

SIEMENS

Power Semiconductors

**U.S. Edition
Data Book 1984**

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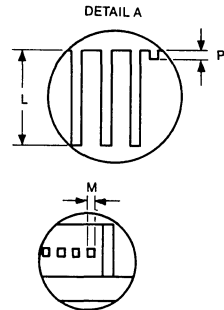
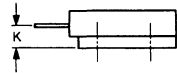
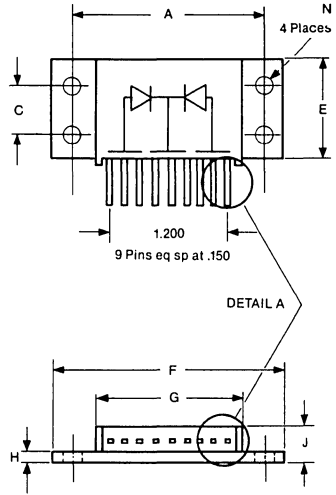
- Electrically Isolated Base
- Guard ring reverse protection
- Center Tap
- 50 Volts V_{RRM} / V_{RWM}
- 60 Amperes
- 175°C Junction Temperature

| Dim. | Inches | | Millimeter | | Notes |
|------|---------|---------|------------|---------|-----------------|
| | Minimum | Maximum | Minimum | Maximum | |
| A | 1.995 | 2.005 | 50.67 | 50.93 | |
| C | 0.495 | 0.505 | 12.57 | 12.83 | |
| E | 0.990 | 1.010 | 25.15 | 25.65 | |
| F | 2.390 | 2.410 | 60.71 | 61.21 | |
| G | 1.490 | 1.510 | 37.85 | 38.35 | |
| H | 0.120 | 0.130 | 3.05 | 3.30 | |
| J | ---- | 0.400 | ---- | 10.16 | |
| K | 0.240 | 0.260 | 6.10 | 6.60 | to Lead C_L |
| L | 0.490 | 0.510 | 12.45 | 12.95 | |
| M | 0.035 | 0.045 | 0.89 | 1.14 | Square Diameter |
| N | 0.175 | 0.195 | 4.45 | 4.95 | Diameter |
| P | 0.032 | 0.052 | 0.81 | 1.32 | |

Notes:

- BASEPLATE: Nickel plated copper; electrically isolated
- PINS: Nickel plated copper
- CENTER TERMINALS: Common cathode

| Catalog Number | Pro Electron Number | Working | Rep. |
|----------------|---------------------|--------------------------------|--------------------------------|
| | | Peak Reverse Voltage V_{RWM} | Peak Reverse Voltage V_{RRM} |
| FST6035 | BYS98-35 | 35 | 35 |
| FST6040 | BYS98-40 | 40 | 40 |
| FST6045 | BYS98-45 | 45 | 45 |
| FST6050 | BYS98-50 | 50 | 50 |



Electrical characteristics

| | | | |
|---|-------------|------------|---|
| Average forward current per pkg | $I_{F(AV)}$ | 60 Amps | $T_C = 150^\circ\text{C}$ |
| Average forward current per leg | $I_{F(AV)}$ | 60 Amps | $T_C = 128^\circ\text{C}$ |
| Maximum surge current per leg | I_{FSM} | 1000 Amps | 8.3 ms, half sine, $T_J = 175^\circ\text{C}$ |
| Maximum repetitive peak reverse current per leg | $I_{R(OV)}$ | 2 Amps | $f = 1 \text{ KHz}, 25^\circ$ |
| Maximum peak forward voltage per leg | V_{FM} | 0.70 volts | $I_{FM} = 60\text{A}; T_J = 25^\circ\text{C}^*$ |
| Maximum peak reverse current per leg | I_{RM} | 60mA | $V_{RRM}, T_C = 125^\circ\text{C}^*$ |
| Typical Reverse current, per leg | I_{RM} | 3mA | $V_{RRM}, T_J = 25^\circ\text{C}^*$ |
| Typical junction capacitance | C_J | 2300pF | $V_R = 5.0\text{V}, T_C = 25^\circ\text{C}$ |

Thermal Characteristics

| | | | |
|--|----------------|-------------------|------------------|
| Storage temp range | T_{stg} | - 40°C to + 175°C | |
| Operating junction temp range | T_J | - 40°C to + 175°C | |
| Maximum thermal resistance per leg, per package, | $R\theta_{JC}$ | 1.0°C/W | Junction to case |
| | | 0.6°C/W | |
| Typical thermal resistance | $R\theta_{CS}$ | 0.1°C/W | Case to sink |

Mechanical Characteristics

Weight 2.5 ounce (71 grams) typical

*Pulse test: Pulse width 300 μ sec, Duty cycle 2%

Figure 1
Maximum forward characteristics

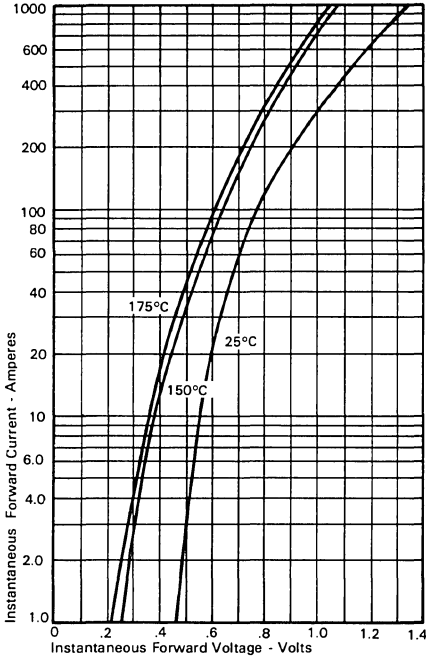


Figure 2
Forward current derating

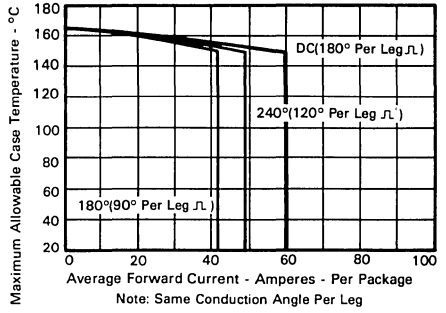


Figure 3
Typical junction capacitance

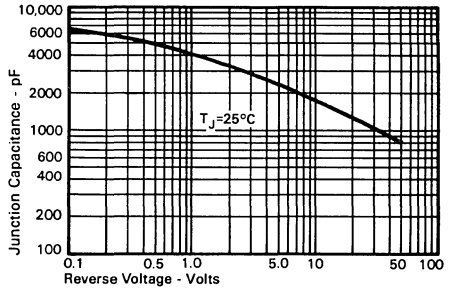


Figure 4
Typical reverse characteristics

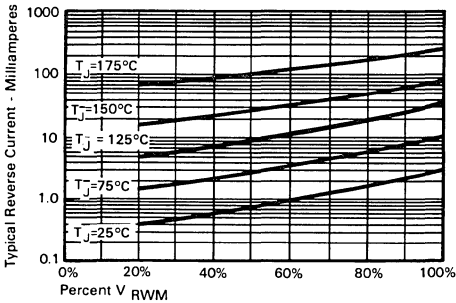
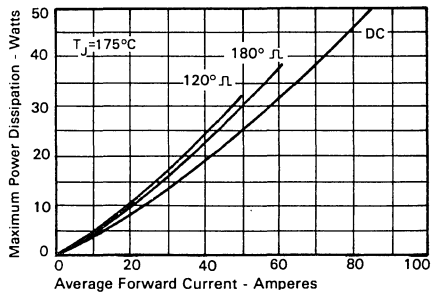


Figure 5
Maximum forward power dissipation



The information contained here has been carefully reviewed and is believed to be accurate. However, due to the possibility of unseen inaccuracies, no responsibility is assumed.

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800 Hoyt Street, Broomfield, Colorado 80020, Telephone (303) 469-2161

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