

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 surge ratings

QUICK REFERENCE DATA

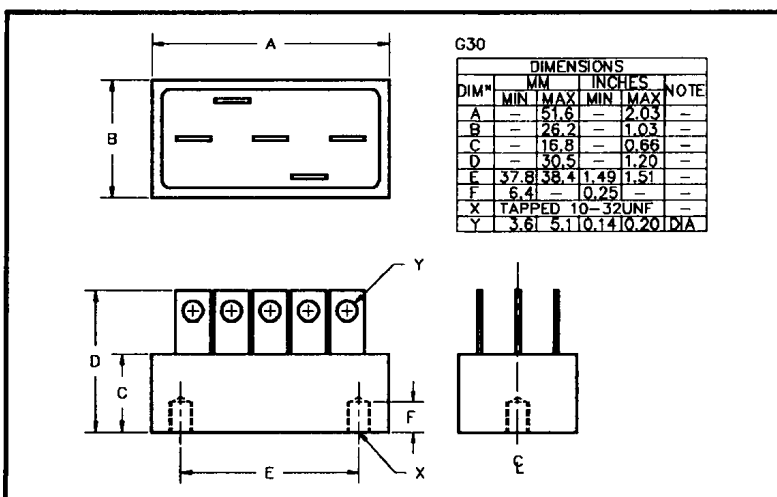
- $V_R = 50V - 400V$
- $I_F = 42A$
- $I_R = 9.0\mu A$
- $t_{rr} = 150ns$

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	Amps
SC3BK05F	50								
SC3BK1F	100								
SC3BK2F	200	42	29	20	11	8.5	5	375	240
SC3BK4F	400								

$$R_{\theta JC} = 1.1^{\circ}C/W$$

MECHANICAL



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ELECTRICAL CHARACTERISTICS

Device Type	Maximum Reverse Leakage Current I_R @ V_{RWM}		Maximum Forward Voltage V_F @ 9A/leg @ 25°C	Maximum Reverse Recovery Time t_{rr} @ 25°C	Maximum operating & storage temp range. T_{OP} T_{STG}
	@ 25°C	@ 100°C			
	μA	μA	Volts	nS	°C
SC3BK05F SC3BK1F SC3BK2F SC3BK4F	9.0	180	1.1	150 150 150 150	-55 to +150

¹ Measured on discrete devices prior to assembly

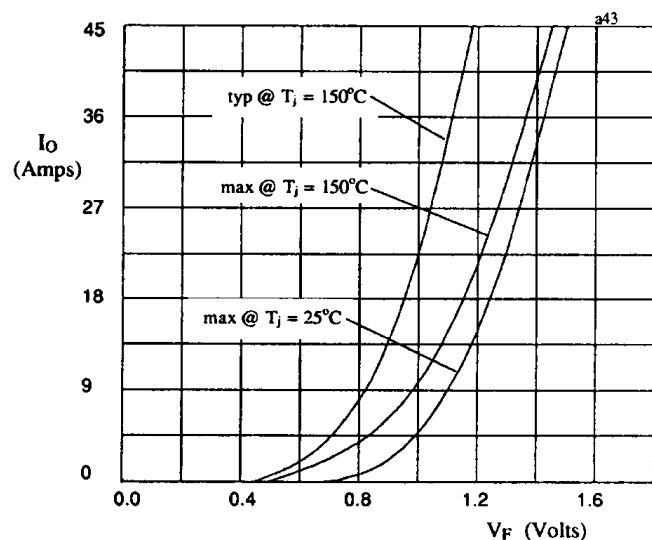


Fig 1. Forward voltage drop against output current per leg

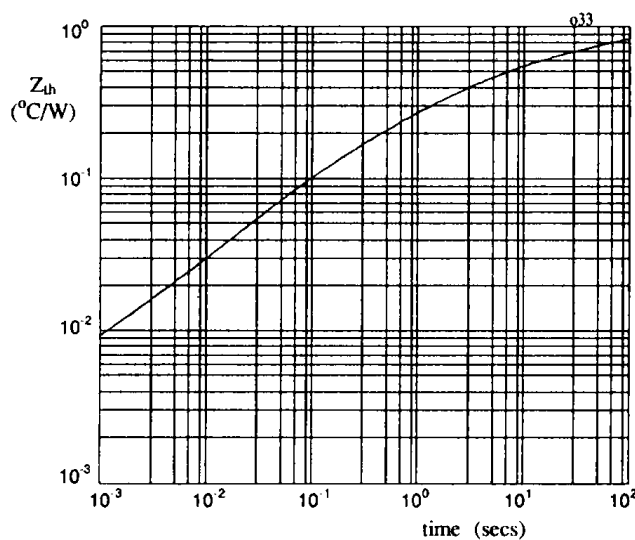


Fig 2. Typical transient thermal impedance characteristic per leg