

TECHNICAL DATA  
DATA SHEET 520, REV. B

**SILICON SCHOTTKY RECTIFIER DIE**  
**Very Low Forward Voltage Drop**  
**200°C Operating Temperature**

**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
- Out Performs 100 Volt Ultrafast Rectifiers

**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	$V_{RWM}$	-	100	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle, rectangular wave form	15	A
Max. Peak One Cycle Non-Repetitive Surge Current	$I_{FSM}$	8.3 ms, half Sine wave <sup>(1)</sup>	280	A
Non-Repetitive Avalanche Energy	$E_{AS}$	$T_J = 25\text{ }^\circ\text{C}$ , $I_{AS} = 0.53\text{ A}$ , $L = 56\text{ mH}$	8.0	mJ
Repetitive Avalanche Current	$I_{AR}$	$I_{AS}$ decay linearly to 0 in $1\text{ }\mu\text{s}$ $f$ limited by $T_J$ max $V_A = 1.5V_R$	0.53	A
Max. Junction Temperature	$T_J$	-	-65 to +200	°C
Max. Storage Temperature	$T_{stg}$	-	-65 to +200	°C

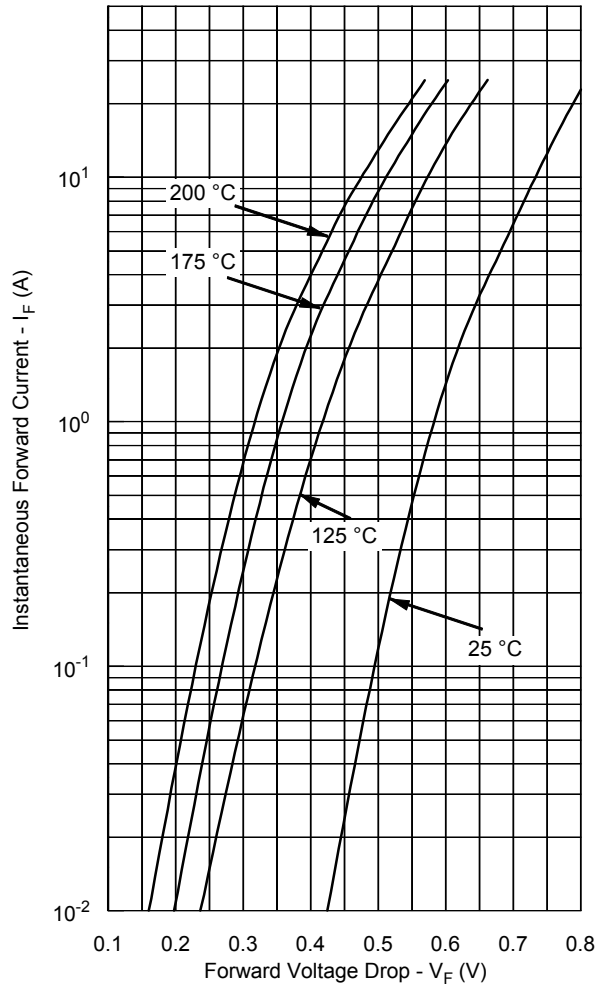
**Electrical Characteristics:**

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	$V_{F1}$	@ 15A, Pulse, $T_J = 25\text{ }^\circ\text{C}$	0.84	V
	$V_{F2}$	@ 15A, Pulse, $T_J = 125\text{ }^\circ\text{C}$	0.68	V
Max. Reverse Current	$I_{R1}$	@ $V_R = 100\text{V}$ , Pulse, $T_J = 25\text{ }^\circ\text{C}$	350	$\mu\text{A}$
	$I_{R2}$	@ $V_R = 100\text{V}$ , Pulse, $T_J = 125\text{ }^\circ\text{C}$	8	mA
Max. Junction Capacitance	$C_T$	@ $V_R = 5\text{V}$ , $T_C = 25\text{ }^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$ , $V_{SIG} = 50\text{mV}$ (p-p)	500	pF

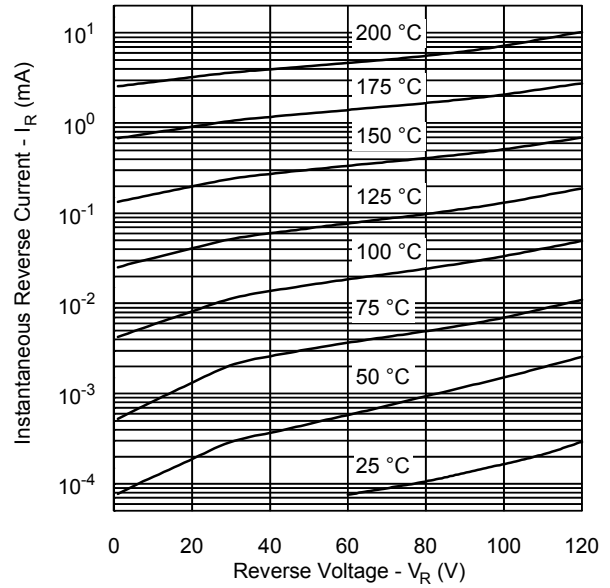
(1) in SHD package

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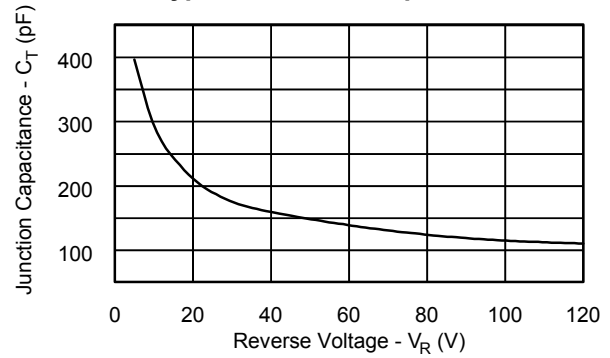
**Typical Forward Characteristics**



**Typical Reverse Characteristics**



**Typical Junction Capacitance**



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**Mechanical Dimensions: In Inches / mm**

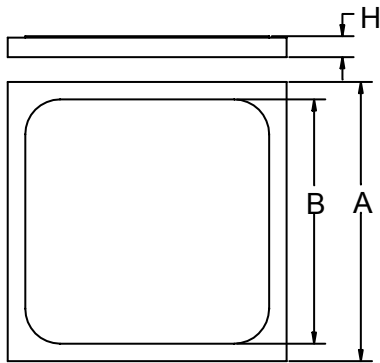


Figure 1

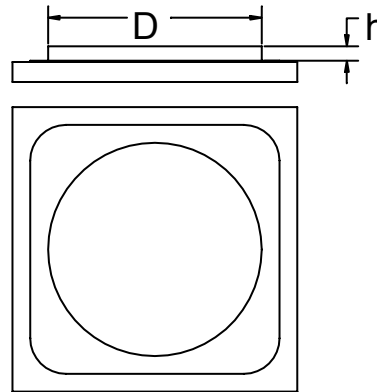


Figure 2

<b>A</b>	<b>B</b>	<b>D</b>	<b>H</b>	<b>h</b>
0.125±0.003	0.116±0.003	0.070±0.005	0.0155±0.001	0.010±0.002

Top side (Anode) metallization:  
 A = Al - 25 kÅ minimum, Figure 1  
 B = Ag - 30 kÅ minimum, Figure 1  
 C = Au - 12 kÅ min, Figure 2

Bottom side (Cathode) metallization:  
 A, B, C = Ti/Ni/Ag - 30 kÅ minimum.

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