

January 9, 1998

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

HIGH DENSITY, HIGH VOLTAGE, STANDARD RECOVERY RECTIFIER ASSEMBLY

- 2.5A forward current
- Low reverse leakage current
- Corona free design
- Easy aluminum base mount
- Low forward voltage drop

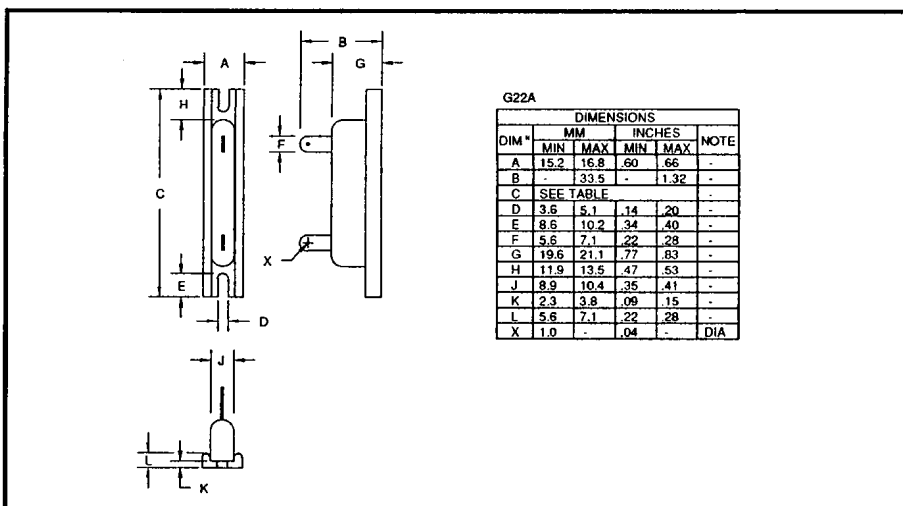
QUICK REFERENCE DATA

- $V_R = 5\text{kV} \text{ \& } 10\text{kV}$
- $I_F = 2.5\text{A}$
- $t_{rr} = 2.0\mu\text{S}$
- $I_R = 1.0\mu\text{A}$

ABSOLUTE MAXIMUM RATINGS

	Symbol	SDH5KS	SDH10KS	Unit
Working reverse voltage	V_{RWM}	5.0	10.0	kV
Surge reverse voltage	V_{RSM}	5.5	11.0	kV
Average forward current in air @ 25°C in oil @ 55°C	$I_{F(AV)}$	← 2.5 → ← 2.5 →		A A
Non-repetitive surge current $t_p = 8.3\text{mS}$, @ 25°C	I_{FSM}	← 150 →		A
Storage temperature range	T_{STG}	← -55 to +150 →		°C
Operating temperature range	T_{OP}	← -55 to +150 →		°C
Body length $\pm 0.030"$	dim C	3.36	4.04	inches

MECHANICAL

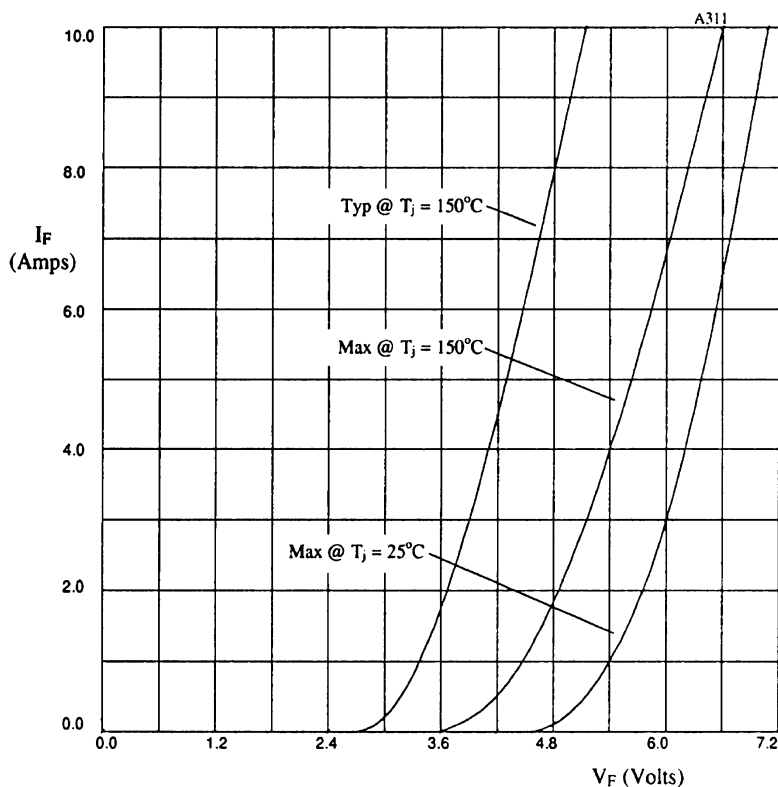


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ELECTRICAL CHARACTERISTICS

	Symbol	SDH5KS	SDH10KS	Unit
Max. forward voltage drop @ $I_F = 3.0A$, $T_j = 25^\circ C$	V_F	6.0	12.0	V
Max. reverse leakage current @ V_{RWM} , $T_j = 25^\circ C$	I_R	← 1.0 →	← 1.0 →	μA
@ V_{RWM} , $T_j = 100^\circ C$	I_R	← 20 →	← 20 →	μA
Max. reverse recovery time ¹ 0.5A I_F to 1.0A I_R . Recovers to 0.25A I_{RR} .	t_{rr}	← 2.0 →	← 2.0 →	μS
Max. fusing current $t_p = 8.3ms$	I^2t	← 94 →	← 94 →	A^2S

¹ Measured on discrete devices prior to assembly



Multiplication tables for fig 1.

SDH5KS	X-axis x1
SDH10KS	X-axis x2

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

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