

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 <sub>RWM</sub>	-	20 30 40	V
Average Forward Current	I <sub>F(AV)</sub>	50% duty cycle, rectangular wave form	3	Α
Surge Peak Forward Current	I <sub>FSM</sub>	$t_p$ = 8.3 ms, Half Sine Wave	80	Α
Thermal Impedance	$Z_{\theta J X}$	-	2.5	°C/W
Junction Temperature	TJ	-	-55 to+125	°C
Storage Temperature	T <sub>stg</sub>	-	-55 to+150	°C

### **Electrical Characteristics:**

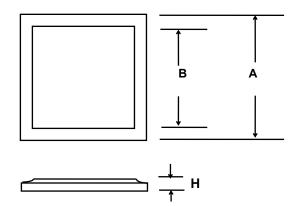
Characteristics	Symbol	Condition	Max.	Units
Forward Voltage Drop 1C5820 1C5821 1C5822	V <sub>F1</sub>	@ 1A, Pulse, T <sub>J</sub> = 25 °C	0.36 0.37 0.38	V
1C5820 1C5821 1C5822	V <sub>F2</sub>	@ 3A, Pulse, T <sub>J</sub> = 25 °C	0.46 0.48 0.50	V
1C5820 1C5821 1C5822	V <sub>F3</sub>	@ 9.4A, Pulse, T <sub>J</sub> = 25 °C	0.65 0.67 0.70	V
Reverse Current	I <sub>R</sub>	@V <sub>RRM</sub> , T <sub>J</sub> = 25 °C	1.5	mA
Junction Capacitance	Ст	$@V_R = 5V, T_C = 25 °C$ $f_{SIG} = 1MHz,$ $V_{SIG} = 50mV (p-p)$	265	pF

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### Mechanical Dimensions: In Inches (mm)



Bottom side metalization Ag-30kA minimum

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

Bottom side is cathode, top side is anode

Dimension H =  $0.0105 \pm 0.001$  (0.27  $\pm 0.025$ ) for Al top; Dimension H =  $0.0155 \pm 0.001$  (0.39  $\pm 0.025$ ) for Ag top.

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



### Default part number is Al top, Ag bottom.

### Add the following suffix for these metal combinations:

Suffix	Тор	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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