

January 16, 1998

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

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

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

QUICK REFERENCE DATA

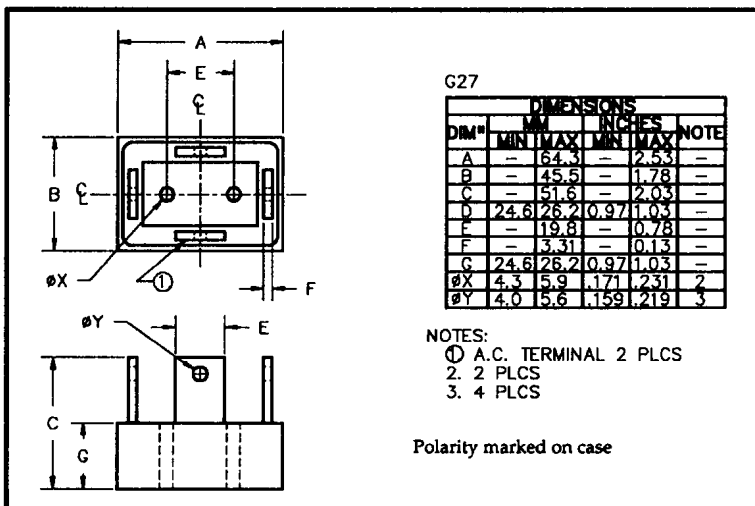
- $V_R = 50V - 400V$
- $I_F = 65A$
- $I_R = 12 \mu A$
- $t_{rr} = 150nS$

ABSOLUTE MAXIMUM RATINGS

Device Type	Working Reverse Voltage V_{RWM}	Average Rectified Current $I_{F(AV)}$						1 Cycle Surge Current $I_{FSM} \ t_p = 8.3mS$		Repetitive Surge Current I_{FRM}
		(@ case temperature)			(@ ambient temperature)					
		@ 55°C	@ 100°C	@ 125°C	@ 25°C	@ 55°C	@ 100°C	@ 25°C	@ 100°C	@ 25 °C
	Volts	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps	Amps
SCAS05F	50									
SCAS1F	100									
SCAS2F	200	65	43	30	16	11.5	7.2	750	480	120
SCAS4F	400									

$$R_{\theta JC} = 0.4^{\circ}C/W$$

MECHANICAL



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ELECTRICAL CHARACTERISTICS

Device Type	Maximum Reverse Leakage Current I_R @ V_{RWM}		Maximum Forward Voltage V_F @ 18A/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
SCAS05F SCAS1F SCAS2F SCAS4F	12	300	1.1	150	-55 to +150

¹ Measured on discrete devices prior to assembly

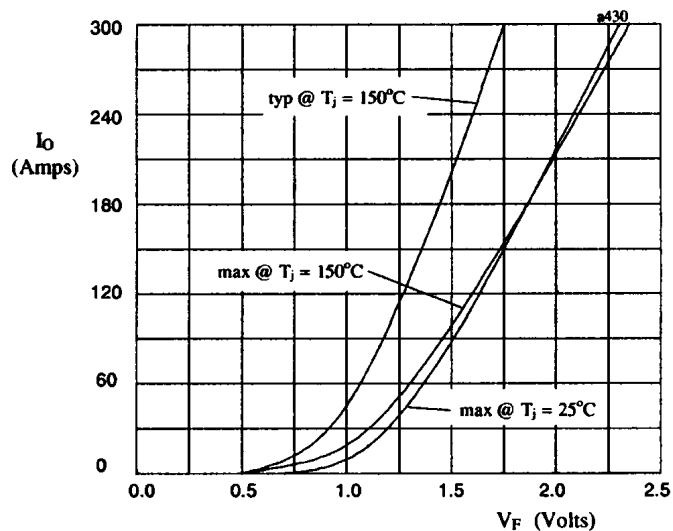


Fig 1. Forward voltage drop against output current per leg.

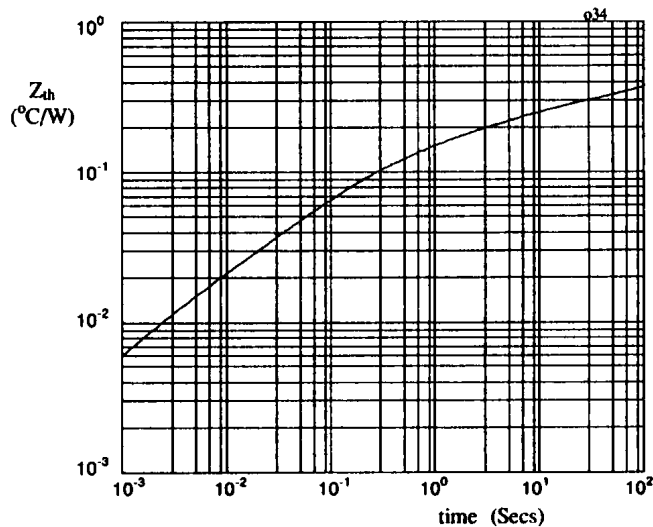


Fig 2. Transient thermal impedance characteristic per leg