

TECHNICAL DATA  
DATA SHEET 4111, REV A

## SILICON SCHOTTKY RECTIFIER DIE

### Very Low Forward Voltage Drop (150 °C T<sub>J</sub> Operation)

**Applications:**

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

**Features:**

- 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

**Maximum Ratings** (in SHD package):

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V <sub>RWM</sub>	-	45	V
Max. Average Forward Current	I <sub>F(AV)</sub>	50% duty cycle, rectangular wave form	120	A
Max. Peak One Cycle Non-Repetitive Surge Current	I <sub>FSM</sub>	8.3 ms, half Sine wave	1650	A
Non-Repetitive Avalanche Energy	E <sub>AS</sub>	T <sub>J</sub> = 25 °C, I <sub>AS</sub> = 11 A, L = 1.2 mH	76	mJ
Repetitive Avalanche Current	I <sub>AR</sub>	I <sub>AS</sub> decay linearly to 0 in 1 μs f limited by T <sub>J</sub> max V <sub>A</sub> =1.5V <sub>R</sub>	11	A
Max. Junction Temperature	T <sub>J</sub>	-	-65 to +150	°C
Max. Storage Temperature	T <sub>stg</sub>	-	-65 to +150	°C

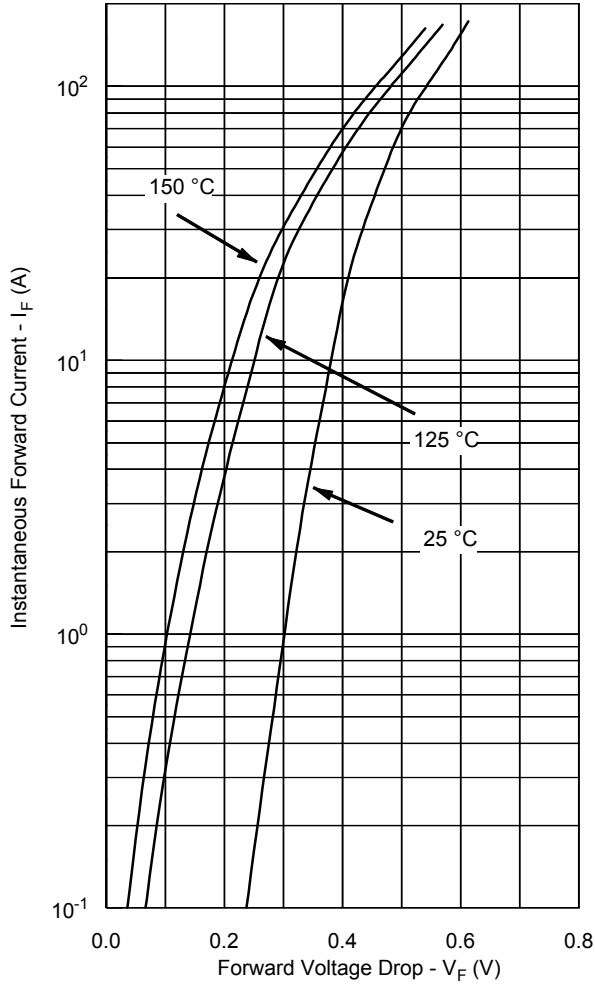
**Electrical Characteristics**<sup>(1)</sup>:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V <sub>F1</sub>	@ 120A, Pulse, T <sub>J</sub> = 25 °C	0.60	V
	V <sub>F2</sub>	@ 120A, Pulse, T <sub>J</sub> = 125 °C	0.57	V
Max. Reverse Current	I <sub>R1</sub>	@V <sub>R</sub> = 45V, Pulse, T <sub>J</sub> = 25 °C	9.0	mA
	I <sub>R2</sub>	@V <sub>R</sub> = 45V, Pulse, T <sub>J</sub> = 125 °C	420	mA
Max. Junction Capacitance	C <sub>T</sub>	@V <sub>R</sub> = 5V, T <sub>C</sub> = 25 °C f <sub>SIG</sub> = 1MHz, V <sub>SIG</sub> = 50mV (p-p)	4800	pF

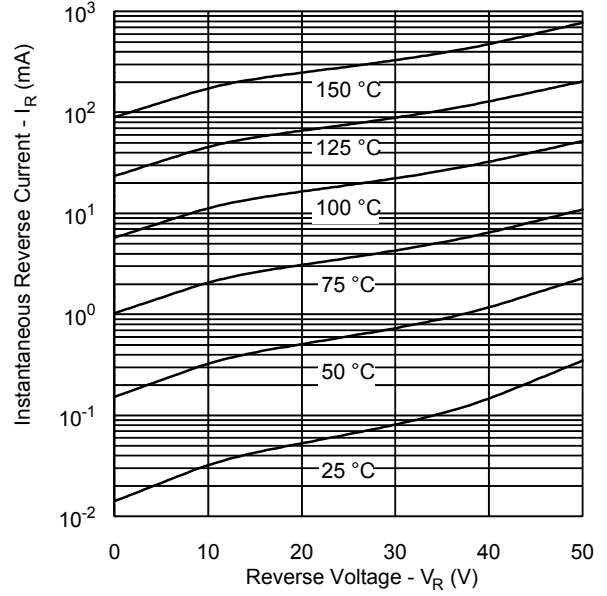
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TECHNICAL DATA  
DATA SHEET 4111, REV A

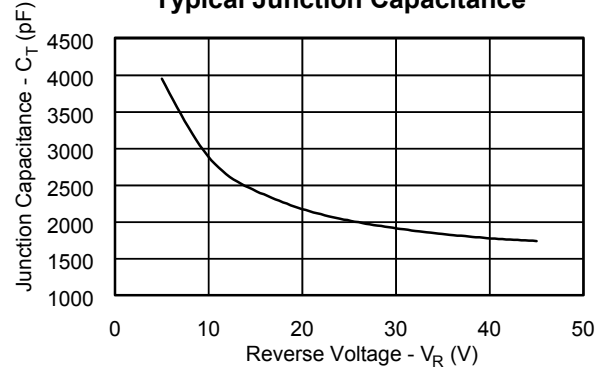
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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DATA SHEET 4111, REV A**

**Mechanical Dimensions: In Inches / mm**

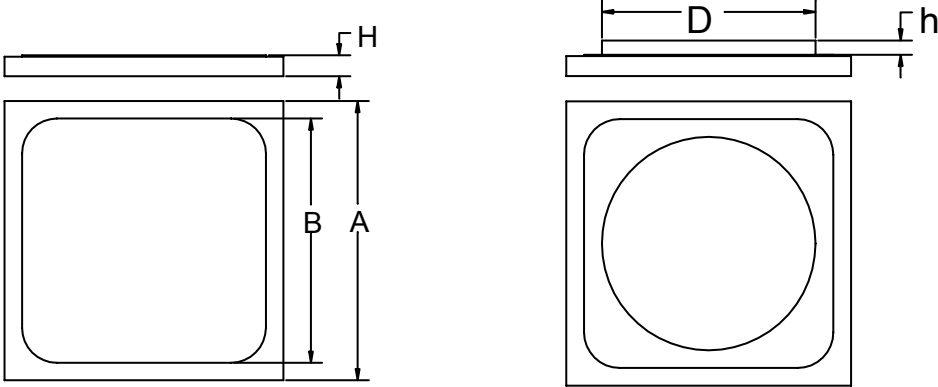


Figure 1

Figure 2

A	B	D	H	h
0.275±0.003	0.267±0.003	0.220±0.005	0.0155±0.001	0.011±0.002

**Top side (Anode) metallization:**

- A = Al - 25 kÅ minimum, Figure 1
- B = Ag - 30 kÅ minimum, Figure 1
- C = Au - 12 kÅ min, Figure 2

**Bottom side (Cathode) metallization:**

A, B, C = Ti/Ni/Ag - 30 kÅ minimum.

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