

TECHNICAL DATA
DATA SHEET 4500, REV. A

POWER SCHOTTKY RECTIFIER Low Reverse Leakage

Applications:

- Switching Power Supply • Converters • Free-Wheeling Diodes • Polarity Protection Diode

Features:

- Ultra Low Reverse Leakage Current
- Soft Reverse Recovery at Low and High Temperature
- Very Low Forward Voltage Drop
- Low Power Loss, High Efficiency
- High Surge Capacity
- Guard Ring for Enhanced Durability and Long Term Reliability
- Guaranteed Reverse Avalanche Characteristics

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	45	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form	15	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine wave (per leg)	280	A
Non-Repetitive Avalanche Energy	E_{AS}	$T_J = 25\text{ }^\circ\text{C}$, $I_{AS} = 1.3\text{ A}$, $L = 40\text{mH}$ (per leg)	27	mJ
Repetitive Avalanche Current	I_{AR}	I_{AS} decay linearly to 0 in $1\text{ }\mu\text{s}$ f limited by T_J max $V_A=1.5V_R$	1.3	A
Thermal Resistance	R_{thJC}	Per Package	1.70	$^\circ\text{C/W}$
Max. Junction Temperature	T_J	-	-65 to +150	$^\circ\text{C}$
Max. Storage Temperature	T_{stg}	-	-65 to +150	$^\circ\text{C}$

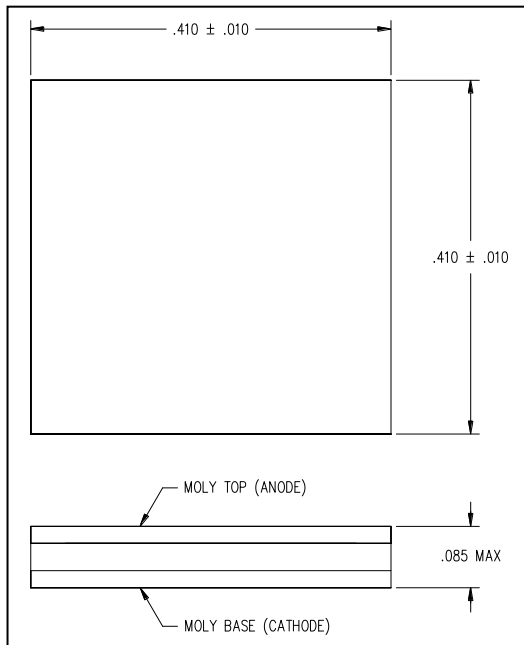
Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 15A, Pulse, $T_J = 25\text{ }^\circ\text{C}$ (per leg) measured at the leads	0.56	V
	V_{F2}	@ 15A, Pulse, $T_J = 125\text{ }^\circ\text{C}$ (per leg) measured at the leads	0.51	V
Max. Reverse Current	I_{R1}	@ $V_R = 45\text{V}$, Pulse, $T_J = 25\text{ }^\circ\text{C}$ (per leg)	1.5	mA
	I_{R2}	@ $V_R = 45\text{V}$, Pulse, $T_J = 125\text{ }^\circ\text{C}$ (per leg)	70	mA
Max. Junction Capacitance	C_T	@ $V_R = 5\text{ V}$, $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{ MHz}$, $V_{SIG} = 50\text{mV}$ (p-p) (per leg)	800	pF

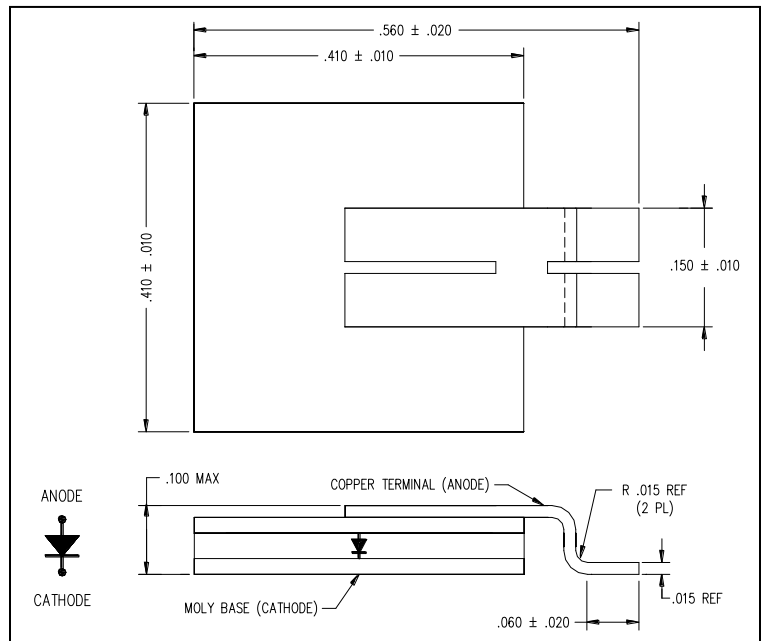
Due to the nature of the 45V Schottky devices, some degradation in t_{rr} performance at high temperatures should be expected, unlike conventional lower voltage Schottkys.

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MECHANICAL DIMENSIONS: In Inches / mm

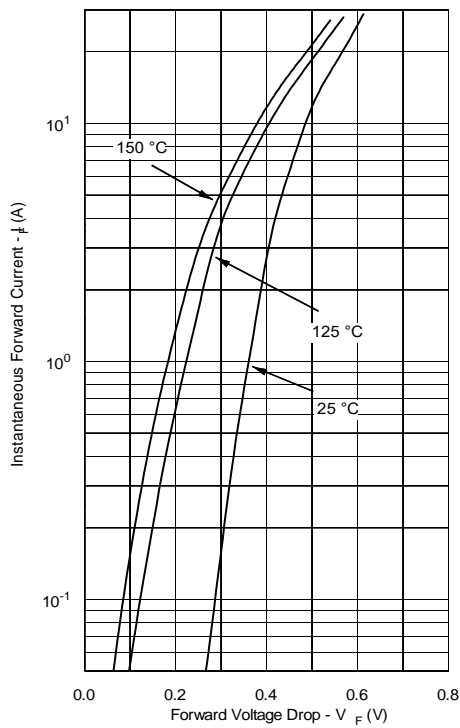


SHD-3

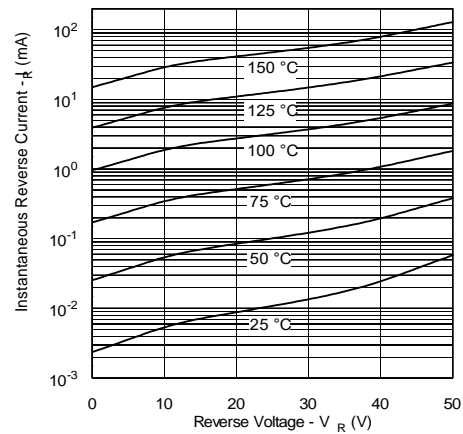


SHD-3B

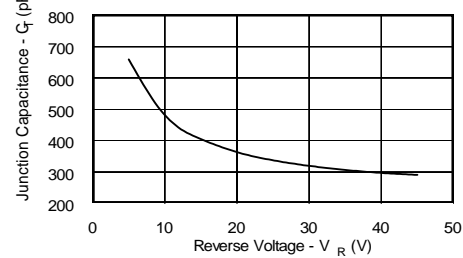
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



Vf Curves shown are for die only.

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PART ORDERING INFORMATION:

SHD114212 XX X

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Part Number

Screening Level (blank is no screening):

Suffix	Screened in Accordance with:
blank	No screening level
S	MIL-PRF-19500, TXV Level
SS	MIL-PRF-19500, S Level

QCI (blank is no QCI):

Suffix	Inspection in Accordance with:
blank	No QCI
Q	MIL-PRF-19500 QCI

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