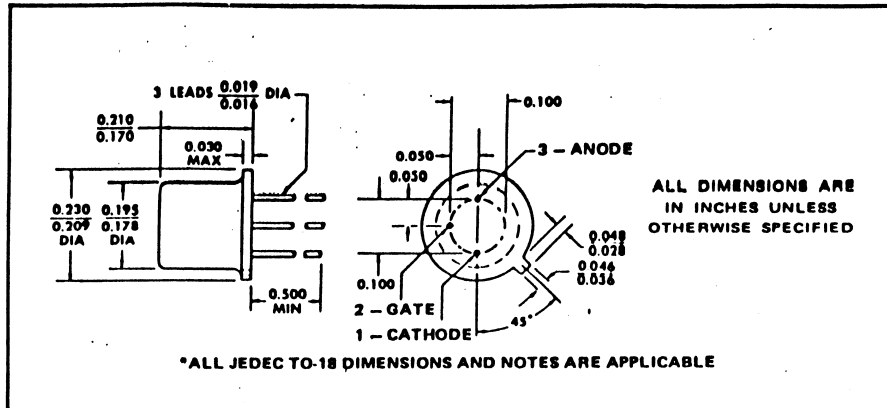


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**2N3008**  
**SILICON REVERSE-BLOCKING TRIODE THYRISTOR**



absolute maximum ratings over operating free-air temperature range (unless otherwise noted)

	2N3008	UNIT
*Static Off-State Voltage, $V_D$ (See Note 1)	200	V
*Repetitive Peak Off-State Voltage, $V_{DRM}$ (See Note 1)	200	V
*Static Reverse Voltage, $V_R$ (See Note 2)	200	V
*Repetitive Peak Reverse Voltage, $V_{RRM}$ (See Note 2)	200	V
*Continuous or RMS On-State Current at (or below) 55°C Free-Air Temperature <sup>1</sup>	350	mA
*Average On-State Current (180° Conduction Angle) at (or below) 55°C Free-Air Temperature <sup>1</sup>	250	mA
*Surge On-State Current (See Note 3)	6	A
Peak Negative Gate Voltage	8	V
*Peak Positive Gate Current (Pulse Width < 8 ms)	250	mA
*Average Gate Power Dissipation	100	mW
*Operating Free-Air Temperature Range	-65 to 200	°C
*Storage Temperature Range	-65 to 175	°C
*Lead Temperature 1/16 Inch from Case for 10 Seconds	300	°C

NOTES: 1. These values apply when the gate-cathode resistance  $R_{GK} < 1 \text{ k}\Omega$ .  
 2. These values apply when the gate-cathode resistance  $R_{GK} < \infty$ .  
 3. This value applies for one 60-Hz half sine wave when the device is operating at (or below) rated values of peak reverse voltage and on-state current. Surge may be repeated after the device has returned to original thermal equilibrium.  
 \*JEDEC registered data. This data sheet contains all applicable registered data in effect at the time of publication.

\*electrical characteristics at 25°C free-air temperature (unless otherwise noted)

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNIT
$I_D$ Static Off-State Current	$V_D = \text{Rated } V_D, R_{GK} = 1 \text{ k}\Omega$		0.1		$\mu\text{A}$
	$V_D = \text{Rated } V_D, R_{GK} = 1 \text{ k}\Omega, T_A = 150^\circ\text{C}$		100		
$I_G$ Gate Current <sup>1</sup>	$V_G = -8 \text{ V}, I_A = 0$			-5	$\mu\text{A}$
$I_{GT}$ Gate Trigger Current	$V_{AA} = 5 \text{ V}, R_L = 12 \Omega, t_{p(g)} > 10 \mu\text{s}$		90	200	$\mu\text{A}$
	$V_{AA} = 5 \text{ V}, R_L = 12 \Omega, t_{p(g)} > 10 \mu\text{s}, T_A = -65^\circ\text{C}$		0.9		
	$V_{AA} = 5 \text{ V}, R_L = 12 \Omega, t_{p(g)} > 10 \mu\text{s}$		0.6	0.8	
	$V_{AA} = 5 \text{ V}, R_L = 12 \Omega, t_{p(g)} > 10 \mu\text{s}, T_A = 150^\circ\text{C}$	0.2			
$I_H$ Holding Current	$R_{GK} = 1 \text{ k}\Omega, R_L = 2 \text{ k}\Omega$		1.8	5	mA
	$R_{GK} = 1 \text{ k}\Omega, R_L = 2 \text{ k}\Omega, T_A = -65^\circ\text{C}$			8	
$V_T$ On-State Voltage	$I_T = 350 \text{ mA}, R_{GK} > 1 \text{ k}\Omega, \text{ See Note 6}$		1.2		V