



400V 1A Standard Rectifier – 1N4004

Rev 1.0
25/08/23

Standard recovery rectifier diode in bare die form

Features:

- Low leakage current
- High forward surge current capability
- Low forward voltage drop
- Robust construction
- High reliability tested grades.

Ordering Information

The following part suffixes apply:

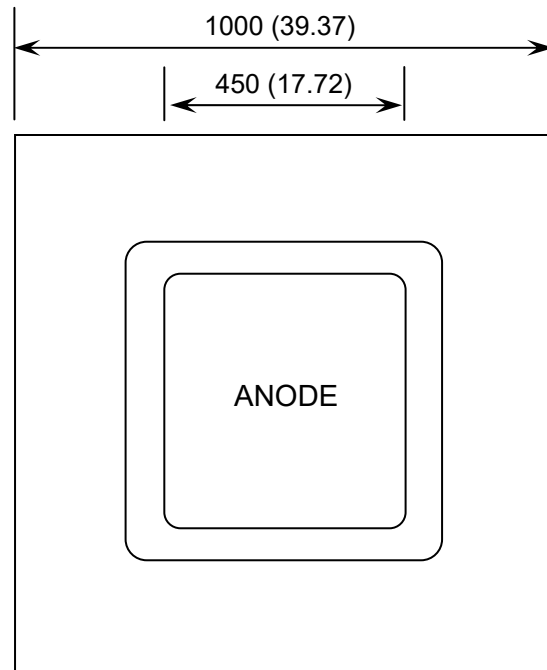
- No suffix - MIL-STD-750 /2073 Visual Inspection
- "H" - MIL-STD-750 /2073 Visual Inspection
+ MIL-PRF-38534 Class H LAT
- "K" - MIL-STD-750 /2073 Visual Inspection
+ MIL-PRF-38534 Class K LAT

LAT = Lot Acceptance Test.

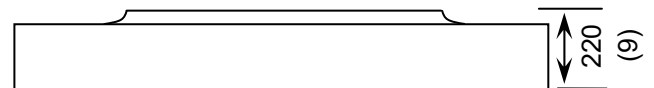
For further information on LAT process flows see below.

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
- With additional electrical selection – By specific request

Mechanical Specification

Die Size (Unsawn)	1000 x 1000 39.37 x 39.37	μm mils
Anode Pad Size	450 x 450 17.72 x 17.72	μm mils
Die Thickness	220 (± 20) 8.66 (± 0.79)	μm mils
Top Metal Composition	Al 7.5 μm	
Back Metal Composition	Ti/Ni/Ag	





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

PARAMETER	SYMBOL	VALUE	UNIT
Peak Repetitive Reverse Voltage	V_{RRM}	400	V
DC Blocking Voltage	V_R	400	V
RMS Reverse Voltage	$V_{R(RMS)}$	280	V
Average forward rectified current	$I_{F(AV)}, T_J = 75^\circ\text{C}$	1	A
Peak forward surge current ¹	I_{FSM}	30	A
Operating Junction temperature	T_J	-55 to 175	$^\circ\text{C}$
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
Maximum instantaneous Forward Voltage ²	V_F	$I_F = 1\text{A}$	-	-	1.1	V
Maximum Reverse Leakage Current	$I_{RM} @ V_{RRM}$	$V_{RRM} = 400\text{V}, T_J = 25^\circ\text{C}$	-	-	5	μA
		$V_{RRM} = 400\text{V}, T_J = 100^\circ\text{C}$	-	-	50	
Maximum Junction Capacitance	C_J	$V_R = 0, f = 1.0\text{MHz}$	-	-	40	pF

1. Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load
2. Pulse Width = 3.8ms

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