200V 0.5A Fast Switching Diode - 1N3070

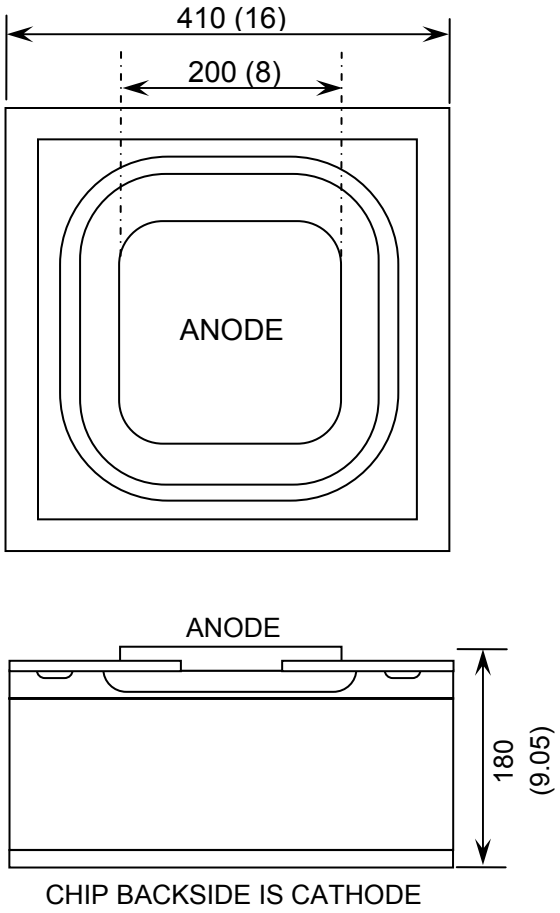
Rev 1.0
27/9/20

Small-Signal high speed switching diode in bare die form

Features:

- Fast Switching Speed
- High conductance
- General purpose switching applications
- High reliability tested grades.

Die Dimensions in µm (mils)



CHIP BACKSIDE IS CATHODE

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

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 <> 180µm(7 Mils) – On request
- With additional electrical selection – On request

Mechanical Specification

Die Size (Unsawn)	410 x 410 16.14 x 16.14	µm mils
Anode Pad Size	200 X 200 7.87 X 7.87	µm mils
Die Thickness	180 (±15) 7.09 (±0.59)	µm mils
Top Metal Composition	Al	
Back Metal Composition	AuAs	

200V 0.5A Fast Switching Diode - 1N3070

Rev 1.0
27/9/20

Absolute Maximum Ratings[1] T_J = 25°C unless otherwise stated

PARAMETER	SYMBOL	VALUE		UNIT
Non-repetitive Peak Reverse Voltage	V_{RSM}	210		V
Repetitive Peak Reverse Voltage	V_{RRM}	200		V
Average Rectified Output Current	I_O	200		mA
DC Forward Current	I_F	500		mA
Recurrent Peak Forward Current	I_f	625		mA
Non-repetitive Peak forward surge current	I_{FSM}	Pulse width 1s	1	A
		Pulse width 1µs	4	
Power Dissipation	P_D	250		mW
Operating Junction temperature	T_J	-55 to 175		°C
Storage Temperature Range	T_{STG}	-65 to 200		°C

1. Operation above the absolute maximum rating may cause device failure. Operation at the absolute maximum ratings, for extended periods, may reduce device reliability.

Electrical Characteristics T_J = 25°C unless otherwise stated

PARAMETER	SYMBOL	CONDITIONS	MIN	TYP	MAX	UNIT
Breakdown Voltage	V_R	I_R = 100µA	200	-	-	V
		I_R = 5µA	200	-	-	V
Forward Voltage[2]	V_F	I_F = 5mA	-	-	0.72	V
		I_F = 20mA	-	-	0.9	
		I_F = 100mA	-	-	1	
Reverse Leakage	I_R	V_R = 175V	-	-	0.10	µA
		V_R = 175V, T_J = 150°C	-	-	100	
Total Capacitance	C_T	V_R = 0V, f = 1MHz	-	-	5	pF
Reverse Recovery Time	t_{rr}	I_F = I_R = 30mA, I_{rr} = 3mA, R_L = 100Ω	-	-	50	ns

2. Pulse Width = 8.3ms, Non-recurrent square wave

Rev 1.0
27/9/20

Typical Characteristics T_J = 25°C unless otherwise stated

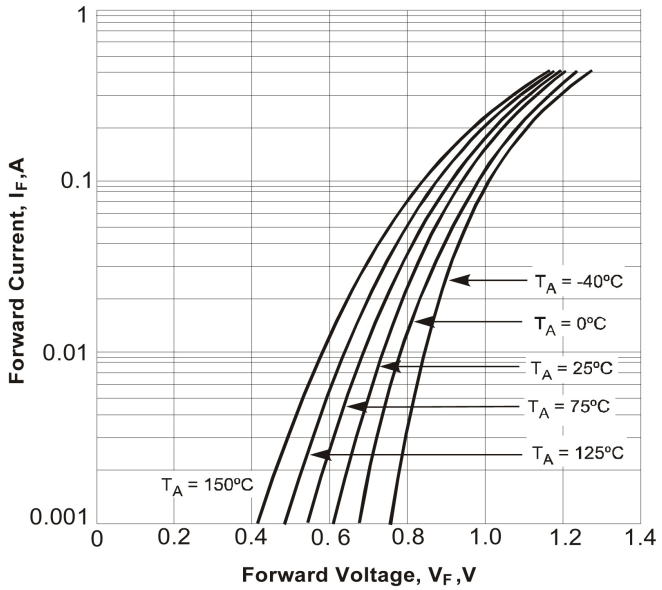


FIGURE 1. Forward Voltage Characteristics

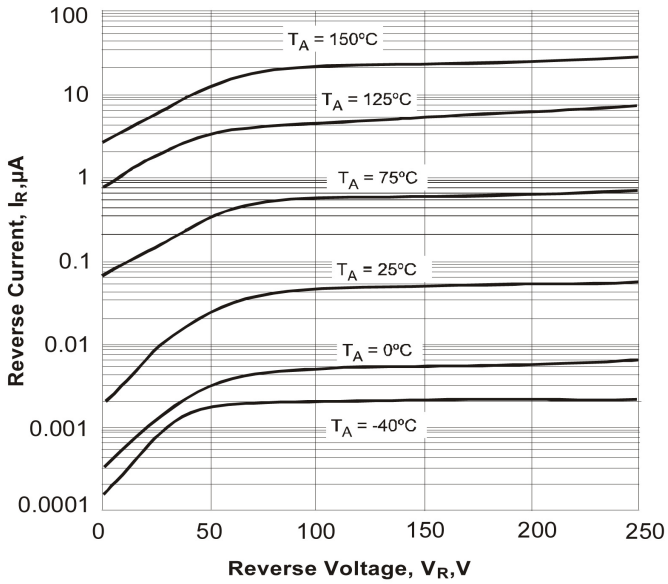


FIGURE 2. Reverse Current Characteristics