

New Jersey Semi-Conductor Products, Inc.

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Silicon Controlled Rectifier

0.8A RMS UP TO 200 VOLTS

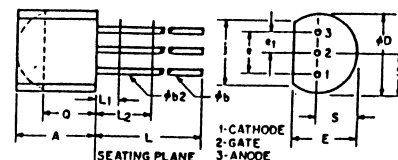
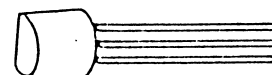
2N5060
thru
2N5064

TYPICAL APPLICATIONS:

- Sensors
 - Temperature
 - Pressure
 - Dryness
 - Proximity
 - Voltage
 - Current
- Amplifiers (gate)
- Timers
- Logic Circuits
- Controls
 - Small Motors
 - Small Lamps
 - Remote
- Switching
 - Solid-State Relay
 - Relay Driver
 - Counter
 - Low Power Inverter
- 120V AC Line Operation.

FEATURES:

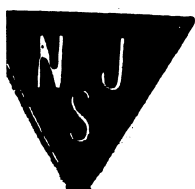
- 200 μ A Gate Sensitivity
- 6-Amp Surge
- 30 through 200 Volt Selection
- Plastic TO-92 Package
- Low V_F
- High dv/dt



SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN	MAX	MIN	MAX	
A	.170	.210	4.30	5.33	
#b	.016	.021	.407	.533	1,3
#b2	.016	.019	.407	.482	3
A0	.175	.205	4.46	5.20	
E	.125	.165	3.14	4.19	
#	.095	.105	2.42	2.66	
#1	.045	.055	1.15	1.39	
J	.135	—	3.43	—	
L	.500	—	12.70	—	1,3
L1	—	.050	—	1.27	3
L2	.250	—	6.35	—	3
Q	.115	—	2.93	—	2
S	.080	.105	2.03	2.66	

NOTES:

1. THREE LEADS.
2. CONTOUR OF THE PACKAGE BEYOND THIS ZONE IS UNCONTROLLED.
3. (THREE LEADS) #b2 APPLIES BETWEEN L1 AND L2. #b APPLIES BETWEEN L2 AND .3 INCH (12.70 MM) FROM SEATING PLANE. DIAMETER IS UNCONTROLLED IN L1 AND BEYOND .5 INCH (12.70 MM) FROM SEATING PLANE.



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

MAXIMUM ALLOWABLE RATINGS

TYPE	REPETITIVE PEAK OFF-STATE VOLTAGE, $V_{DRM}^{(1)}$ $T_C = -65^\circ\text{C to } +125^\circ\text{C}$	REPETITIVE PEAK REVERSE VOLTAGE, $V_{DRM}^{(2)}$ $T_C = -65^\circ\text{C to } +125^\circ\text{C}$	NON-REPETITIVE PEAK REVERSE VOLTAGE, $V_{DSM}^{(2,3)}$ $T_C = -65^\circ\text{C to } +125^\circ\text{C}$
2N5060	30 Volts*	30 Volts*	45 Volts*
2N5061	60 Volts*	60 Volts*	80 Volts*
2N5062	100 Volts*	100 Volts*	125 Volts*
2N5063	150 Volts*	150 Volts*	180 Volts*
2N5064	200 Volts*	200 Volts*	230 Volts*

RMS On-State Current, $I_{T(RMS)}^{(4)}$ 0.8 Ampere*
 Peak One Cycle Surge (non-rep) On-State Current, I_{TSM} 6 Amperes*
 Peak Gate Power Dissipation, P_{GM} 5 Watts*
 Average Gate Power Dissipation, $P_{G(AV)}$ 0.01 Watt*
 Peak Forward Gate Current, I_{GM} 1 Ampere*
 Peak Reverse Gate Voltage, V_{GM} 5 Volts*
 Storage Temperature, T_{STG} $-65^\circ\text{C to } +150^\circ\text{C}$ *
 Operating Junction Temperature, T_J $-65^\circ\text{C to } +125^\circ\text{C}$ *

CHARACTERISTICS

TEST	SYMBOL	MIN.	TYP.	MAX.	UNITS	TEST CONDITIONS
Peak Reverse and Off-State Current (All Types)	I_{RRM} or I_{DRM}	—	—	1.0	μA	$T_C = +25^\circ\text{C}$, $R_{GK} = 1000$ ohms $V_{RRM} = V_{DRM} = \text{Rated Value}$.
		—	—	*50		$T_C = +125^\circ\text{C}$, $R_{GK} = 1000$ ohms $V_{RRM} = V_{DRM} = \text{Rated Value}$.
DC Gate Trigger Current	I_{GT}	—	—	200	μAdc	$T_C = +25^\circ\text{C}$, $V_D = 7\text{Vdc}$, $R_L = 100$ ohms.
		—	—	*350		$T_C = -65^\circ\text{C}$, $V_D = 7\text{Vdc}$, $R_L = 100$ ohms.
DC Gate Trigger Voltage	V_{GT}	—	—	0.8	Vdc	$T_C = +25^\circ\text{C}$, $V_D = 7\text{Vdc}$, $R_L = 100$ ohms.
		—	—	*1.2		$T_C = -65^\circ\text{C}$, $V_D = 7\text{Vdc}$, $R_L = 100$ ohms.
		*0.1	—	—		$T_C = +125^\circ\text{C}$, Rated V_{DRM} , $R_L = 100$ ohms.
Peak On-State Voltage	V_{TM}	—	—	*1.7	V	$T_C = +25^\circ\text{C}$, $I_{TM} = 1.2\text{A peak}$, 1 msec. wide pulse, Duty Cycle $\leq 2\%$
Holding Current	I_H	—	—	5.0	mA dc	Anode source voltage = 7Vdc , $R_{GK} = 1000$ ohms. $T_C = +25^\circ\text{C}$
		—	—	*10.0		$T_C = -65^\circ\text{C}$
Critical Rate-of-Rise of Off-State Voltage	dv/dt	—	20	—	$\text{V}/\mu\text{sec}$	$T_C = +25^\circ\text{C}$, Rated V_{DRM} , $R_{GK} = 1000$ ohms.
Circuit Commutated Turn-Off Time	t_q	—	15	—	μsec	$T_C = +125^\circ\text{C}$, rectangular current waveform. Rate-of-rise of current $< 10\text{A}/\mu\text{sec}$. Rate reversal of current $< 5\text{A}/\mu\text{sec}$. $I_{TM} = 1\text{A}$ (50 μsec . pulse). Rep. Rate = 60 pps. $V_{RRM} = \text{Rated}$, $V_{RX} = 15\text{V Min.}$, $V_{DRM} = \text{Rated}$. Rate-of-rise of reapplied off-state voltage = $20\text{V}/\mu\text{sec}$.; Gate Bias = 0 Volts, 100 Ohms (during turn-off time interval).
Steady State Thermal Resistance	$R_{\theta JC}$	—	—	*75	$^\circ\text{C}/\text{W}$	Junction-to-case (flat side of case is temperature reference point).
	$R_{\theta JA}$	—	—	230		Junction-to-ambient (free convection).