

TECHNICAL DATA
DATA SHEET D0076 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:

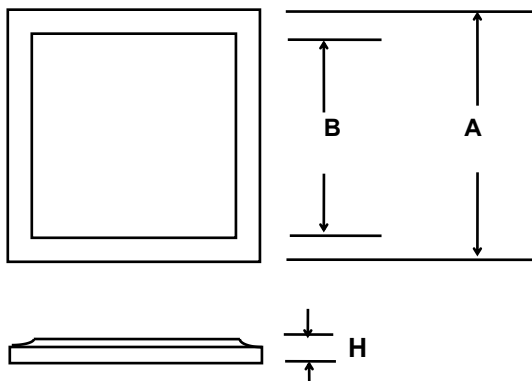
Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage 1C5820 1C5821 1C5822	V_{RWM}	-	20 30 40	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form	3	A
Surge Peak Forward Current	I_{FSM}	$t_p = 8.3$ ms, Half Sine Wave	80	A
Thermal Impedance	$Z_{\theta JX}$	-	2.5	°C/W
Junction Temperature	T_J	-	-55 to +125	°C
Storage Temperature	T_{stg}	-	-55 to +150	°C

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop 1C5820 1C5821 1C5822	V_{F1}	@ 1A, Pulse, $T_J = 25$ °C	0.36 0.37 0.38	V
1C5820 1C5821 1C5822	V_{F2}	@ 3A, Pulse, $T_J = 25$ °C	0.46 0.48 0.50	V
1C5820 1C5821 1C5822	V_{F3}	@ 9.4A, Pulse, $T_J = 25$ °C	0.65 0.67 0.70	V
Reverse Current	I_R	@ V_{RRM} , $T_J = 25$ °C	1.5	mA
Junction Capacitance	C_T	@ $V_R = 5V$, $T_C = 25$ °C $f_{SIG} = 1MHz$, $V_{SIG} = 50mV$ (p-p)	265	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
0.059 ± 0.002 (1.50 ± 0.05)	0.052 ± 0.002 (1.32 ± 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	1C5822
AG	Al	Au	1C5822AG
BB	Ag	Ag	1C5822BB
BG	Ag	Au	1C5822BG
GG	Au	Au	1C5822GG
GB	Au	Ag	1C5822GB

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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