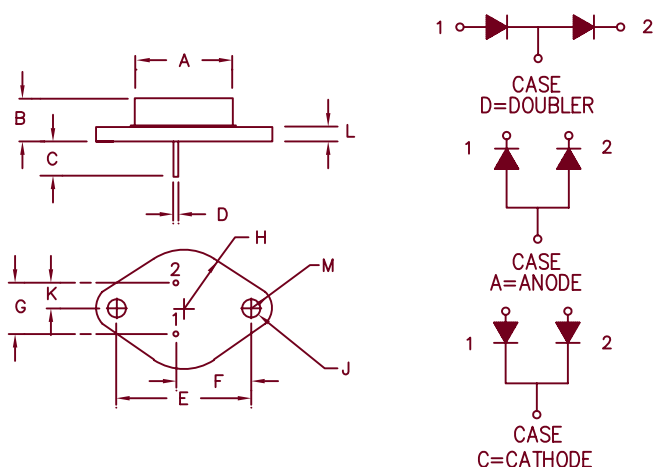


# Schottky Rectifier

## SBT2535 — SBT2545



| Dim. | Inches  |         | Millimeter |         | Notes |
|------|---------|---------|------------|---------|-------|
|      | Minimum | Maximum | Minimum    | Maximum |       |
| A    | —       | .875    | —          | 22.23   | Dia.  |
| B    | .250    | .450    | 6.35       | 11.43   |       |
| C    | .435    | —       | 11.05      | —       |       |
| D    | .038    | .043    | .97        | 1.09    | Dia.  |
| E    | 1.177   | 1.197   | 29.90      | 30.40   |       |
| F    | .655    | .675    | 16.64      | 17.15   |       |
| G    | .420    | .440    | 10.67      | 11.18   |       |
| H    | —       | .525    | —          | 13.34   | Rad.  |
| J    | .151    | .161    | 3.84       | 4.09    | Dia.  |
| K    | .205    | .225    | 5.21       | 5.72    |       |
| L    | —       | .135    | —          | 3.43    |       |
| M    | —       | .188    | —          | 4.78    | Rad.  |

TO-204AA (TO-3)

| Microsemi<br>Catalog Number | Working Peak<br>Reverse Voltage | Repetitive Peak<br>Reverse Voltage |
|-----------------------------|---------------------------------|------------------------------------|
| SBT2535*                    | 35V                             | 35V                                |
| SBT2540*                    | 40V                             | 40V                                |
| SBT2545*                    | 45V                             | 45V                                |

\*ADD D, C, or A

- Schottky Barrier Rectifier
- Guard Ring Protection
- Low Forward Voltage
- $V_{RRM}$  — 35 to 45V
- 25 Amperes
- Reverse Energy Tested

### Electrical Characteristics Per Leg

|                                      |                    |                                                                    |
|--------------------------------------|--------------------|--------------------------------------------------------------------|
| Average forward current (standard)   | $I_F(AV)$ 25 Amps  | $T_C = 115^\circ C$ , Square wave, $R_{\theta JC} = 1.4^\circ C/W$ |
| Average forward current (reverse)    | $I_F(AV)$ 25 Amps  | $T_C = 92^\circ C$ , Square wave, $R_{\theta JC} = 2.2^\circ C/W$  |
| Maximum surge current                | $I_{FSM}$ 600 Amps | 8.3 ms, half sine $T_J = 150^\circ C$                              |
| Max repetitive peak reverse current  | $I_R(OV)$ 2 Amps   | $f = 1$ KHz, $25^\circ C$ , 1 $\mu$ sec Square wave                |
| Max peak forward voltage             | $V_{FM}$ .53 Volts | $I_{FM} = 25A$ : $T_J = 150^\circ C^*$                             |
| Max peak forward voltage             | $V_{FM}$ .58 Volts | $I_{FM} = 25A$ : $T_J = 25^\circ C^*$                              |
| Max peak reverse current             | $I_{RM}$ 250 mA    | $V_{RRM}$ , $T_J = 125^\circ C^*$                                  |
| Max peak reverse current             | $I_{RM}$ 2 mA      | $V_{RRM}$ , $T_J = 25^\circ C$                                     |
| Typical junction capacitance per leg | $C_J$ 1200 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                             | $T_{STG}$       | $-65^\circ C$ to $175^\circ C$   |
| Operating junction temp range                  | $T_J$           | $-65^\circ C$ to $150^\circ C$   |
| Maximum thermal resistance (standard polarity) | $R_{\theta JC}$ | $1.4^\circ C/W$ Junction to case |
| Maximum thermal resistance (reverse polarity)  | $R_{\theta JC}$ | $2.2^\circ C/W$ Junction to case |
| Typical thermal resistance (greased)           | $R_{\theta CS}$ | $0.5^\circ C/W$ Case to sink     |
| Weight                                         |                 | 1.0 ounces (28 grams) typical    |



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05-30-07 Rev. 2

# SBT2535 — SBT2545

Figure 1  
Typical Forward Characteristics

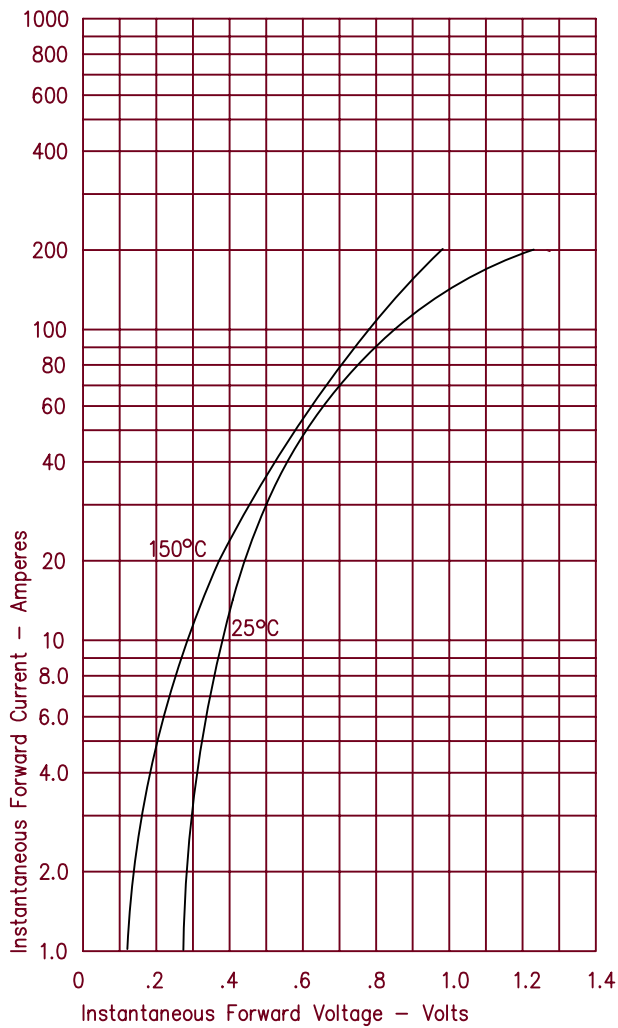


Figure 2  
Typical Reverse Characteristics

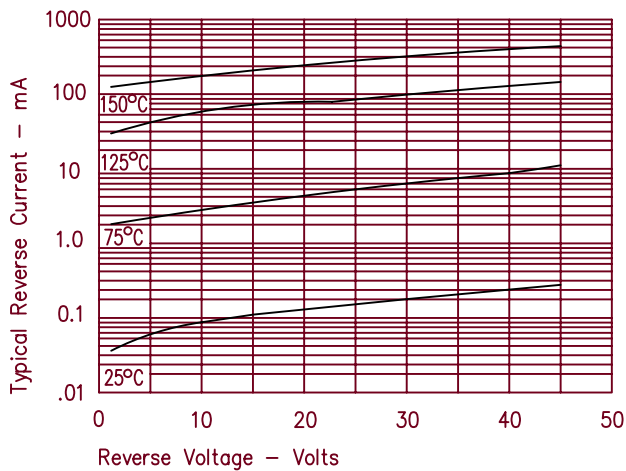


Figure 3  
Typical Junction Capacitance

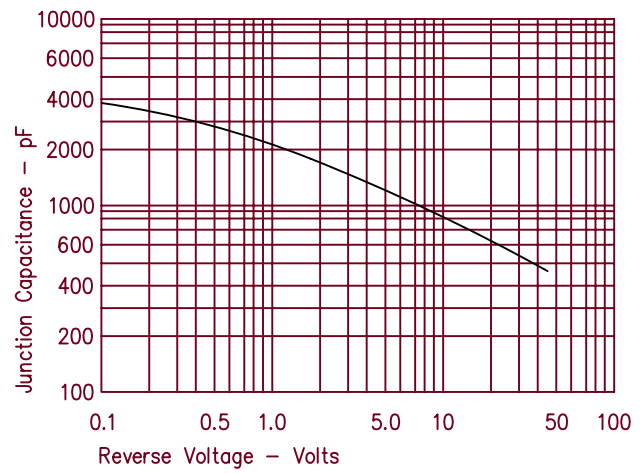


Figure 4  
Forward Current Derating — Standard Polarity

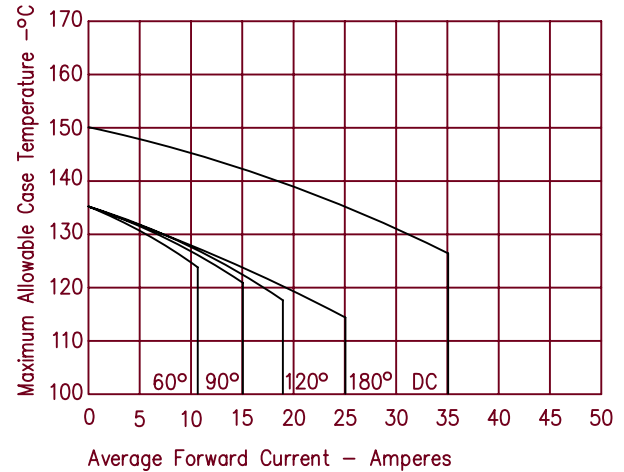
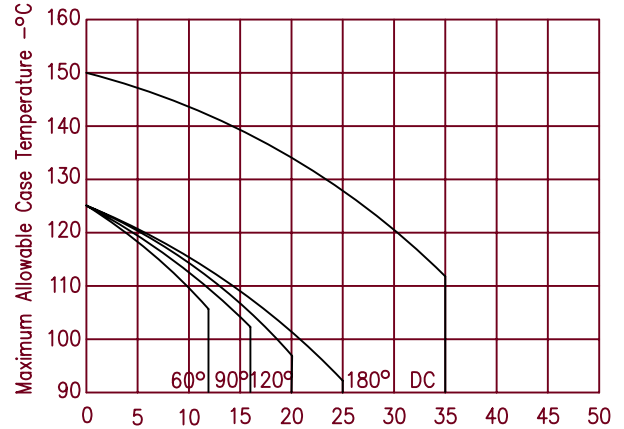


Figure 5  
Forward Current Derating — Reverse Polarity



# SBT2535 – SBT2545

Figure 6  
Maximum Forward Power Dissipation – Standard Polarity

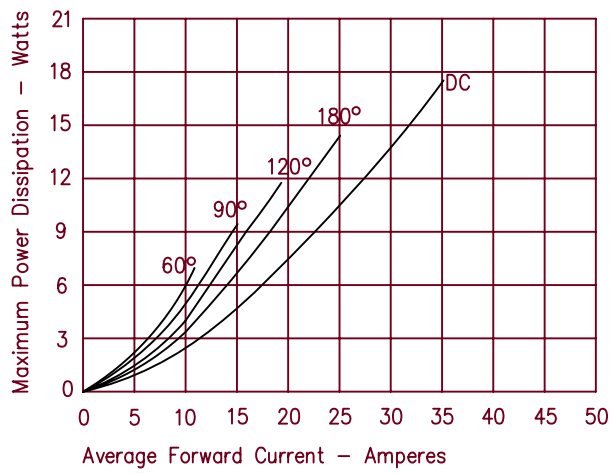


Figure 7  
Maximum Forward Power Dissipation – Reverse Polarity

