



40V 3A Schottky Diode – 1N5822

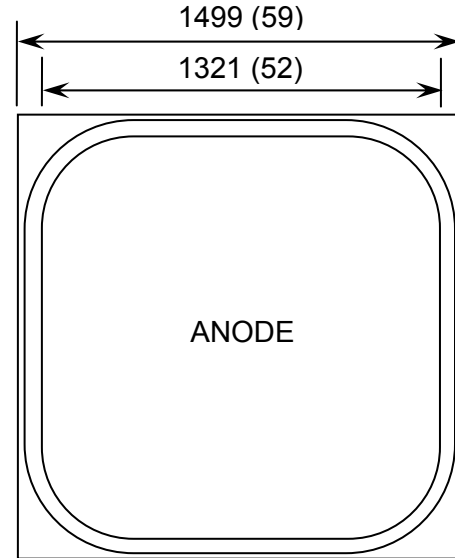
Rev 1.0
18/01/19

Schottky Barrier Rectifier diode in bare die form

Features:

- Guardring for over-voltage protection
- Very small conduction losses
- Extremely fast switching
- Low forward voltage drop
- High reliability tested grades.

Die Dimensions in μm (mils)



Ordering Information

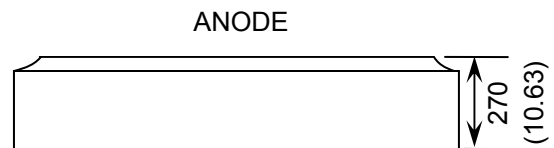
The following part suffixes apply:

- 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



CHIP BACKSIDE IS CATHODE

Supply Formats:

- Default – Die in Waffle Pack (100 per tray capacity)
- Sawn Wafer on Tape – By specific request
- Unsawn Wafer – By specific request
- With additional electrical selection – By specific request

Mechanical Specification

Die Size (Unsawn)	1730 x 1730 59 x 59	μm mils
Anode Pad Size	1321 x 1321 52 x 52	μm mils
Die Thickness	270 (± 20) 10.63 (0.79)	μm mils
Top Metal Composition	Al $\geq 2.5\mu\text{m}$	
Back Metal Composition	Ti/Ni/Ag $\geq 3\mu\text{m}$	





40V 3A Schottky Diode – 1N5822

Rev 1.0
18/01/19

Absolute Maximum Ratings $T_J = 25^\circ\text{C}$ unless otherwise stated

PARAMETER	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage	V_{RRM}	40	V
RMS Voltage	V_{RMS}	28	V
DC blocking voltage	V_{DC}	40	V
Average forward rectified current	$I_{F(AV)}$	3	A
Peak forward surge current, Test pulse – 8.3ms, half sine-wave	I_{FSM}	80	A
Thermal Impedance	$Z_{\theta JX}$	2.5	$^\circ\text{C/W}$
Operating Junction temperature	T_J	-65 to 125	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-65 to 150	$^\circ\text{C}$

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

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Maximum instantaneous forward voltage ¹	V_F	$V_{RWM} = 40\text{V}, I_{FM} = 1\text{A}$	-	-	0.38	V
		$V_{RWM} = 40\text{V}, I_{FM} = 3\text{A}$	-	-	0.50	
		$V_{RWM} = 40\text{V}, I_{FM} = 9.4\text{A}$	-	-	0.70	
Maximum reverse leakage current	$I_{RM} @ V_{RM}$	$V_{RM} = 40\text{V}, T_J = 25^\circ\text{C}$	-	-	0.15	mA
		$V_{RM} = 40\text{V}, T_J = 100^\circ\text{C}$	-	-	12	
Junction Capacitance	C_T	$V_R = 5\text{V}, T_C = 25^\circ\text{C}, f_{SIG} = 1\text{MHz}, V_{SIG} = 50\text{mV (p-p)}$	-	-	265	pF

1. Pulse Width = 380 μs , Duty Cycle = 2.0%

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

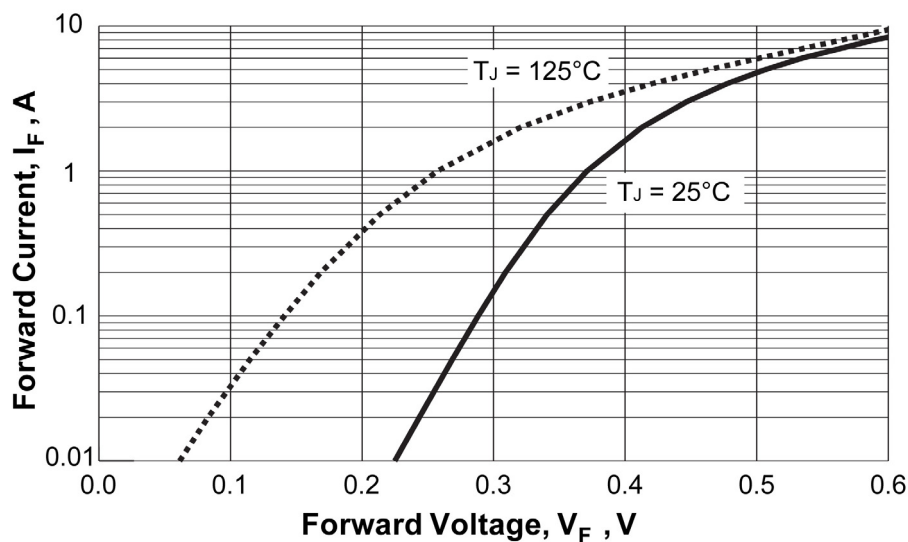


FIGURE 1. Forward Voltage Characteristics





40V 3A Schottky Diode – 1N5822

Rev 1.0
18/01/19

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

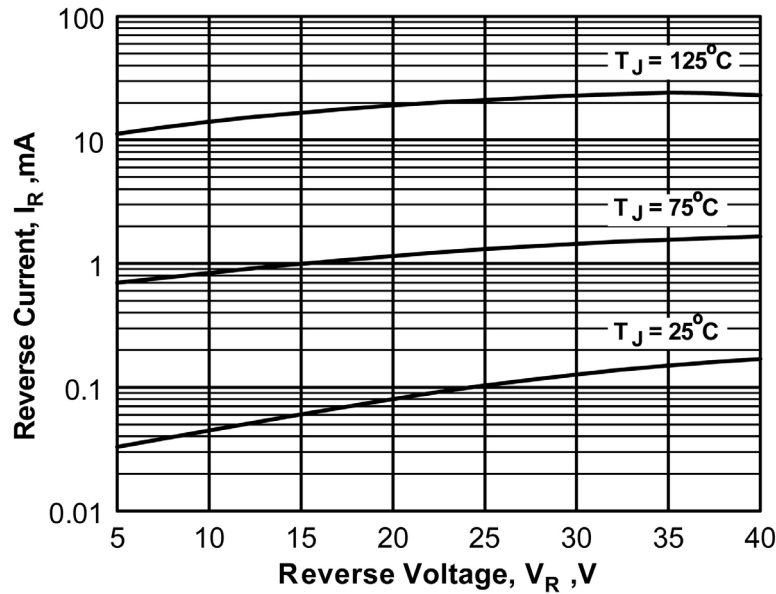


FIGURE 2. Reverse Current Versus Reverse Voltage

DISCLAIMER: The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Silicon Supplies Ltd hereby disclaims any and all warranties and liabilities of any kind.

LIFE SUPPORT POLICY: Silicon Supplies Ltd components may be used in life support devices or systems only with the express written approval of Silicon Supplies Ltd, if a failure of such components can reasonably be expected to cause the failure of that life support device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

