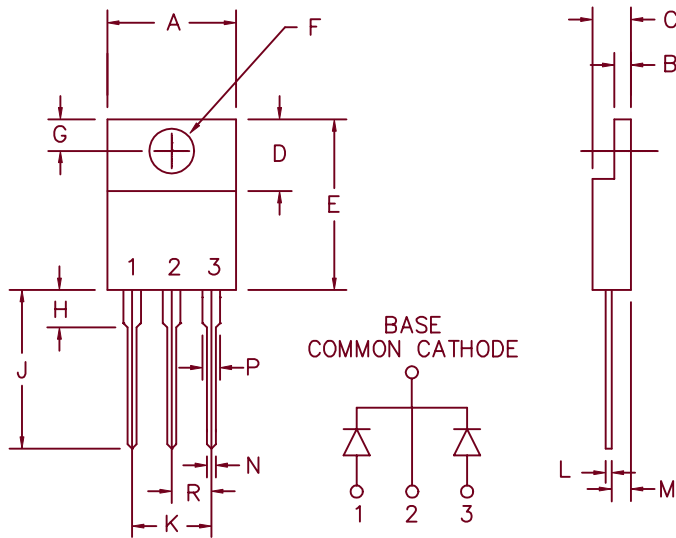


20 Amp Schottky Barrier Rectifiers FST2035 — FST2045



| 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 | .161 | 3.53 | 4.09 | Dia. |
| G | .100 | .135 | 2.54 | 3.43 | |
| H | --- | .250 | --- | 6.35 | |
| J | .500 | .580 | 12.70 | 14.73 | |
| K | .190 | .210 | 4.83 | 5.33 | |
| L | .014 | .022 | .357 | .559 | |
| M | .080 | .115 | 2.03 | 2.92 | |
| N | .015 | .040 | .380 | 1.02 | |
| P | .045 | .070 | 1.14 | 1.78 | |
| R | .090 | .110 | 2.29 | 2.79 | |

PLASTIC TO-220AB

| Microsemi Catalog Number | Industry Part Number | Repetitive Peak Reverse Voltage | Transient Peak Reverse Voltage |
|--------------------------|--|---------------------------------|--------------------------------|
| FST2035 | 12CTQ035,15CTQ035 20CTQ035 | 35V | 35V |
| FST2040 | MBR1535CT,MBR2035CT 12CTQ040,15CTQ040 20CTQ040 | 40V | 40V |
| FST2045 | MBR1540CT,MBR2040CT 12CTQ045,15CTQ045 20CTQ045 | 45V | 45V |
| | MBR1545CT,MBR2045CT MBR1545CTP,MBR2045CTP | | |

- Schottky barrier rectifier
- Guard ring for reverse protection
- Low power loss, high efficiency
- High surge capacity
- V_{RRM} 35 to 45 Volts

Electrical Characteristics

| | | |
|-----------------------------------|----------------------|--|
| Average Forward Current per pkg. | $I_F(AV)$ 20 Amps | $T_C = 160^\circ C$, Square wave, $R_{\theta JC} = 1.2^\circ C/W$ |
| Average Forward Current per leg | $I_F(AV)$ 10 Amps | $T_C = 160^\circ C$, Square wave, $R_{\theta JC} = 2.4^\circ C/W$ |
| Maximum Surge Current per leg | I_{FSM} 225 Amps | 8.3ms, half sine, $T_J = 175^\circ C$ |
| Max. Peak Forward Voltage per leg | V_{FM} .48 Volts | $I_{FM} = 10A$, $T_J = 175^\circ C^*$ |
| Max. Peak Forward Voltage per leg | V_{FM} .65 Volts | $I_{FM} = 10A$, $T_J = 25^\circ C^*$ |
| Max. Peak Reverse Current per leg | I_{RM} 10 mA | V_{RRM} , $T_J = 125^\circ C^*$ |
| Max. Peak Reverse Current per leg | I_{RM} 250 μA | V_{RRM} , $T_J = 25^\circ C$ |
| Typical Junction Capacitance | C_J 660 pF | $V_R = 5.0V$, $T_J = 25^\circ C$ |

*Pulse test: Pulse width 300 μsec 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 per leg | $R_{\theta JC}$ | $2.4^\circ C/W$ |
| Max thermal resistance per pkg. | $R_{\theta JC}$ | $1.2^\circ C/W$ |
| Mounting torque | | 15 inch pounds maximum (6-32 screw) |
| Weight | | .08 ounces (2.3 grams) typical |

FST2035 — FST2045

Figure 1
Typical Forward Characteristics — Per Leg

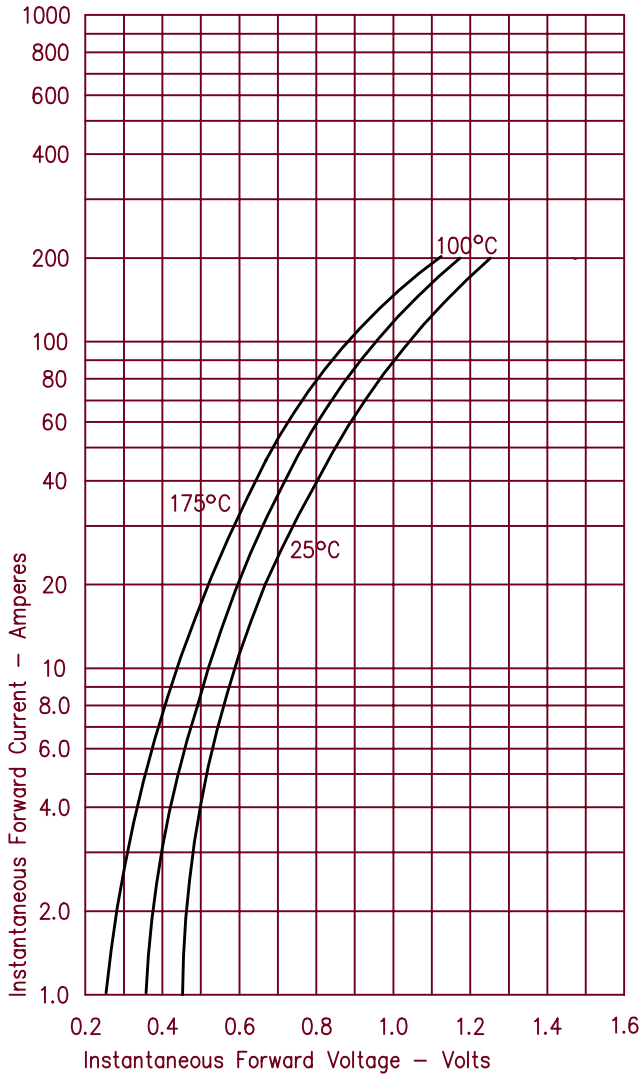


Figure 3
Typical Junction Capacitance — Per Leg

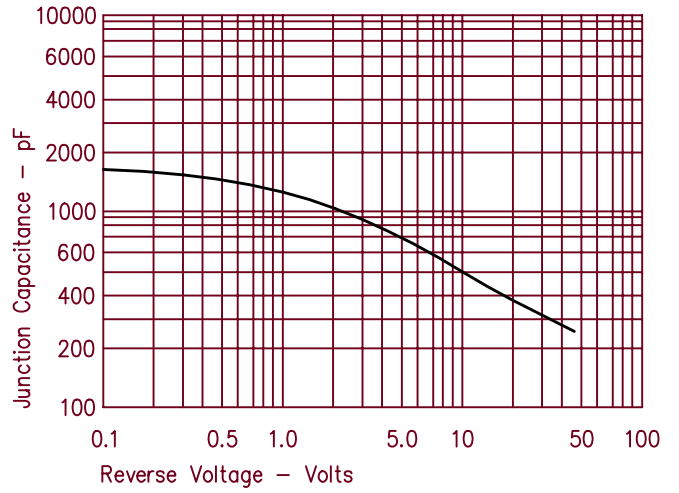


Figure 4
Forward Current Derating — Per Leg

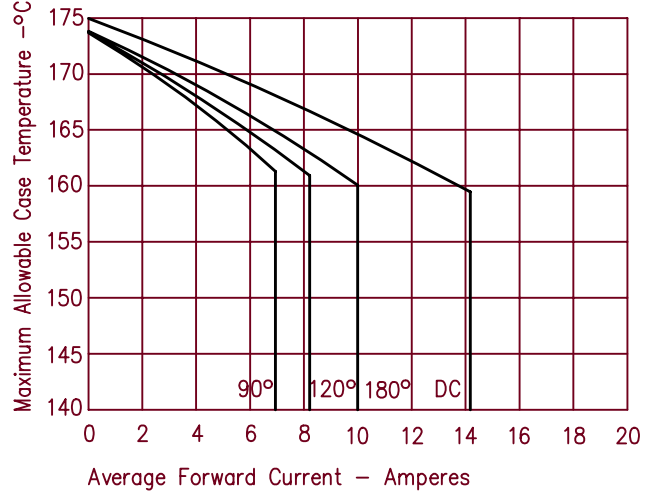


Figure 2
Typical Reverse Characteristics — Per Leg

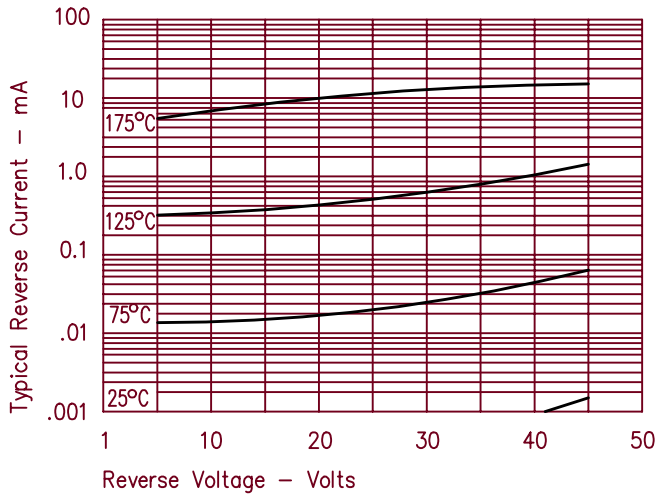
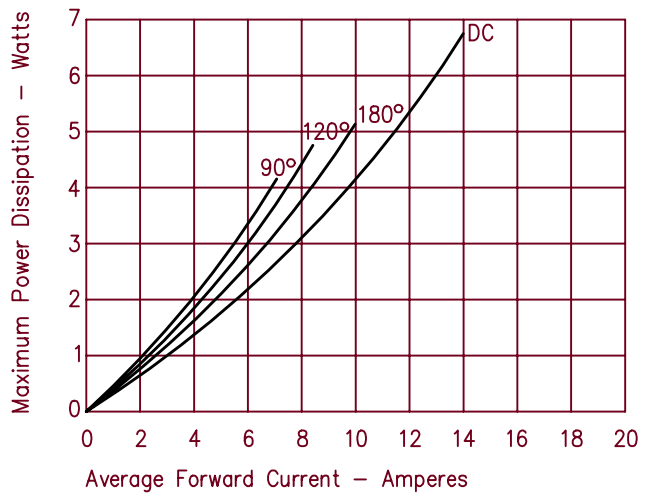


Figure 5
Maximum Forward Power Dissipation — Per Leg



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