

TECHNICAL DATA DATA SHEET 326, Rev.A

# ULTRA LOW REVERSE LEAKAGE POWER SCHOTTKY RECTIFIER Very Low Forward Voltage Drop

## **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
- Electrically / Mechanically Stable during and after Packaging
- Out Performs 100 Volt Ultrafast Rectifiers

**Maximum Ratings:** 

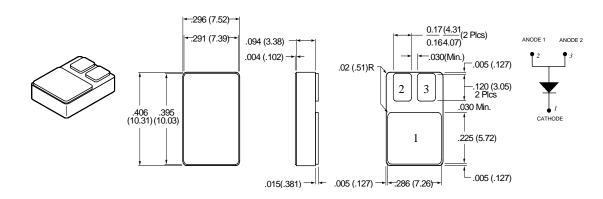
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Characteristics	Symbol	Condition	Max.	Units			
Peak Inverse Voltage	$V_{RWM}$	-	100	V			
Max. Average Forward Current	I <sub>F(AV)</sub>	50% duty cycle @T <sub>C</sub> =100°C, rectangular wave form	3.0	А			
Max. Peak One Cycle Non- Repetitive Surge Current	I <sub>FSM</sub>	8.3 ms, half Sine pulse	55	Α			
Max. Junction Temperature	TJ	-	-65 to +200	°C			
Max. Storage Temperature	T <sub>stq</sub>	-	-65 to +175	°C			

#### **Electrical Characteristics:**

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Characteristics	Symbol	Condition	Max.	Units		
Max. Forward Voltage Drop	V <sub>F1</sub>	@ 3 A, Pulse, T <sub>J</sub> = 25 °C	0.89	V		
	$V_{F2}$	@ 3 A, Pulse, T <sub>J</sub> = 125 °C	0.73	V		
Max. Reverse Current	I <sub>R1</sub>	@V <sub>R</sub> = 100V, Pulse,	0.025	mA		
		T <sub>J</sub> = 25 °C				
	I <sub>R2</sub>	@V <sub>R</sub> = 100V, Pulse,	0.25	mA		
		T <sub>J</sub> = 125 °C				
Max. Junction Capacitance	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C	100	pF		
		$f_{SIG} = 1MHz,$				
		$V_{SIG} = 50 \text{mV (p-p)}$				
Maximum Thermal Resis.	$R_{\theta JC}$	-	10	°C/W		

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#### Mechanical Dimensions: In Inches / mm



NOTE: The V<sub>F</sub> curves are for SD060SCU100 chip only.

#### **Typical Forward Characteristics Typical Reverse Characteristics** 10<sup>1</sup> 200°C 10<sup>0</sup> Instantaneous Reverse Current - I<sub>R</sub> (mA) 175 °C 150 °C 200 °C 10<sup>-1</sup> 10<sup>0</sup> 125 °C 10<sup>-2</sup> 100 °C Instantaneous Forward Current - I<sub>F</sub> (A) 75 °C 175 °C 10<sup>-3</sup> 50 °C 125 °C 10<sup>-4</sup> 10<sup>-1</sup> 25 °C 10<sup>-5</sup> 0 20 40 60 100 120 Reverse Voltage - V<sub>R</sub> (V) **Typical Junction Capacitance** 25 °C 90 Junction Capacitance - $C_T$ (pF) 10<sup>-2</sup> 80 70 60 50 40 30 20 10<sup>-3</sup> 10 0.7 0.8 0.1 0.2 0.3 0.4 0.5 0.6 0 20 60 120 Forward Voltage Drop - V <sub>F</sub> (V) Reverse Voltage - V<sub>R</sub> (V)

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