

January 8, 1998

**HIGH VOLTAGE, HIGH DENSITY, FAST RECOVERY
MODULAR RECTIFIER ASSEMBLY**

- Low reverse recovery time
- Modular construction
- Low reverse leakage current
- High thermal shock resistance
- Provides design versatility

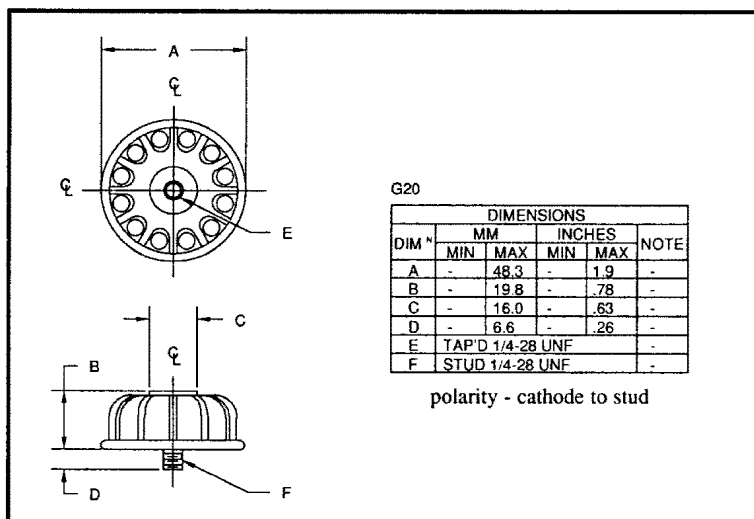
**QUICK REFERENCE
DATA**

- $V_R = 2.5\text{kV} - 15\text{kV}$
- $I_F = 350\text{mA}$
- $I_R = 0.25\mu\text{A}$
- $t_{rr} = 350\text{nS}$

ABSOLUTE MAXIMUM RATINGS

Device Type	Working Reverse Voltage V_{RWM}	Average Rectified Current $I_{F(AV)}$				1 Cycle Surge Current I_{FSM} $t_p = 8.3\text{mS}$ @ T_{JMAX}	Repetitive Surge Current I_{FRM} @ 25°C	I^2t $t_p = 8.3\text{mS}$ A^2S
		air 25°C	air 100°C	stud to heat-sink @ 25°C	in still oil @ 55°C			
		Volts	Amps	Amps	Amps			
SHVM2.5F	2500	↑	↑	↑	↑	↑	↑	↑
SHVM5F	5000	↑	↑	↑	↑	↑	↑	↑
SHVM7.5F	7500	↑	↑	↑	↑	↑	↑	↑
SHVM10F	10000	0.35	0.15	0.35	0.35	15.0	8.0	0.9
SHVM12.5F	12500	↓	↓	↓	↓	↓	↓	↓
SHVM15F	15000	↓	↓	↓	↓	↓	↓	↓

MECHANICAL



MAXIMUM THERMAL IMPEDANCES

- Junction - Ambient $R_{\theta JA} < 12^\circ\text{C/W}$
- Junction - Stud $R_{\theta JS} < 6^\circ\text{C/W}$
- Junction - Oil $R_{\theta JO} < 4.5^\circ\text{C/W}$

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ELECTRICAL CHARACTERISTICS

Device Type	Maximum Reverse Leakage Current $I_R @ V_{RWM}$		Maximum Reverse Recovery Time ¹ $t_{rr} @ 25^\circ\text{C}$	Maximum Forward Voltage $V_F @ 0.8A @ 25^\circ\text{C}$
	@ 25 °C	@ 100 °C		
	μA	μA	nS	Volts
SHVM2.5F	↑ 1.0 ↓	↑ 50 ↓	↑ 350 ↓	7
SHVM5F				14
SHVM7.5F				21
SHVM10F				28
SHVM12.5F				35
SHVM15F				42

1. Measured on discrete devices prior to assembly

Operating temperature range -55 °C to +150 °C
Storage temperature range -55 °C to +150 °C

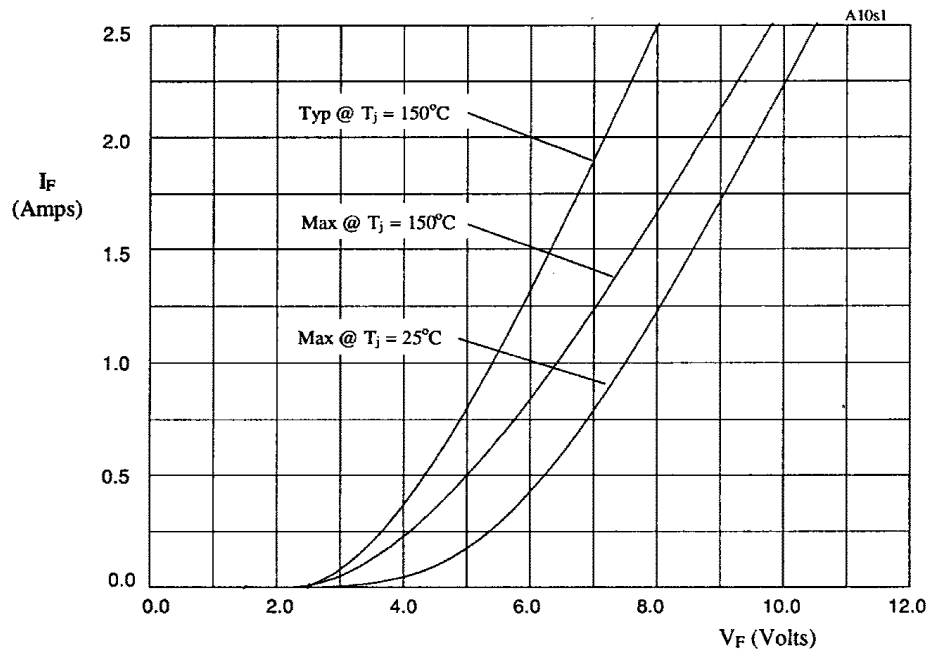


Figure 1. Forward voltage drop as a function of forward current.

TABLE I

DEVICE	X-AXIS
SHVM2.5F	x1
SHVM5F	x2
SHVM7.5F	x3
SHVM10F	x4
SHVM12.5F	x5
SHVM15F	x6