

January 16, 1998

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SUPERFAST RECOVERY, LOW CURRENT 3-PHASE FULL WAVE BRIDGE RECTIFIER ASSEMBLIES

QUICK REFERENCE DATA

- Very fast reverse recovery time
- Low forward voltage drop
- Low reverse leakage current
- Aluminum case
- Low thermal impedance

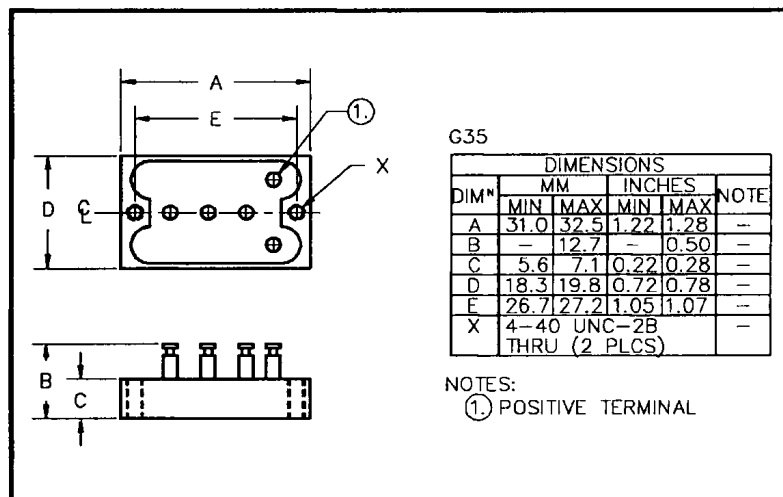
- $V_R = 50V - 150V$
- $I_F = 12A$
- $V_F = 0.97V$
- $t_{rr} = 30nS$

ABSOLUTE MAXIMUM RATINGS

| Device Type | Working Reverse Voltage V_{RWM} | Average Rectified Current $I_{F(AV)}$ | | | | | | 1 Cycle Surge Current | |
|-------------|-----------------------------------|---------------------------------------|---------|---------|-----------------------|--------|---------|---------------------------|---------|
| | | @ case temperature | | | @ ambient temperature | | | I_{FSM} @ $t_p = 8.3mS$ | |
| | | @ 55°C | @ 100°C | @ 125°C | @ 25°C | @ 55°C | @ 100°C | @ 25°C | @ 100°C |
| | | Volts | Amps | Amps | Amps | Amps | Amps | Amps | Amps |
| SC3BH05FF | 50 | | | | | | | | |
| SC3BH10FF | 100 | 12 | 9 | 7.5 | 4.0 | 3.0 | 1.7 | 175 | 120 |
| SC3BH15FF | 150 | | | | | | | | |

$$R_{\theta JC} = 4.5^{\circ}C/W$$

MECHANICAL



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ELECTRICAL CHARACTERISTICS

| Device Type | Maximum Reverse Leakage Current I_R @ V_{RWM} | | Maximum Forward Voltage V_F @ 5A/leg @ 25°C | Maximum Reverse Recovery Time t_{rr} @ 25°C | Maximum operating & storage temp range. | |
|-------------|---|---------|---|---|---|-----------|
| | @ 25°C | @ 100°C | | | T_{OP} | T_{STC} |
| | μA | mA | Volts | nS | °C | |
| SC3BH05FF | | | | | - 55 | |
| SC3BH10FF | 30 | 1.50 | 0.97 | 30 | to | |
| SC3BH15FF | | | | | +150 | |

¹ Measured on discrete devices prior to assembly

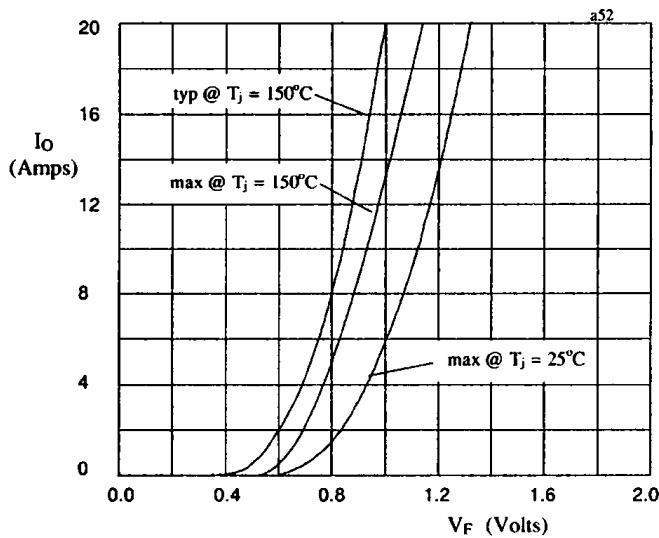


Fig 1. Forward voltage drop against output current per leg

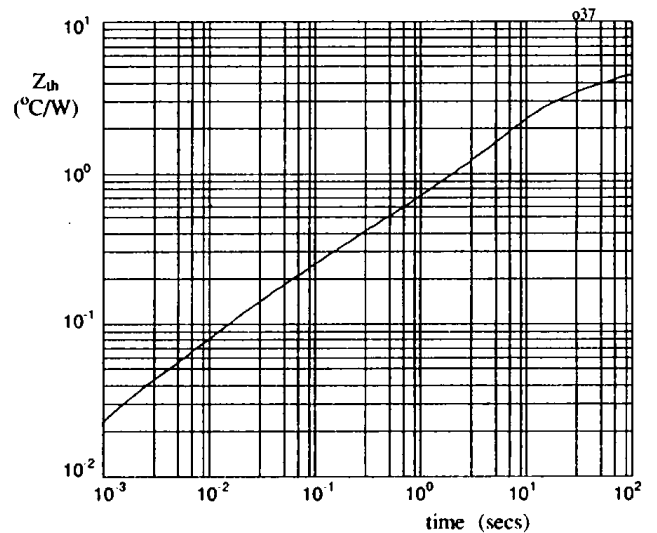


Fig 2. Transient thermal impedance characteristic per leg

Fig 3. Maximum insurge current against time constant for capacitive loads.

