



30V 100mA Schottky Diode – SiS30SA1V

Rev 1.0
01/10/20

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

Features:

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

Ordering Information

The following part suffixes apply:

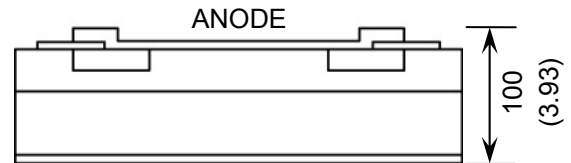
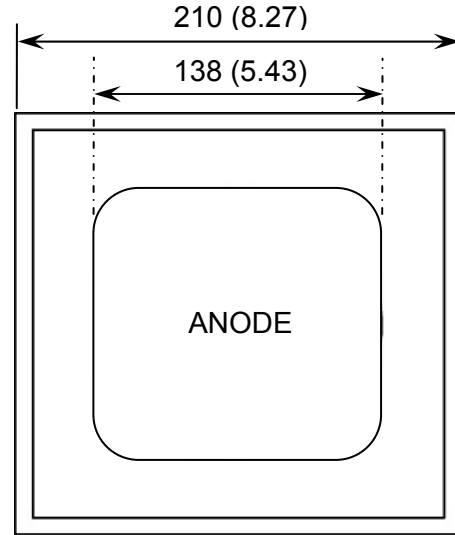
- No suffix - MIL-STD-750 /2073 Visual Inspection
- “H” - MIL-STD-750 /2073 Visual Inspection
+ MIL-PRF-38534 Class H LAT
- “K” - MIL-STD-750 /2073 Visual Inspection
+ MIL-PRF-38534 Class K LAT

LAT = Lot Acceptance Test.

For further information on LAT process flows see below.

www.siliconsupplies.com/quality/bare-die-lot-qualification

Die Dimensions in μm (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 μm (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	μm mils
Anode Pad Size	130 x 138 5.43 x 5.43	μm mils
Die Thickness	100 (± 15) 3.93 (± 0.59)	μm mils
Top Metal Composition	Al	
Back Metal Composition	AuAs	





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Absolute Maximum Ratings¹ $T_J = 25^\circ\text{C}$ 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 ²	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 ³	V_{BR}	$I_R = 30\mu\text{A}$	30	-	-	V
Forward Voltage ³	V_F	$I_F = 1\text{mA}$	-	0.20	0.24	V
		$I_F = 10\text{mA}$	-	0.31	0.37	
		$I_F = 35\text{mA}$	-	0.40	0.48	
Reverse Leakage ³	I_R	$V_R = 10\text{V}$	-	1.3	5	μA
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

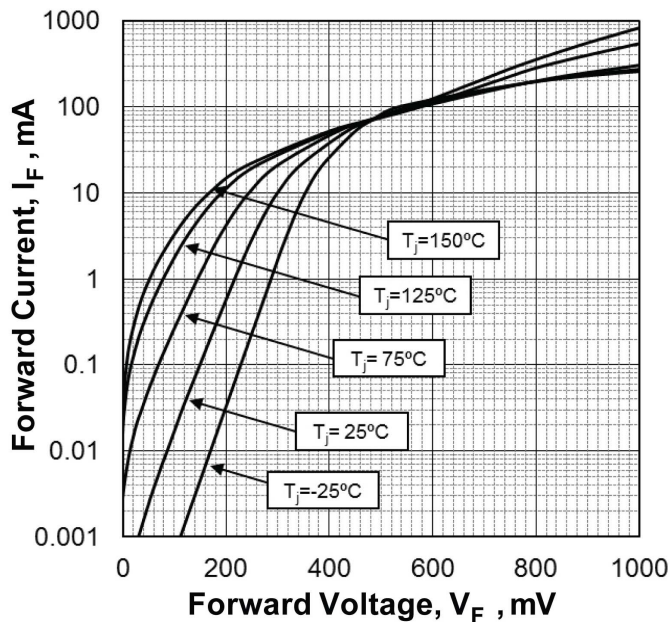


FIGURE 1. Forward Voltage Characteristics

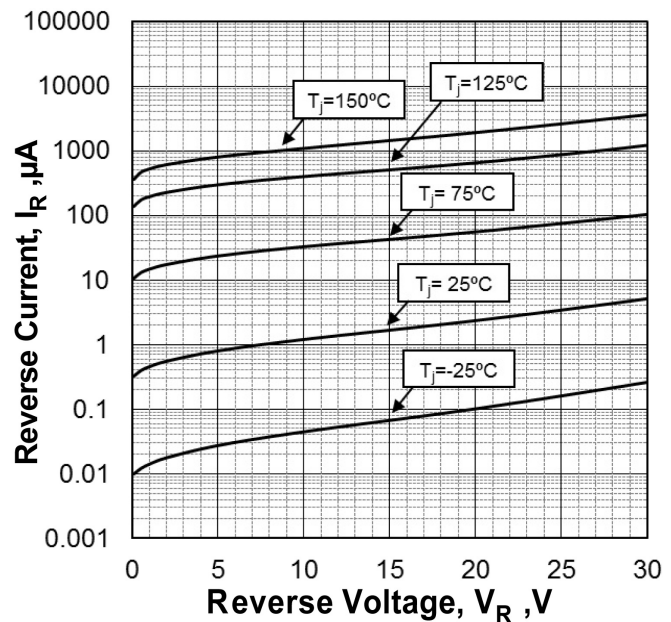


FIGURE 2. Reverse Current Versus Reverse Voltage





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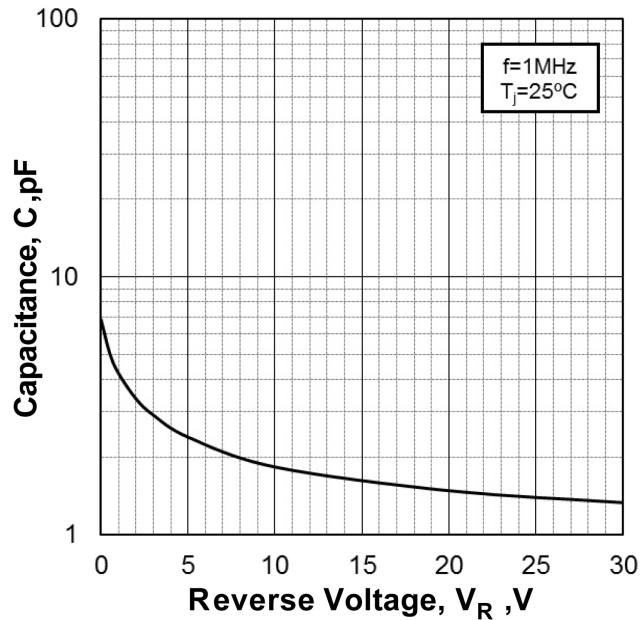


FIGURE 3. Junction Capacitance Versus Reverse Voltage

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