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SEMTECH

**FAST RECOVERY HIGH VOLTAGE
RECTIFIER ASSEMBLY**

**SDHF2.5KM
SDHF5KM
SDHF7.5KM**

January 9, 1998

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

HIGH DENSITY, HIGH VOLTAGE, FAST RECOVERY RECTIFIER ASSEMBLY

- Low reverse leakage current
- Low reverse recovery time
- Corona free design
- Easy aluminum base mount
- Low forward voltage drop

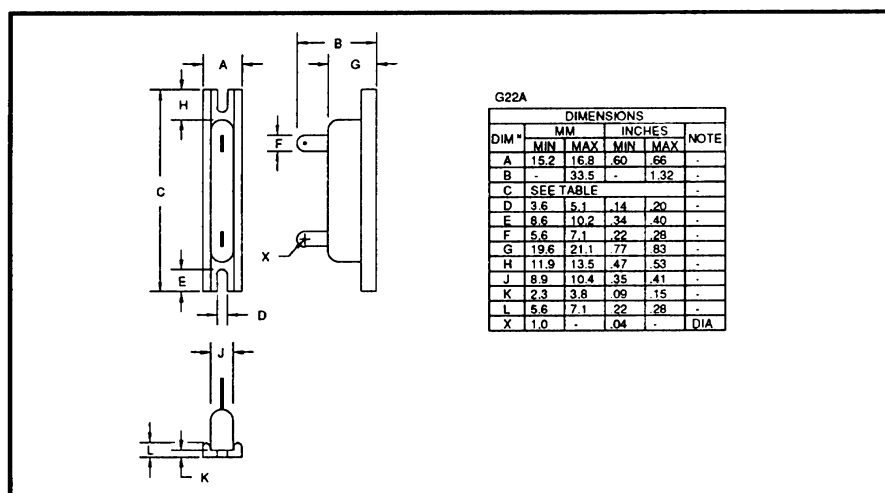
QUICK REFERENCE DATA

- $V_R = 2.5 - 7.5\text{kV}$
- $I_F = 1\text{A}$
- $t_{rr} = 150\text{nS}$
- $I_R = 1.0\mu\text{A}$

ABSOLUTE MAXIMUM RATINGS

	Symbol	SDHF2.5KM	SDHF5KM	SDHF7.5KM	Unit
Working reverse voltage	V_{RWM}	2.5	5.0	7.5	kV
Surge reverse voltage	V_{RSM}	2.5	5.0	7.5	kV
Average forward current in air @ 25°C in oil @ 55°C	$I_{F(AV)}$	$\longleftrightarrow 1.0 \longleftrightarrow$ $\longleftrightarrow 1.0 \longleftrightarrow$			A
Non-repetitive surge current $t_p = 8.3\text{mS}$, @ 25°C	I_{FSM}	$\longleftrightarrow 25 \longleftrightarrow$			A
Storage temperature range	T_{STG}	$\longleftrightarrow -55 \text{ to } +150 \longleftrightarrow$			°C
Operating temperature range	T_{OP}	$\longleftrightarrow -55 \text{ to } +150 \longleftrightarrow$			°C
Body length $\pm 0.030"$	dim C	3.36	4.04	6.09	inches

MECHANICAL



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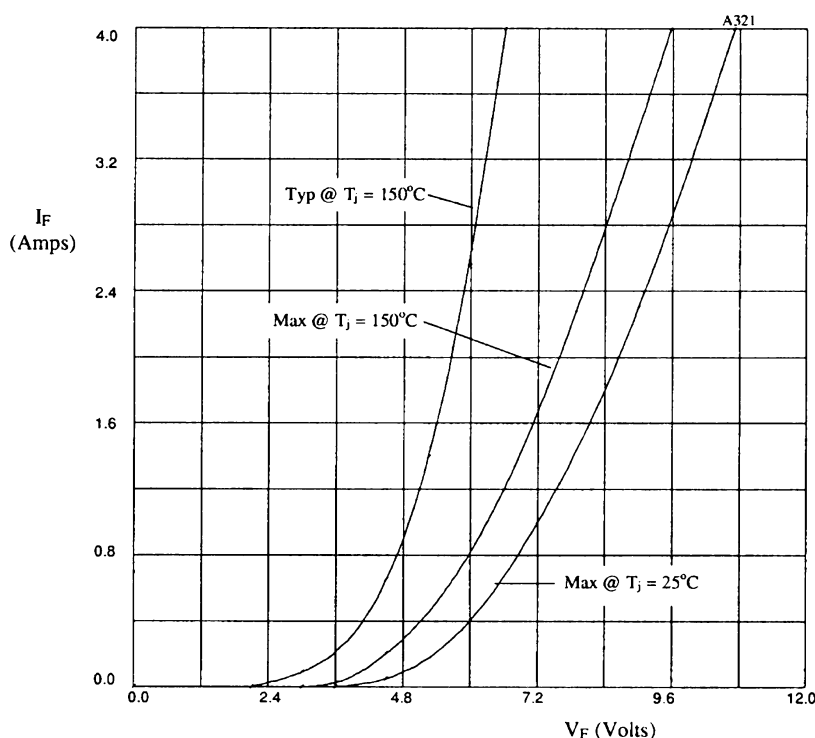
**SDHF2.5KM
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ELECTRICAL CHARACTERISTICS

	Symbol	SDHF2.5KM	SDHF5KM	SDHF7.5KM	Unit
Max. forward voltage drop @ $I_F = 1.0A$, $T_j = 25^\circ C$	V_F	7.2	14.4	21.6	V
Max. reverse leakage current @ V_{RWM} , $T_j = 25^\circ C$	I_R	← 1.0 →			μA
@ V_{RWM} , $T_j = 100^\circ C$	I_R	← 25 →			μA
Max. reverse recovery time ¹ 0.5A I_F to 1.0A I_R . Recovers to 0.25A I_{RR} .	t_{rr}	← 150 →			nS
Max. fusing current $t_p = 8.3mS$	I^2t	← 2.6 →			A^2S

¹ Measured on discrete devices prior to assembly



Multiplication tables for fig 1.

SDHF2.5KM X-axis x1
SDHF5KM X-axis x2
SDHF7.5KM X-axis x3

Fig 1. Forward voltage drop as a function of forward current for use with multiplication table 1.