

**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:**

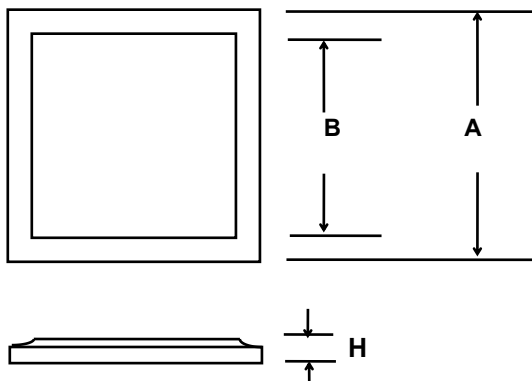
Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage 1C5820 1C5821 1C5822	$V_{RWM}$	-	20 30 40	V
Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form	3	A
Surge Peak Forward Current	$I_{FSM}$	$t_p = 8.3$ ms, Half Sine Wave	80	A
Thermal Impedance	$Z_{\theta JX}$	-	2.5	°C/W
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 =  $0.0105 \pm 0.001$  ( $0.27 \pm 0.025$ ) 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

A	B
$0.059 \pm 0.002$ ( $1.50 \pm 0.05$ )	$0.052 \pm 0.002$ ( $1.32 \pm 0.05$ )

**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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