

TECHNICAL DATA  
DATA SHEET 4031, 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<sup>(1)</sup>:**

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	30	A
Max. Peak One Cycle Non-Repetitive Surge Current	I <sub>FSM</sub>	8.3 ms, half Sine wave	570	A
Non-Repetitive Avalanche Energy	E <sub>AS</sub>	T <sub>J</sub> = 25 °C, I <sub>AS</sub> = 1.1 A, L = 60 mH	36	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>	6.0	A
Max. Junction Temperature	T <sub>J</sub>	-	-65 to +150	°C
Max. Storage Temperature	T <sub>stg</sub>	-	-65 to +150	°C

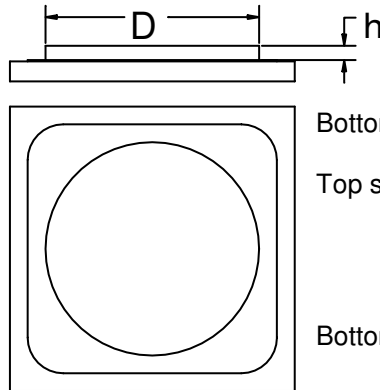
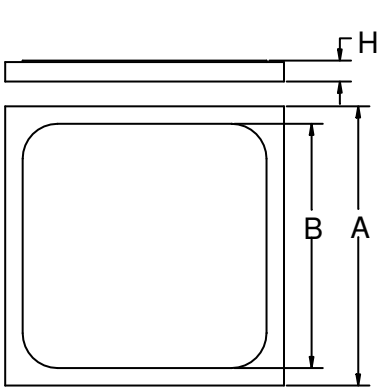
**Electrical Characteristics<sup>(1)</sup>:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V <sub>F1</sub>	@ 30A, Pulse, T <sub>J</sub> = 25 °C	0.56	V
	V <sub>F2</sub>	@ 30A, Pulse, T <sub>J</sub> = 125 °C	0.51	V
Max. Reverse Current	I <sub>R1</sub>	@V <sub>R</sub> = 45V, Pulse, T <sub>J</sub> = 25 °C	3.0	mA
	I <sub>R2</sub>	@V <sub>R</sub> = 45V, Pulse, T <sub>J</sub> = 125 °C	140	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)	1600	pF

(1) in SHD package

**TECHNICAL DATA**  
**DATA SHEET 4031, Rev. A**

**Mechanical Dimensions: In Inches / mm**



Bottom side metalization Ag - 30 kÅ minimum.

Top side metalization

A = Al - 25 kÅ minimum

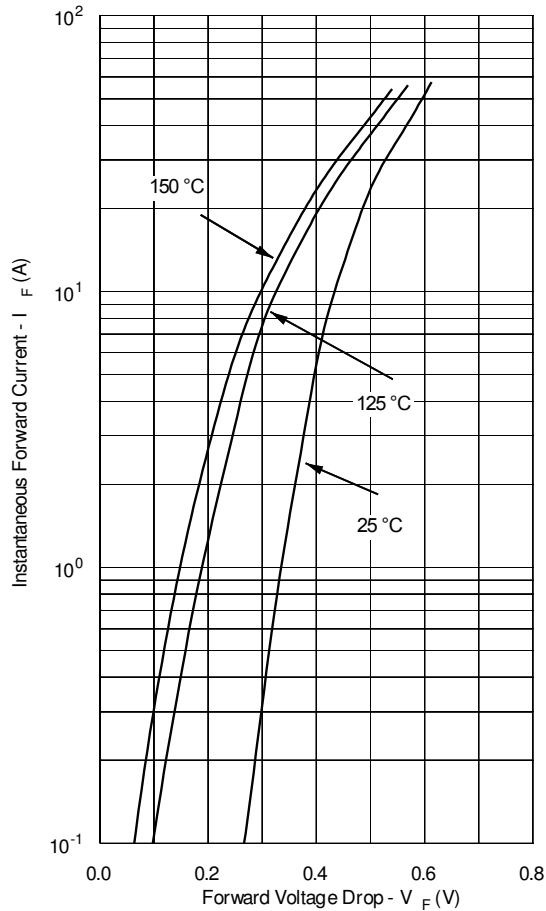
B = Ag -30 kÅ minimum

C= Au plated Ni-Moly disc with bare edge

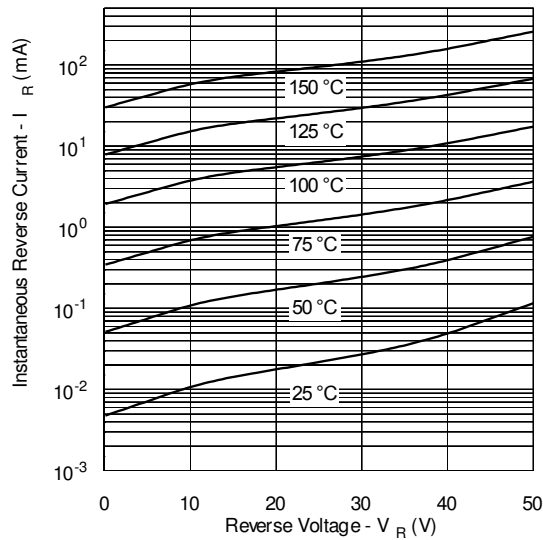
Bottom side is cathode, top side is anode.

A	B	D	H	h
0.175 ± 0.003 (4.45 ± 0.077)	0.163 ± 0.003 (4.14 ± 0.077)	.120 ± 0.003	0.0105 ± 0.001, for Al top 0.0155 ± 0.001, for Ag top	.011 ± 0.0008

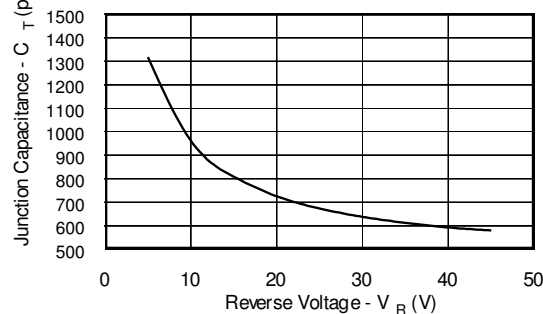
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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**TECHNICAL DATA**  
**DATA SHEET 4031, Rev. A**

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