

January 16, 1998

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

QUICK REFERENCE DATA

- Low forward voltage drop
- Low reverse leakage current
- Aluminum case
- Low thermal impedance
- High forward and surge current ratings

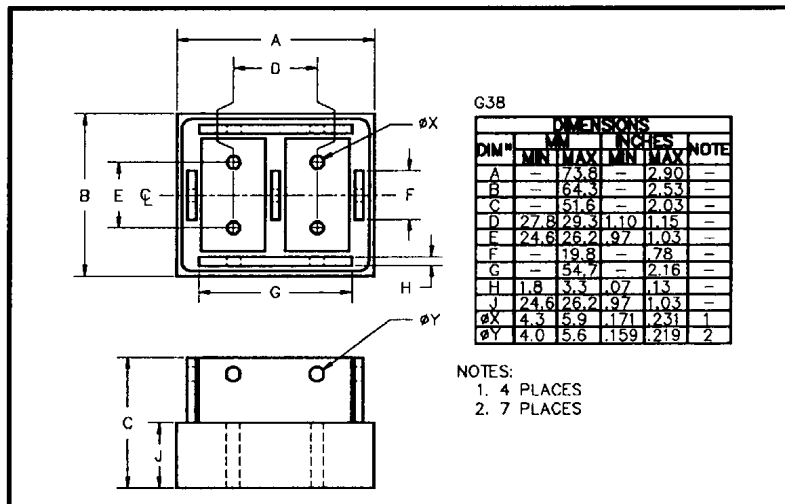
- $V_R = 50V - 600V$
- $I_F = 130A$
- $I_R = 18 \mu A$
- $I_{FSM} = 750A$

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 |
| SC3AS05 | 50 | | | | | | | | |
| SC3AS1 | 100 | | | | | | | | |
| SC3AS2 | 200 | 130 | 95 | 70 | 18 | 14 | 9 | 750 | 600 |
| SC3AS4 | 400 | | | | | | | | |
| SC3AS6 | 600 | | | | | | | | |

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

MECHANICAL



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ELECTRICAL CHARACTERISTICS

| Device Type | Reverse Leakage Current $I_R @ V_{RWM}$ | | Maximum Forward Voltage $V_F @ 18A/leg @ 25^\circ C$ | 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 | μS | °C | |
| SC3AS05 SC3AS1 SC3AS2 SC3AS4 SC3AS6 | 18.0 | 360 | 1.0 | 2.0 | - 55 to +150 | |

¹ Measured on discrete devices prior to assembly

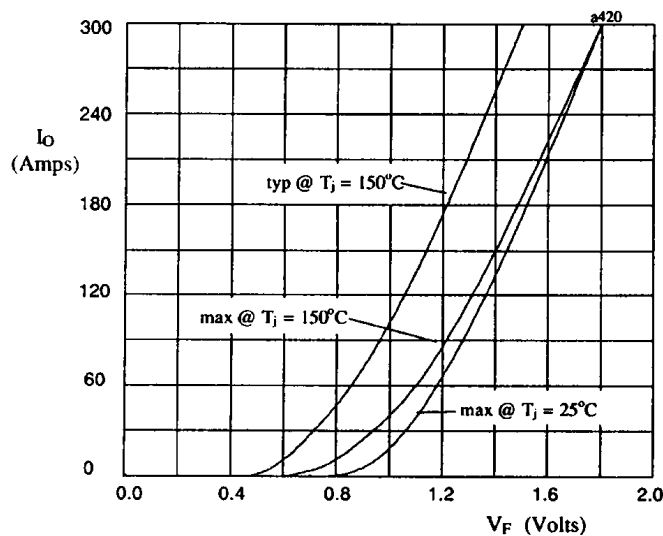


Fig 1. Forward voltage drop against output current per leg

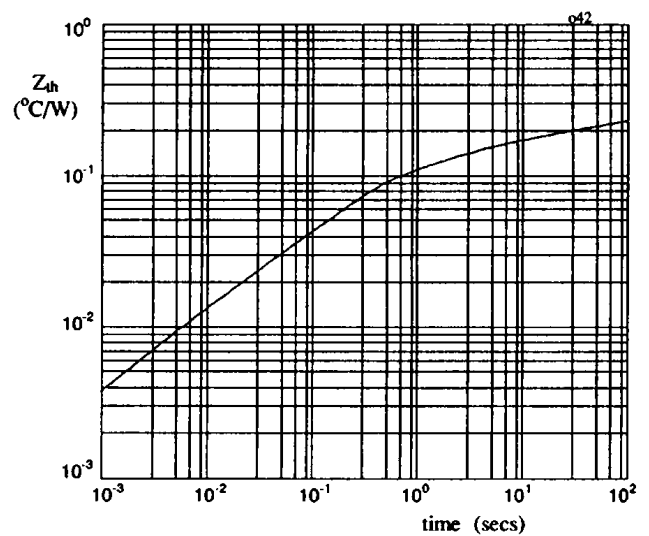


Fig 2. Transient thermal impedance characteristic per leg