

January 16, 1998

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

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

- Low forward voltage drop
- Low reverse leakage current
- Fast reverse recovery time
- Low thermal impedance
- High forward and surge current ratings

QUICK REFERENCE DATA

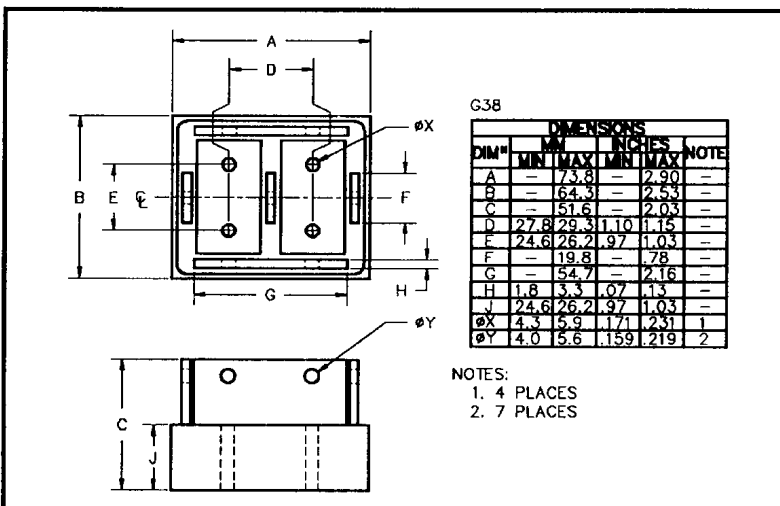
- $V_R = 50V - 400V$
- $I_F = 110A$
- $I_R = 18\mu A$
- $t_{rr} = 150ns$

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 | | | @ 25°C | @ 100°C |
| | | @ 55°C | @ 100°C | @ 125°C | @ 25°C | @ 55°C | @ 100°C | | |
| | | Volts | Amps | Amps | Amps | Amps | Amps | Amps | Amps |
| SC3AS05F | 50 | | | | | | | | |
| SC3AS1F | 100 | 110 | 80 | 60 | 16 | 11.5 | 7.2 | 750 | 480 |
| SC3AS2F | 200 | | | | | | | | |
| SC3AS4F | 400 | | | | | | | | |

$R_{\theta JC} = 0.3^{\circ}C/W$

MECHANICAL



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ELECTRICAL CHARACTERISTICS

| Device Type | Reverse Leakage Current $I_R @ V_{RWM}$ | | Maximum Forward Voltage / leg $V_F @ 18A @ 25^\circ C$ | Maximum Reverse Recovery Time $t_{rr} @ 25^\circ C$ | Maximum operating & storage temp range. | |
|---|--|---------|---|--|---|-----------|
| | @ 25°C | @ 100°C | | | T_{OP} | T_{STG} |
| | μA | μA | Volts | nS | °C | |
| SC3AS05F SC3AS1F SC3AS2F SC3AS4F | 18 | 450 | 1.1 | 150 | -55 to +150 | |

¹ Measured on discrete devices prior to assembly

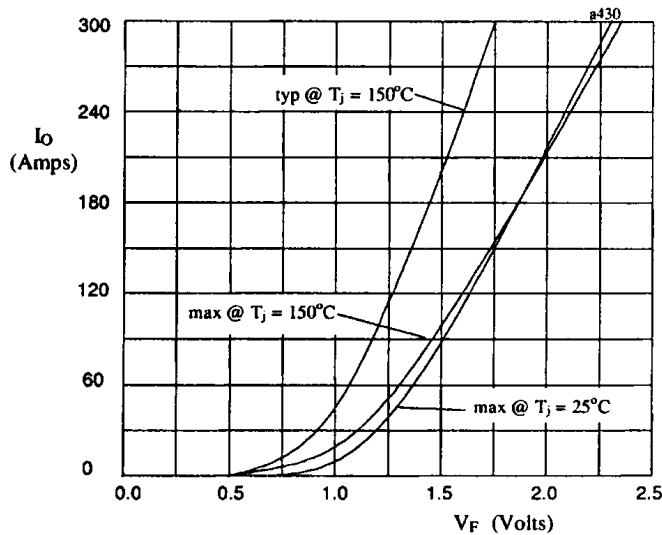


Fig 1. Forward voltage drop against output current per leg

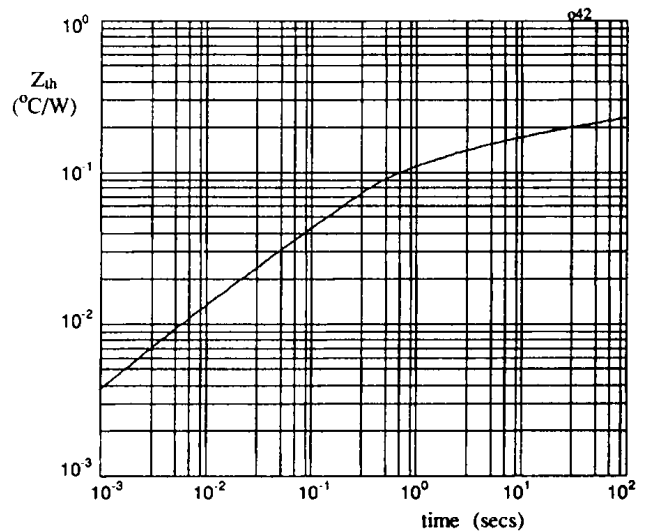


Fig 2. Transient thermal impedance characteristic per leg