

Technical Data
Data Sheet 4031, Rev.-

SILICON SCHOTTKY RECTIFIER DIE

Very Low Forward Voltage Drop (150 °C T_J 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⁽¹⁾:

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	30	A
Max. Peak One Cycle Non-Repetitive Surge Current	I _{FSM}	8.3 ms, half Sine wave	570	A
Non-Repetitive Avalanche Energy	E _{AS}	T _J = 25 °C, I _{AS} = 1.1 A, L = 60 mH	36	mJ
Repetitive Avalanche Current	I _{AR}	I _{AS} decay linearly to 0 in 1 μs f limited by T _J max V _A =1.5V _R	6.0	A
Max. Junction Temperature	T _J	-	-65 to +150	°C
Max. Storage Temperature	T _{stg}	-	-65 to +150	°C

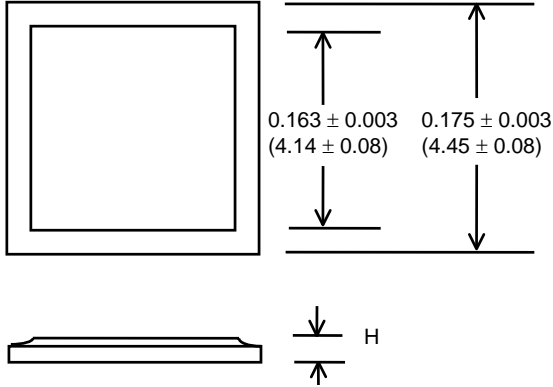
Electrical Characteristics⁽¹⁾:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V _{F1}	@ 30A, Pulse, T _J = 25 °C	0.56	V
	V _{F2}	@ 30A, Pulse, T _J = 125 °C	0.51	V
Max. Reverse Current	I _{R1}	@V _R = 45V, Pulse, T _J = 25 °C	3.0	mA
	I _{R2}	@V _R = 45V, Pulse, T _J = 125 °C	140	mA
Max. Junction Capacitance	C _T	@V _R = 5V, T _C = 25 °C f _{SIG} = 1MHz, V _{SIG} = 50mV (p-p)	1600	pF

(1) in SHD package

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Mechanical Dimensions: In Inches / mm



Bottom side metalization Ag - 30 kÅ minimum.

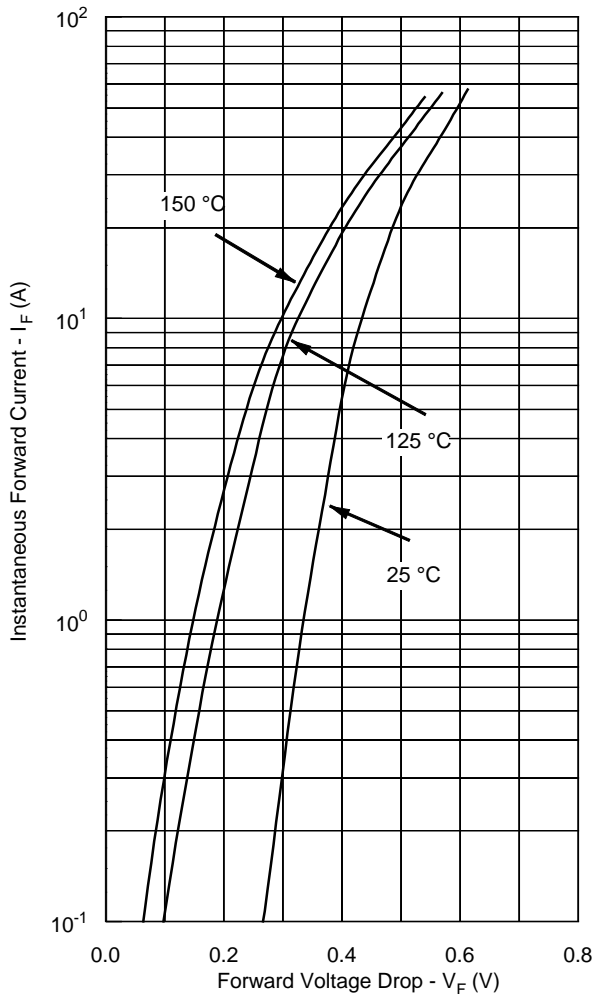
Top side metalization Al - 25 kÅ minimum
or Ag - 30 kÅ minimum.

Bottom side is cathode, top side is anode.

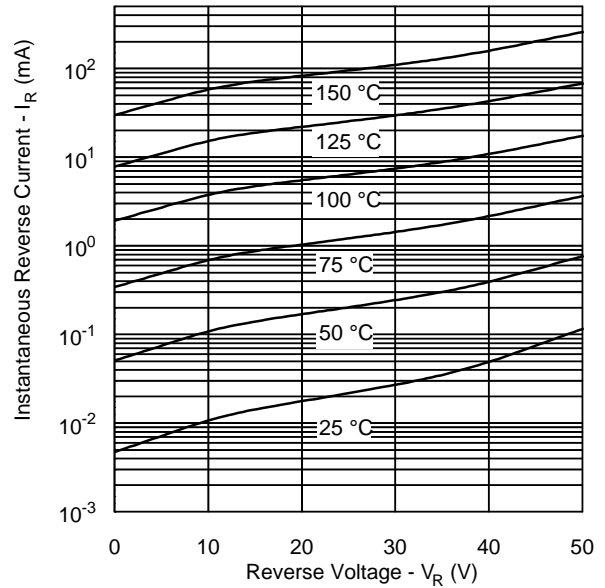
Dimension H = 0.0105 ± 0.001 (0.27 ± 0.026) for Al top;

Dimension H = 0.0155 ± 0.001 (0.39 ± 0.026) for Ag top.

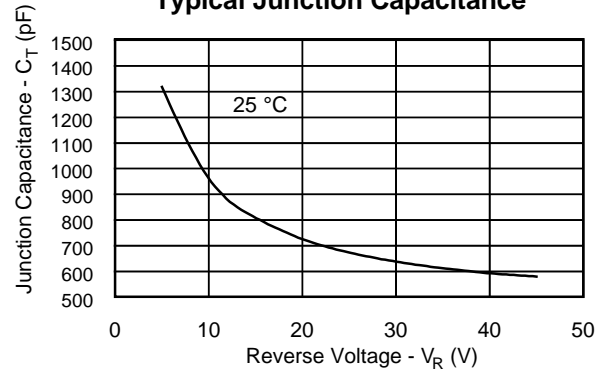
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



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