January 29, 1998

TEL:805-498-2111 FAX:805-498-3804 WEB:http://www.semtech.com

## FAST RECOVERY, MEDIUM CURRENT 1-PHASE FULL WAVE BRIDGE RECTIFIER ASSEMBLIES

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

## QUICK REFERENCE DATA

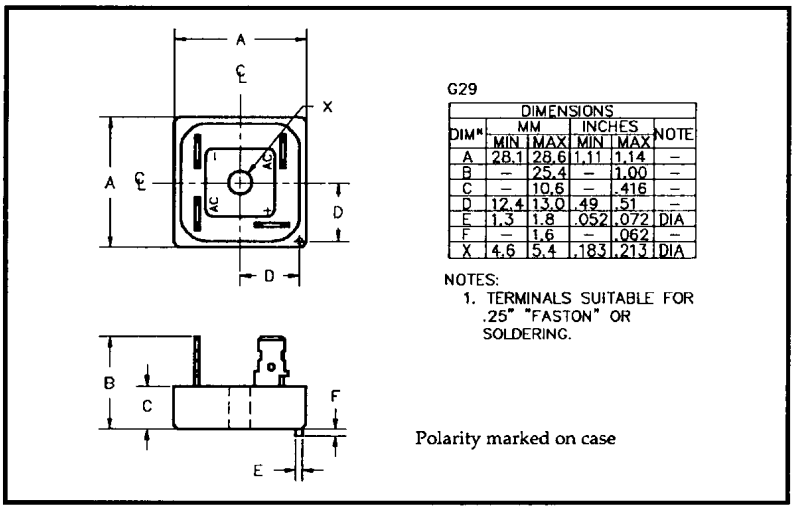
- $V_R$ = 50V - 400V
- $I_F$ = 20.0A
- $I_R$ = 2.0 µA
- $t_{rr}$ = **150ns**

## ABSOLUTE MAXIMUM RATINGS

| Device Type | Working Reverse Voltage $V_{RWM}$ | Average Rectified Current $I_{F(AV)}$ (@ case temperature) @ 55°C | @ 100°C | @ 125°C | (@ ambient temperature) @ 25°C | @ 55°C | @ 100°C | 1 Cycle Surge Current $I_{FSM}$ $t_p$ = 8.3mS @ 25°C | @ 100°C |
|---|---|---|---|---|---|---|---|---|---|
| | Volts | Amps | Amps | Amps | Amps | Amps | Amps | Amps | Amps |
| SCBA05F<br>SCBA1F<br>SCBA2F<br>SCBA4F | 50<br>100<br>200<br>400 | 20 | 15 | 10 | 5.0 | 4.0 | 2.5 | 150 | 80 |

$R_{\theta JC}$ = 2.0°C/W

## MECHANICAL




G29

| DIM* | DIMENSIONS MM MIN | MM MAX | INCHES MIN | INCHES MAX | NOTE |
|---|---|---|---|---|---|
| A | 28.1 | 28.6 | 1.11 | 1.14 | – |
| B | – | 25.4 | – | 1.00 | – |
| C | – | 10.6 | – | .416 | – |
| D | 12.4 | 13.0 | .49 | .51 | – |
| E | 1.3 | 1.8 | .052 | .072 | DIA |
| F | – | 1.6 | – | .062 | – |
| X | 4.6 | 5.4 | .183 | .213 | DIA |

NOTES:
1. TERMINALS SUITABLE FOR .25" "FASTON" OR SOLDERING.

Polarity marked on case

SCBA4F is available in Europe to DEF STAN 59-61/90/207 release to F and FX levels.

© 1997 SEMTECH CORP.

January 29, 1998

## ELECTRICAL CHARACTERISTICS

| Device Type | Maximum Reverse Leakage Current $I_R$ @ $V_{RWM}$ | | Maximum Forward Voltage $V_F$ @ 3A/leg | Reverse Recovery Time [1] $t_{rr}$ @ 25°C | Maximum operating & storage temp. range. $T_{OP}$ $T_{STG}$ |
|---|---|---|---|---|---|
| | @ 25°C | @ 100°C | | | |
| | µA | µA | Volts | nS | °C |
| SCBA05F<br>SCBA1F<br>SCBA2F<br>SCBA4F | 2.0 | 50 | 1.1 | 150<br>150<br>150<br>150 | -55<br>to<br>+150 |

[1] Measured on discrete devices prior to assembly

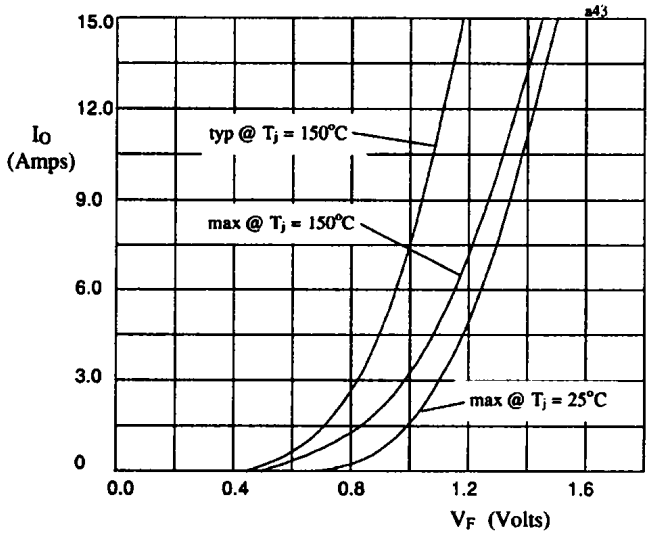



Fig 1. Forward voltage drop against output current per leg.

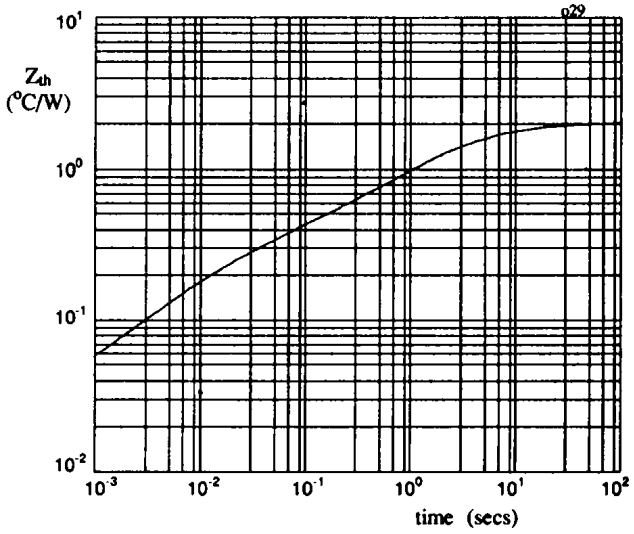



Fig 2. Transient thermal impedance characteristic per leg

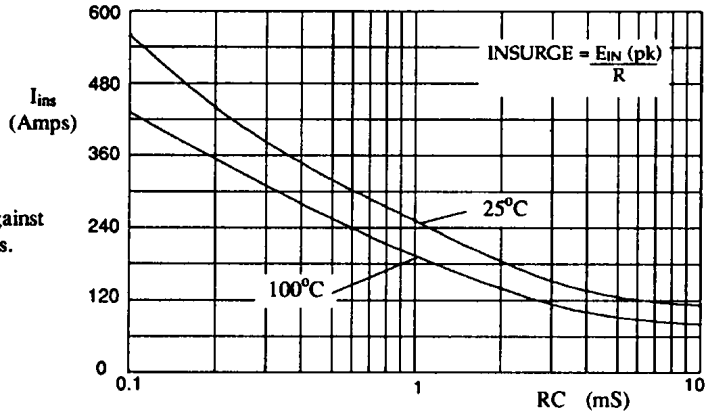



Fig 3. Maximum insurge current against time constant for capacitive loads.