

TECHNICAL DATA
DATA SHEET D0075 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
- 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:

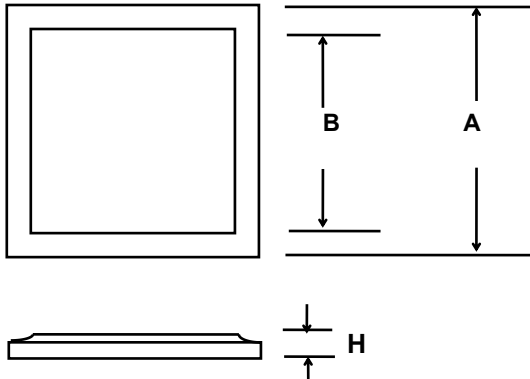
Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage 1C5817 1C5819	V_{RWM}	-	20 45	V
Average Forward Current	$I_{O(AV)}$	50% duty cycle, rectangular wave form	1	A
Non-Repetitive Avalanche Energy	E_{AS}	$T_J = 25^\circ\text{C}$, $I_{AS} = 0.18\text{ A}$, $L = 160\text{mH}$	2.6	mJ
Repetitive Avalanche Current	I_{AR}	I_{AS} decay linearly to 0 in $1\mu\text{s}$ f limited by T_J max $V_A = 1.5V_R$	0.18	A
Junction Temperature	T_J	-	-55 to +125	$^\circ\text{C}$
Storage Temperature	T_{stg}	-	-55 to +150	$^\circ\text{C}$

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop 1C5817 1C5819	V_{F1}	@ 1A, Pulse, $T_J = 25^\circ\text{C}$	0.45 0.49	V
1C5817 1C5819	V_{F2}	@ 0.1A, Pulse, $T_J = 25^\circ\text{C}$	0.32 0.34	V
Reverse Current	I_{R1}	$T_J = 25^\circ\text{C}$ @ $V_R = 20\text{V}$, Pulse, @ $V_R = 45\text{V}$, Pulse,	50	μA
	I_{R2}	$T_J = 100^\circ\text{C}$ @ $V_R = 20\text{V}$, Pulse, @ $V_R = 45\text{V}$, Pulse,	5	mA
Junction Capacitance 1C5817 1C5819	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$, $V_{SIG} = 50\text{mV}$ (p-p)	110 70	pF

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Mechanical Dimensions: In Inches (mm)



Bottom side metalization Ag-30kA minimum

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

Bottom side is cathode, top side is anode

Dimension H = 0.0105 ± 0.001 (0.27 ± 0.025) for Al top;

Dimension H = 0.0155 ± 0.001 (0.39 ± 0.025) for Ag top.

Gold Option Available for Top and/or Bottom Metalization
See Part Ordering Information below

A	B
0.039 ± 0.002 (0.99 ± 0.05)	0.032 ± 0.002 (0.81 ± 0.05)

Default part number is Al top, Ag bottom.

Add the following suffix for these metal combinations:

Suffix	Top	Bottom	Part Number
	Al	Ag	1C5819
AG	Al	Au	1C5819AG
BB	Ag	Ag	1C5819BB
BG	Ag	Au	1C5819BG
GG	Au	Au	1C5819GG
GB	Au	Ag	1C5819GB

A = Ti (0.3 kA) / Al (25 kA)

B = Ti (1.2 kA) / Ni (1.8 kA) / Ag (30kA)

G = Ti (1.2 kA) / Ni (1.8 kA) / Au (12kA) (**TOP**) / Ti (1.2 kA) / Ni (1.8 kA) / Au (4kA) (**BOTTOM**)

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