



# 30V 100mA Schottky Diode – SiS30SA1L

Rev 1.0  
01/10/20

Small-signal ultra-low leakage schottky diode in bare die form

## Features:

- Ultra-low leakage current
- Low forward voltage
- 30V breakdown voltage
- Guard-ring for over-voltage protection
- High reliability tested grades & matched characteristic options.

## Ordering Information

The following part suffixes apply:

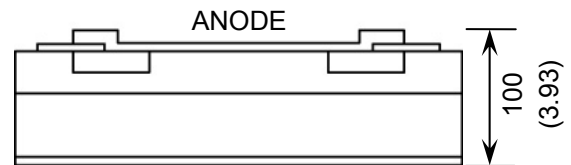
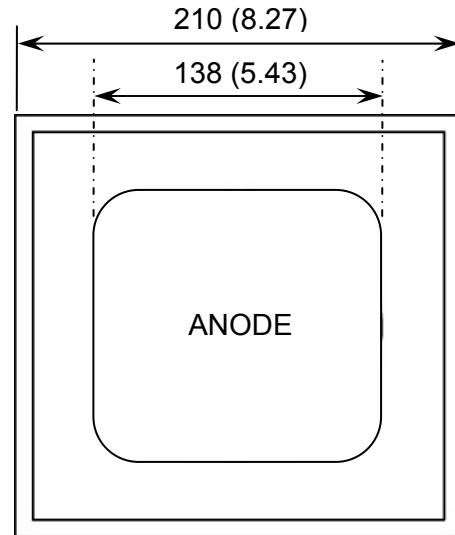
- No suffix - MIL-STD-750 /2073 Visual Inspection
- “H” - MIL-STD-750 /2073 Visual Inspection  
+ MIL-PRF-38534 Class H LAT
- “K” - MIL-STD-750 /2073 Visual Inspection  
+ MIL-PRF-38534 Class K LAT

LAT = Lot Acceptance Test.

For further information on LAT process flows see below.

[www.siliconsupplies.com/quality/bare-die-lot-qualification](http://www.siliconsupplies.com/quality/bare-die-lot-qualification)

## Die Dimensions in $\mu\text{m}$ (mils)



CHIP BACKSIDE IS CATHODE

## Supply Formats:

- Default – Die in Waffle Pack (400 per tray capacity)
- Sawn Wafer on Tape – By specific request
- Unsawn Wafer – By specific request
- Die Thickness  $\leftrightarrow$  100 $\mu\text{m}$ (4 Mils) – On request
- With additional electrical selection – On request

## Mechanical Specification

Die Size (with scribe line)	210 x 210 8.27 x 8.27	$\mu\text{m}$ mils
Anode Pad Size	130 x 138 5.43 x 5.43	$\mu\text{m}$ mils
Die Thickness	100 ( $\pm 15$ ) 3.93 ( $\pm 0.59$ )	$\mu\text{m}$ mils
Top Metal Composition	Al	
Back Metal Composition	AuAs	





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## Absolute Maximum Ratings<sup>1</sup> $T_J = 25^\circ\text{C}$ unless otherwise stated

PARAMETER	SYMBOL	VALUE	UNIT
Repetitive Peak Reverse Voltage	$V_{RRM}$	30	V
DC Blocking Voltage	$V_R$	30	V
DC Forward Current	$I_F$	100	mA
Non-repetitive Peak forward surge current <sup>2</sup>	$I_{FSM}$	0.5	A
Power Dissipation	$P_D$	400	mW
Operating Junction temperature	$T_J$	-65 to 150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to 200	$^\circ\text{C}$

## Electrical Characteristics $T_J = 25^\circ\text{C}$ unless otherwise stated

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Breakdown Voltage <sup>3</sup>	$V_{BR}$	$I_R = 10\mu\text{A}$	30	-	-	V
Forward Voltage <sup>3</sup>	$V_F$	$I_F = 1\text{mA}$	-	0.33	0.37	V
		$I_F = 10\text{mA}$	-	0.41	0.45	
		$I_F = 35\text{mA}$	-	0.51	0.55	
Reverse Leakage <sup>3</sup>	$I_R$	$V_R = 16\text{V}$	-	25	200	nA
Junction Capacitance	$C_J$	$V_R = 0\text{V}, f = 1\text{MHz}$	-	5.5	-	pF
Reverse Recovery Time	$t_{rr}$	$I_F = I_R = 10\text{mA},$ $I_{RR} = 0.1\text{mA}, R_L = 100\Omega$	-	-	5	ns

1. Operation above the absolute maximum rating may cause device failure. Operation at the absolute maximum ratings, for extended periods, may reduce device reliability. 2. 8.3ms single half sine-wave. 3. Pulse test;  $t_p \leq 300\mu\text{s}$

## Typical Characteristics $T_J = 25^\circ\text{C}$ unless otherwise stated

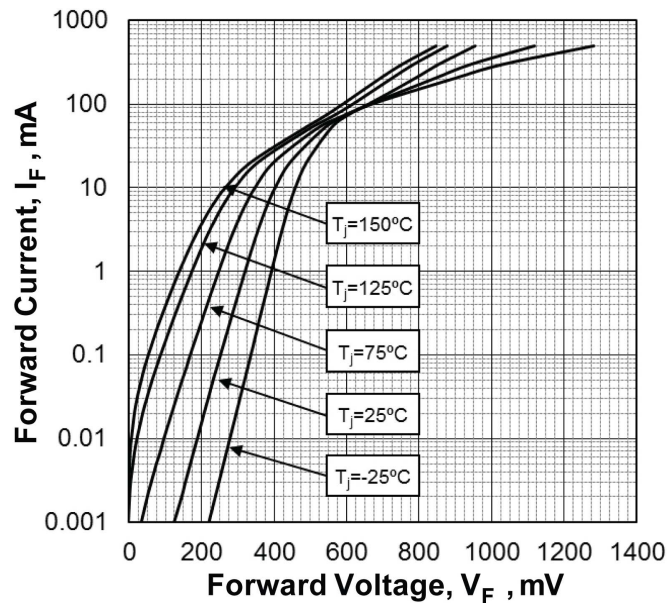


FIGURE 1. Forward Voltage Characteristics

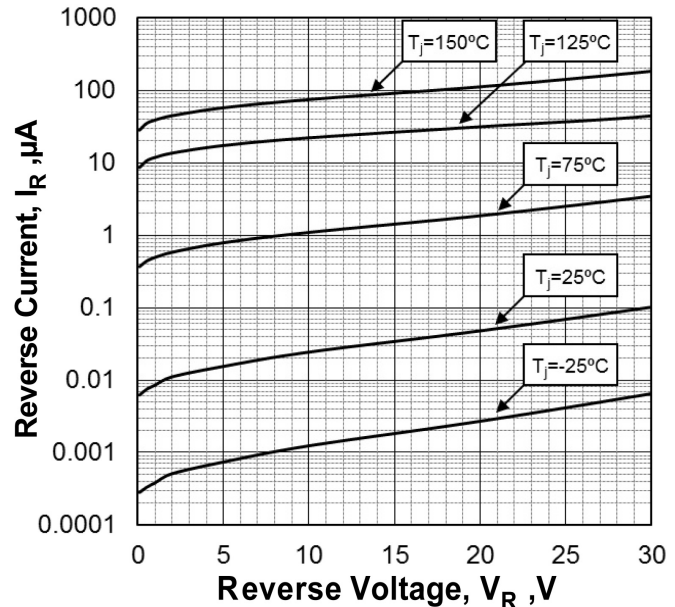


FIGURE 2. Reverse Current Versus Reverse Voltage





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Typical Characteristics  $T_J = 25^\circ\text{C}$  unless otherwise stated

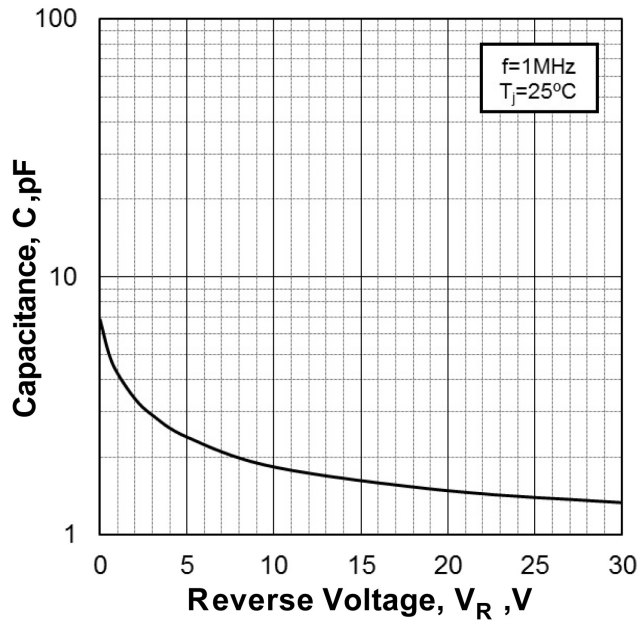


FIGURE 3. Junction Capacitance Versus Reverse Voltage

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