January 16, 1998

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

- Low forward voltage drop
- Low reverse leakage current
- Very fast reverse recovery time
- Low thermal impedance
- High surge ratings

## QUICK REFERENCE DATA

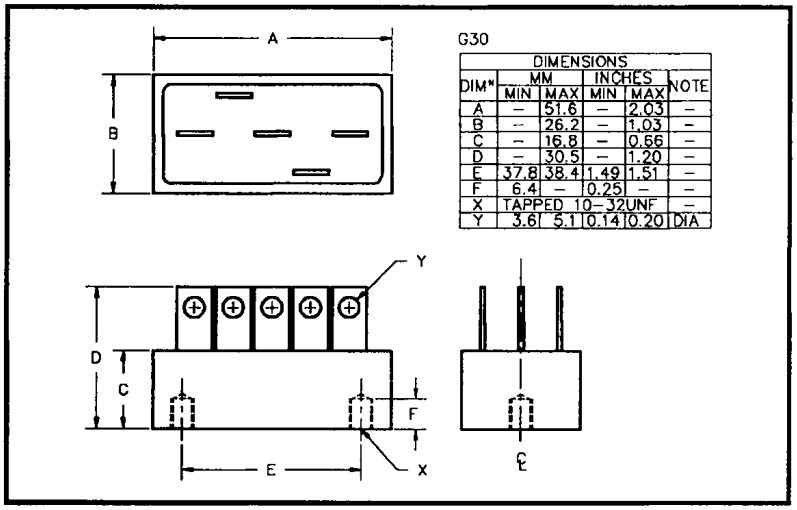
- $V_R$ = 50V - 150V
- $I_F$ = 38A
- $V_F$ = 0.97V
- $t_{rr}$ = 30nS

## ABSOLUTE MAXIMUM RATINGS

| Device Type | Working Reverse Voltage $V_{RWM}$ | Average Rectified Current $I_{F(AV)}$ @ case temperature | | | Average Rectified Current $I_{F(AV)}$ @ ambient temperature | | | 1 Cycle Surge Current $I_{FSM}$ @ $t_p$ = 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 | Amps |
| SC3BK05FF<br>SC3BK10FF<br>SC3BK15FF | 50<br>100<br>150 | 38 | 25 | 14 | 13 | 9.25 | 5.5 | 450 | 360 |

$R_{\theta JC}$ = 1.1°C/W

## MECHANICAL




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## ELECTRICAL CHARACTERISTICS

| Device Type | Maximum Reverse Leakage Current $I_R$ @ $V_{RWM}$ | | Maximum Forward Voltage $V_F$ @ 15A/leg | 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 |
| SC3BK05FF<br>SC3BK10FF<br>SC3BK15FF | 90 | 4.5 | 0.97 | 30 | -55<br>to<br>+150 |

[1] Measured on discrete devices prior to assembly

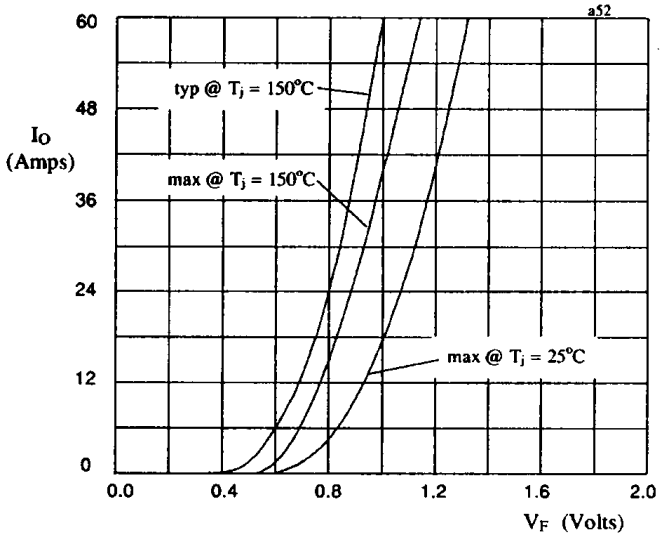



Fig 1. Forward voltage drop against output current per leg

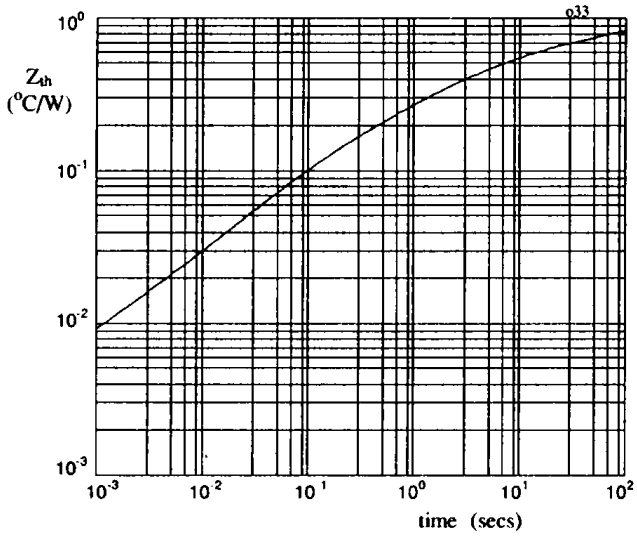



Fig 2. Typical transient thermal impedance characteristic per leg

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