TECHNICAL DATA DATA SHEET 4517, 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	$V_{RWM}$	-	30	V
Max. Average Forward	I <sub>F(AV)</sub>	50% duty cycle, rectangular	60	Α
Current		wave form		
Max. Peak One Cycle Non-	I <sub>FSM</sub>	8.3 ms, half Sine wave	860	Α
Repetitive Surge Current		(per leg)		
Non-Repetitive Avalanche	E <sub>AS</sub>	$T_J = 25 ^{\circ}\text{C}, I_{AS} = 1.3 \text{A},$	27	mJ
Energy		L = 40mH (per leg)		
Repetitive Avalanche	I <sub>AR</sub>	I <sub>AS</sub> decay linearly to 0 in 1 μs	1.3	Α
Current		f limited by T <sub>J</sub> max V <sub>A</sub> =1.5V <sub>R</sub>		
Thermal Resistance	$R_{thJC}$	Per Package	0.7	°C/W
Max. Junction Temperature	$T_J$	-	-65 to +175	°C
Max. Storage Temperature	T <sub>stg</sub>	-	-65 to +175	°C

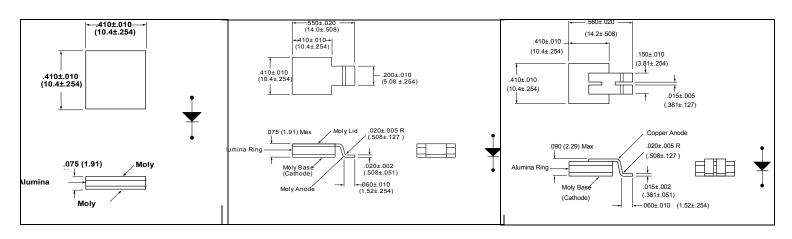
#### **Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	$V_{F1}$	@ 60A, Pulse, T <sub>J</sub> = 25 °C	0.53	V
		(per leg) measured at the leads		
	$V_{F2}$	@ 60A, Pulse, T <sub>J</sub> = 125 °C	0.43	V
		(per leg) measured at the leads		
Max. Reverse Current	I <sub>R1</sub>	@V <sub>R</sub> = 30V, Pulse,	6	mA
		T <sub>J</sub> = 25 °C (per leg)		
	I <sub>R2</sub>	@V <sub>R</sub> = 30V, Pulse,	300	mA
		$T_J$ = 125 °C (per leg)		
Max. Junction Capacitance	C <sub>T</sub>	@V <sub>R</sub> = 5 V, T <sub>C</sub> = 25 °C	3300	pF
		f <sub>SIG</sub> = 1 MHz,		
		$V_{SIG}$ = 50mV (p-p) (per leg)		

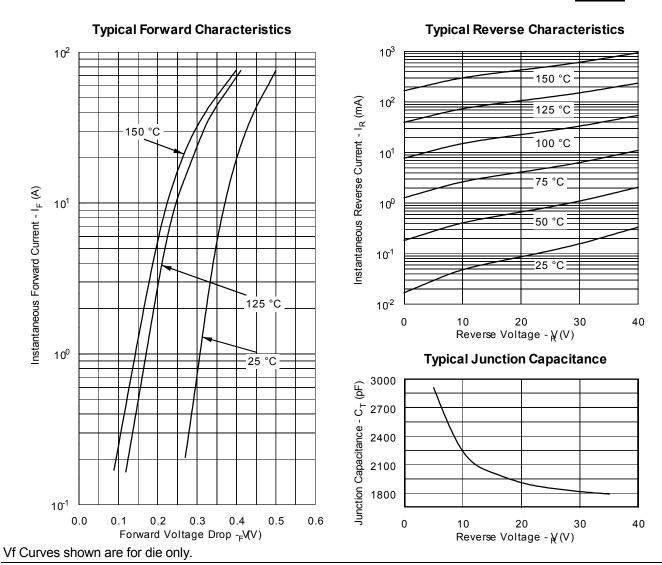
Due to the nature of the 30V Schottky devices, some degradation in  $t_{rr}$  performance at high temperatures should be expected, unlike conventional lower voltage Schottkys.

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## Mechanical Dimensions: in inches / mm



SHD-3A SHD-3B



#### **SENSITRON**

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