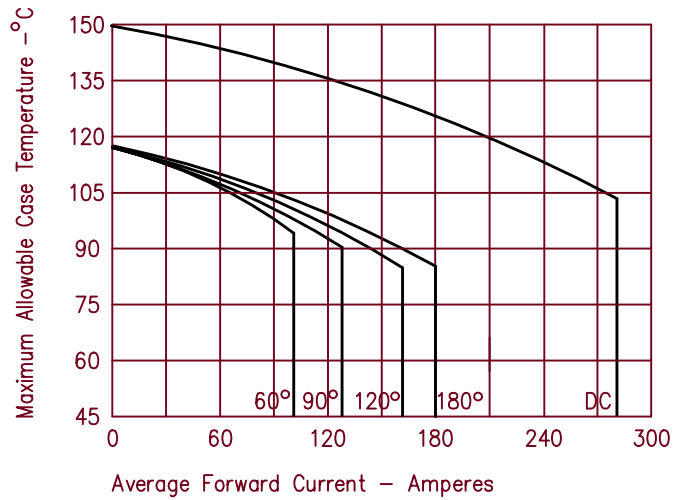


Figure 2  
Typical Reverse Characteristics

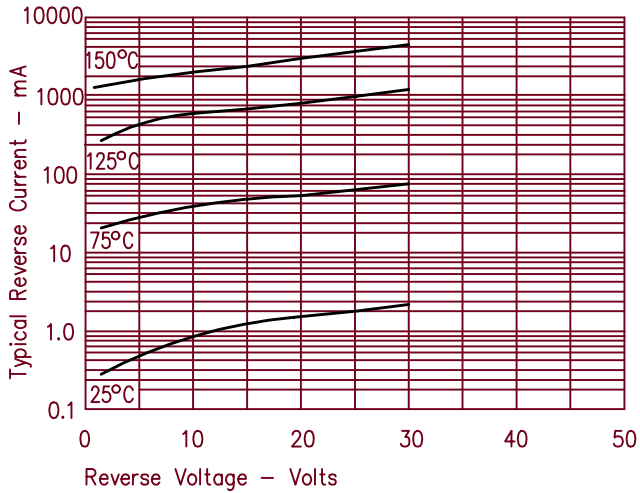
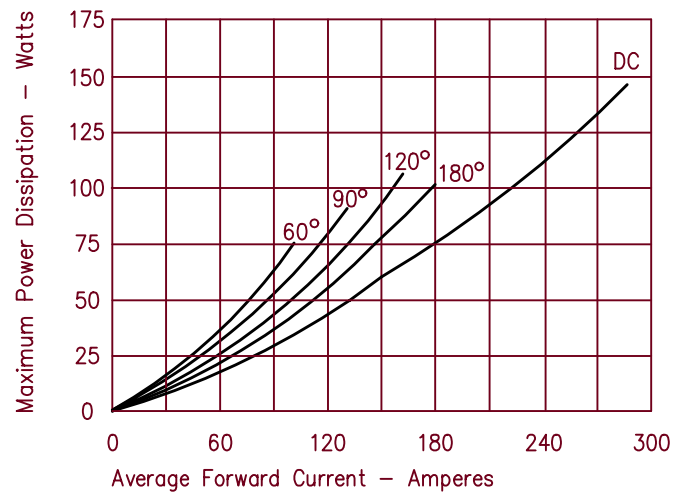


Figure 5  
Maximum Forward Power Dissipation





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