

January 8, 1998

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

### 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

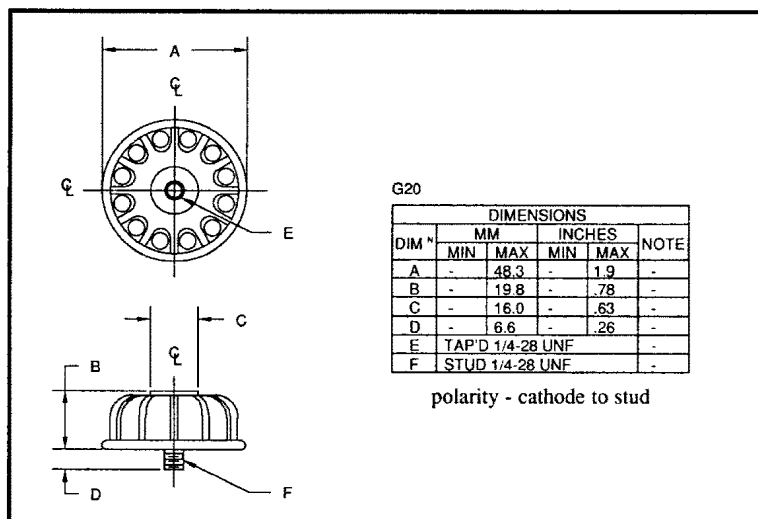
### QUICK REFERENCE DATA

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

### 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 $I_{FRM}$ @ $25^\circ\text{C}$	$I^2t$ $t_p = 8.3\text{ms}$
		air $25^\circ\text{C}$	air $100^\circ\text{C}$	stud to heat-sink @ $25^\circ\text{C}$	in still oil @ $55^\circ\text{C}$			
		Volts	Amps	Amps	Amps	Amps	Amps	$\text{A}^2\text{S}$
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  $R_{\theta JO} < 4.5^\circ\text{C/W}$

January 8, 1998

### ELECTRICAL CHARACTERISTICS

Device Type	Maximum Reverse Leakage Current $I_R$ @ $V_{RWM}$		Maximum Reverse Recovery Time <sup>1</sup> $t_{rr}$ @ 25°C	Maximum Forward Voltage $V_F$ @ 0.8A @ 25°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

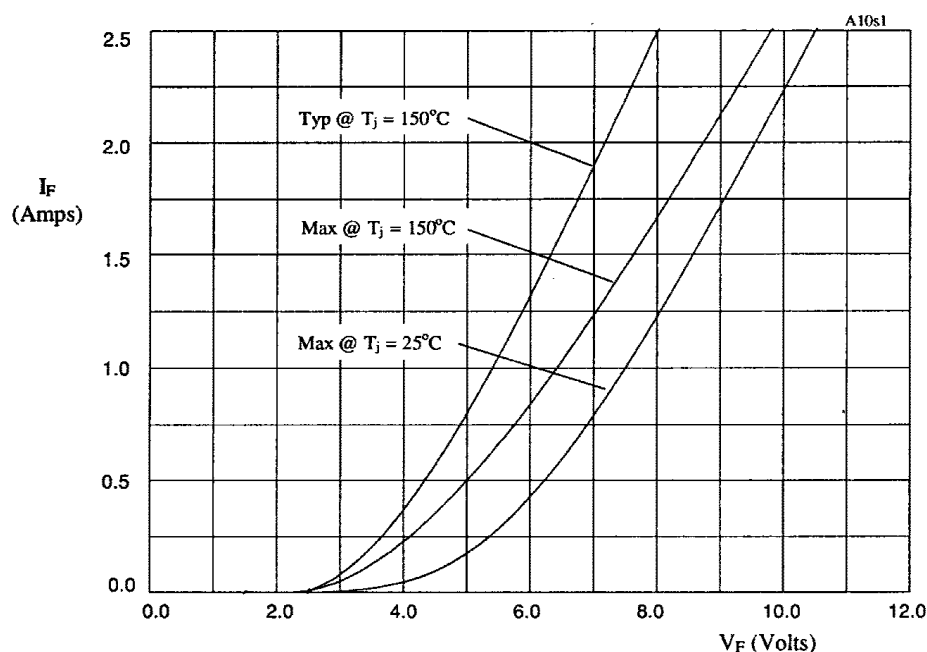


Figure 1. Forward voltage drop as a function of forward current.

TABLE 1

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

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Semtech:](#)

[SHVM5F](#) [SHVM10F](#) [SHVM15F](#)