January 16, 1998

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

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

## QUICK REFERENCE DATA

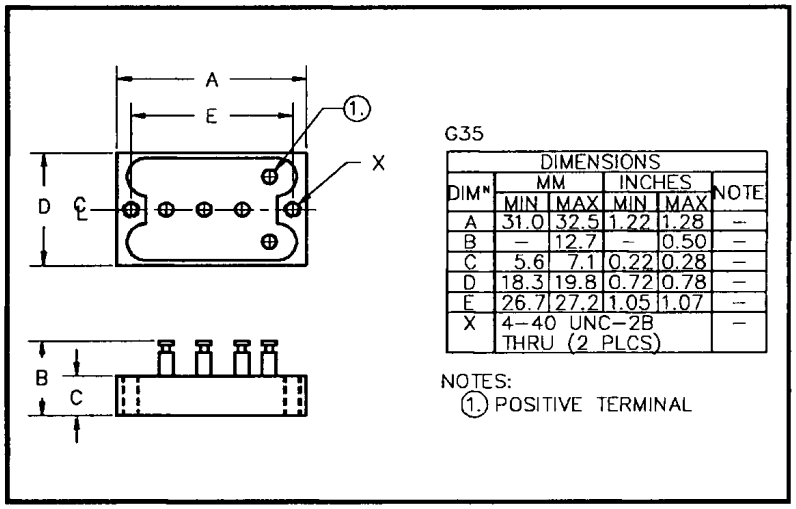
- $V_R$ = 50V - 150V
- $I_F$ = 12A
- $V_F$ = 0.97V
- $t_{rr}$ = 30nS

## ABSOLUTE MAXIMUM RATINGS

| Device Type | Working Reverse Voltage $V_{RWM}$ | Average Rectified Current $I_{F(AV)}$ | | | | | | 1 Cycle Surge Current $I_{FSM}$ @ $t_p$ = 8.3mS | |
|---|---|---|---|---|---|---|---|---|---|
| | | @ case temperature | | | @ ambient temperature | | | | |
| | | @ 55°C | @ 100°C | @ 125°C | @ 25°C | @ 55°C | @ 100°C | @ 25°C | @ 100°C |
| | Volts | Amps | 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°C/W

## MECHANICAL

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| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| DIM | MM | | INCHES | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | 31.0 | 32.5 | 1.22 | 1.28 | – |
| B | – | 12.7 | – | 0.50 | – |
| C | 5.6 | 7.1 | 0.22 | 0.28 | – |
| D | 18.3 | 19.8 | 0.72 | 0.78 | – |
| E | 26.7 | 27.2 | 1.05 | 1.07 | – |
| X | 4–40 UNC–2B THRU (2 PLCS) | | | | – |

NOTES:
(1.) POSITIVE TERMINAL

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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[1] $t_{rr}$ @ 25°C | Maximum operating & storage temp range. $T_{OP}$ $T_{STG}$ |
|---|---|---|---|---|---|
| | @ 25°C | @ 100°C | | | |
| | µA | mA | Volts | nS | °C |
| SC3BH05FF<br>SC3BH10FF<br>SC3BH15FF | 30 | 1.50 | 0.97 | 30 | - 55<br>to<br>+150 |

[1] Measured on discrete devices prior to assembly

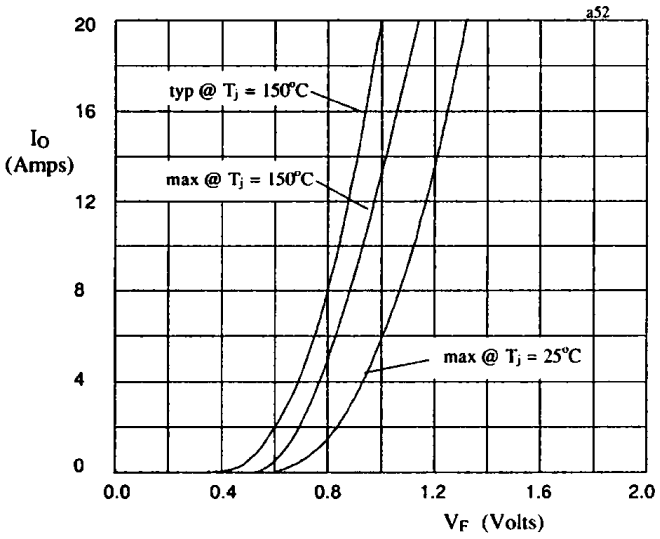


Fig 1. Forward voltage drop against output current per leg

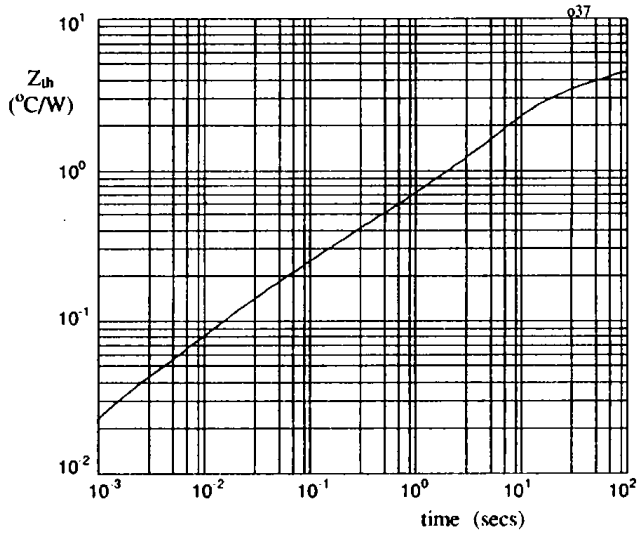


Fig 2. Transient thermal impedance characteristic per leg

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