Technical Data
Data Sheet 643, Rev.-

SILICON SCHOTTKY RECTIFIER DIE
Very Low Forward Voltage Drop

Applications:

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

Features:

- **Soft Reverse Recovery at Low and High Temperature**
- **Extremely 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	7.5	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine wave (1)	140	A
Non-Repetitive Avalanche Energy	E_{AS}	T_J = 25 °C, I_{AS} = 2.0 A, L = 6.5 mH	13.6	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	2.0	A
Max. Junction Temperature	T_J	-	-65 to +150	°C
Max. Storage Temperature	T_{stg}	-	-65 to +150	°C

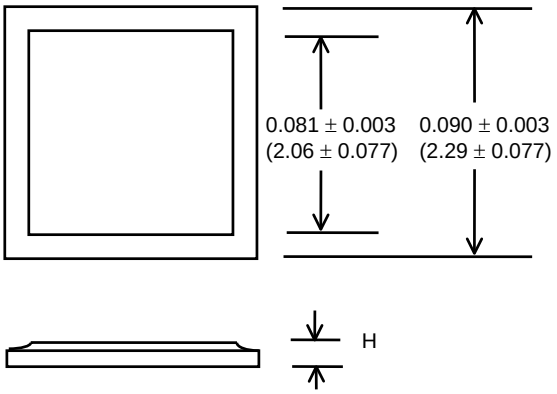
Electrical Characteristics(1):

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 7.5A, Pulse, T_J = 25 °C	0.56	V
	V_{F2}	@ 7.5A, Pulse, T_J = 125 °C	0.51	V
Max. Reverse Current	I_{R1}	@V_R = 45V, Pulse, T_J = 25 °C	0.75	mA
	I_{R2}	@V_R = 45V, Pulse, T_J = 125 °C	35	mA
Max. Junction Capacitance	C_T	@V_R = 5V, T_C = 25 °C f_{SIG} = 1MHz, V_{SIG} = 50mV (p-p)	400	pF

(1) in SHD package

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Mechanical Dimensions: In Inches / mm



Bottom side metalization Ag - 30 kÅ minimum.

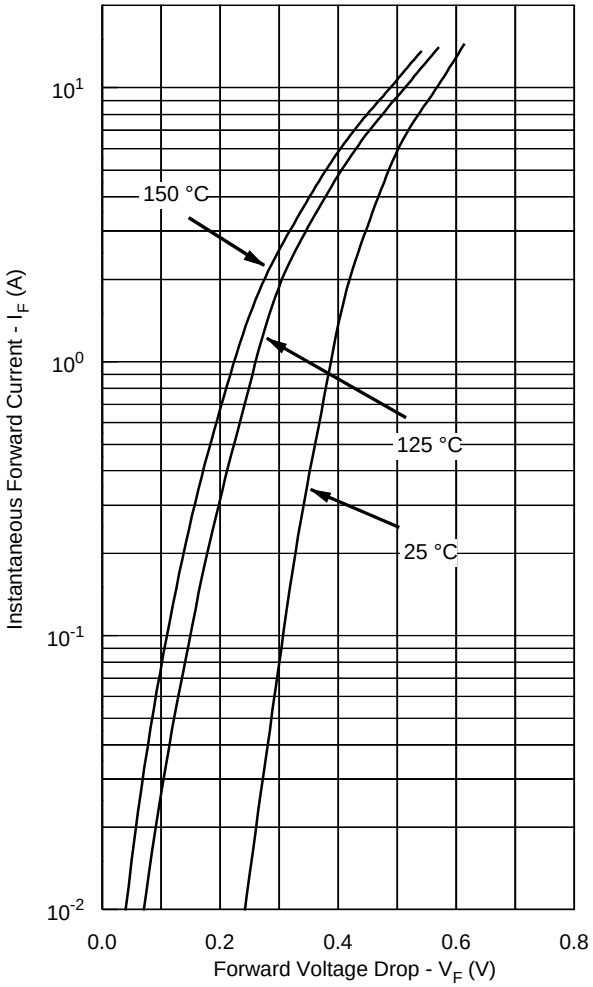
Top side metalization Al - 25 kÅ minimum
or Ag - 30 kÅ minimum.

Bottom side is cathode, top side is anode.

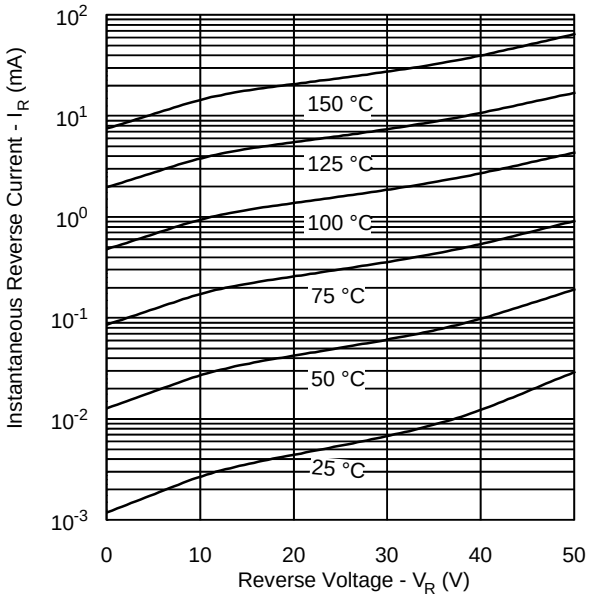
Dimension H = 0.0105 ± 0.001 (0.27 ± 0.026) for Al top;

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

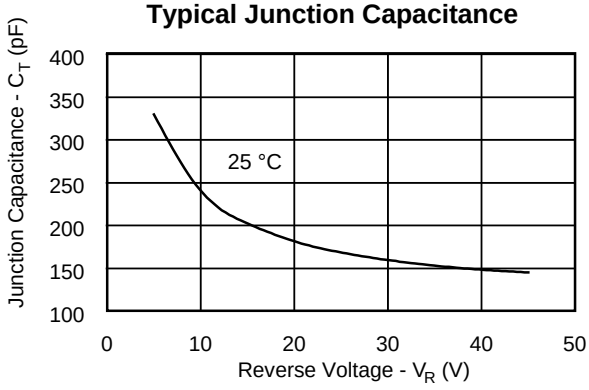
Typical Forward Characteristics



Typical Reverse Characteristics



Typical Junction Capacitance



TECHNICAL DATA

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