

SEMTECH

**STANDARD RECOVERY HIGH
VOLTAGE RECTIFIER ASSEMBLY**

**SDH7.5K
SDH15K**

January 9, 1998

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HIGH DENSITY, HIGH VOLTAGE, STANDARD RECOVERY RECTIFIER ASSEMBLY

QUICK REFERENCE DATA

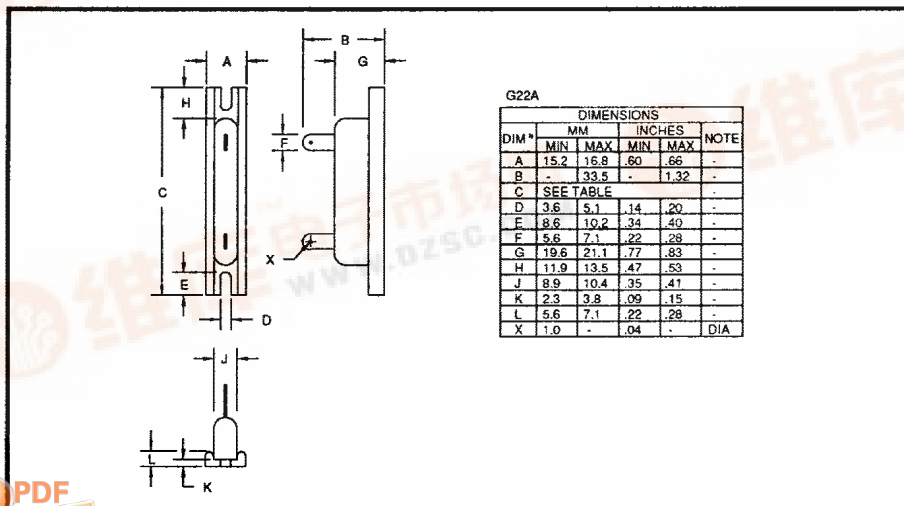
- Low reverse leakage current
- Corona free design
- Easy aluminum base mount
- Low forward voltage drop
- Up to 15kV reverse voltage

- $V_R = 7.5\text{kV} \& 15\text{kV}$
- $I_F = 400\text{mA}$
- $t_{rr} = 2.5\mu\text{S}$
- $I_R = 2.0\mu\text{A}$

ABSOLUTE MAXIMUM RATINGS

	Symbol	SDH7.5K	SDH15K	Unit
Working reverse voltage	V_{RWM}	7.5	15.0	kV
Surge reverse voltage	V_{RSM}	8.25	16.50	kV
Average forward current in air @ 25°C in oil @ 55°C	$I_{F(AV)}$	← 400 → ← 400 →		mA mA
Non-repetitive surge current $t_p = 8.3\text{mS}$, @ 25°C	I_{FSM}	← 40.0 →		A
Storage temperature range	T_{STG}	← -55 to +150 →		°C
Operating temperature range	T_{OP}	← -55 to +150 →		°C
Body length ±0.030"	dim C	3.36	4.04	inches

MECHANICAL

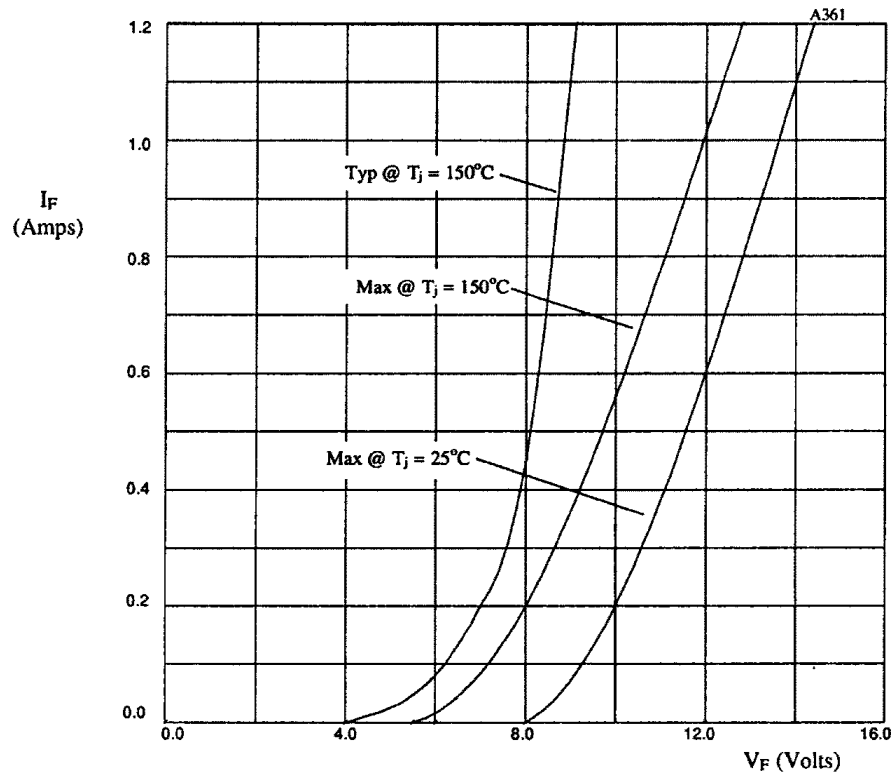


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ELECTRICAL CHARACTERISTICS

	Symbol	SDH7.5K	SDH15K	Unit
Max. forward voltage drop @ $I_F = 200\text{mA}$, $T_j = 25^\circ\text{C}$	V_F	10.0	20.0	V
Max. reverse leakage current @ V_{RWM} , $T_j = 25^\circ\text{C}$	I_R	← 2.0 →	← 2.0 →	μA
@ V_{RWM} , $T_j = 100^\circ\text{C}$	I_R	← 40 →	← 40 →	μA
Max. reverse recovery time ¹ 50mA I_F to 100mA I_R . Recovers to 25mA I_{RR} .	t_{rr}	← 2.5 →	← 2.5 →	μs
Max. fusing current $t_p = 8.3\text{mS}$	I^2t	← 6.64 →	← 6.64 →	A^2S

¹ Measured on discrete devices prior to assembly



Multiplication tables for fig 1.

SDH7.5K	X-axis x1
SDH15K	X-axis x2

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