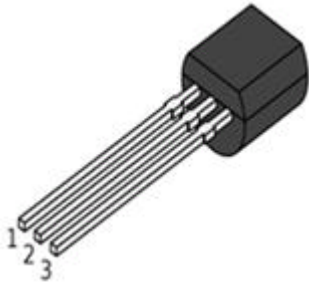


# SENSITIVE GATE THYRISTOR

**2N5060**



1. Cathode
2. Gate
3. Anode



**TO-92  
Plastic Package**

**Applications :**

Designed for Control Systems and Sensing Circuit Applications

**ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C unless specified otherwise)**

DESCRIPTION	SYMBOL	VALUE	UNITS
Peak Repetitive Off State Voltages	V <sub>DRM</sub>	30	V
	V <sub>RRM</sub>	30	V
On-State Current RMS (T <sub>C</sub> =80°C) <sup>(1)</sup>	I <sub>T(RMS)</sub>	0.8	A
Average On-State Current <sup>(1)</sup>	I <sub>T(AV)</sub>	T <sub>C</sub> =67°C	0.51
		T <sub>C</sub> =102°C	0.255
Peak Non-Repetitive Surge Current, at (60Hz)	I <sub>TSM</sub>	10	A
Circuit Fusing Considerartions (t=8.3ms)	I <sup>2</sup> t	0.4	A <sup>2</sup> s
Forward Peak Gate Power (Pulse Width ≤ 1.0μs, T <sub>A</sub> =25°C)	P <sub>GM</sub>	0.1	W
Forward Average Gate Power (t=8.3ms)	P <sub>G(AV)</sub>	0.01	W
Forward Peak Gate Current (Pulse Width ≤ 1.0μs)	I <sub>GM</sub>	1	A
Peak Reverse Gate Voltage (Pulse Width ≤ 1.0μs)	V <sub>RGM</sub>	5	V
Operating Junction Temperature Range	T <sub>J</sub>	-40 to +125	°C
Storage Temperature Range	T <sub>STG</sub>	-40 to +150	°C
Thermal Resistance, Junction to Case <sup>(2)</sup>	R <sub>thJC</sub>	75	°C/W
Thermal Resistance, Junction to Ambient	R <sub>thJA</sub>	200	°C/W

Notes : (1). 180° Conduction Angles

(2). This measurement is made with the case mounted "flatside down" on a heatsink and held in position by means of a metal clamp over the curved surface.

**ELECTRICAL CHARACTERISTICS ( $T_C=25^\circ\text{C}$  unless specified otherwise)**

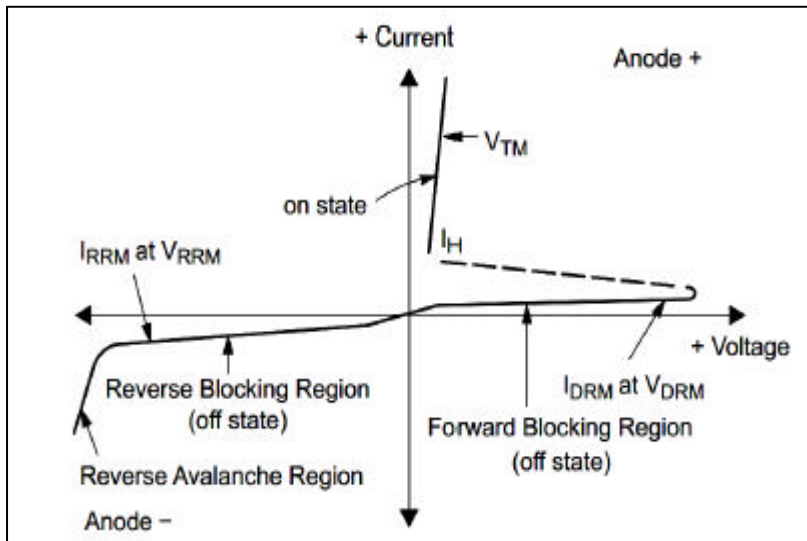
CHARACTERISTICS	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Peak Repetitive Forward or Reverse Blocking Current <sup>(3)</sup>	$I_{DRM}, I_{RRM}$	$V_D = \text{Rated } V_{DRM} \text{ and } V_{RRM}$			10	$\mu\text{A}$
Peak Forward On State Voltage <sup>(4)</sup>	$V_{TM}$	$I_{TM} = 1.2\text{A}, T_A = 25^\circ\text{C}$			1.7	V
Continuous Gate Trigger Current <sup>(5)</sup>	$I_{GT}$	$V_D = 7\text{V}, R_L = 100\Omega$			200	$\mu\text{A}$
Continuous Gate Trigger Voltage <sup>(5)</sup>	$V_{GT}$	$V_D = 7\text{V}, R_L = 100\Omega$			0.8	V
Gate non-Trigger Voltage <sup>(4)</sup> ( $T_J = 110^\circ\text{C}$ )	$V_{GD}$	$V_D = \text{Rated } V_{DRM}, R_L = 100\Omega$	0.1			V
Holding Current <sup>(5)</sup>	$I_H$	Initiating Current, $I_T = 20\text{mA}, R_{GK} = 1\text{K}\Omega$			5	mA
Turn -On Delay Time	$t_d$	$I_{GT} = 1.0\text{mA}, V_D = \text{Rated } V_{DRM},$ Forward Current = 1.0A, $di/dt = 6.0\text{A}/\mu\text{s}$		3		$\mu\text{s}$
Turn -On Rise Time	$t_r$			0.2		
Turn -Off Time	$t_q$	Forward Current = 1.0A pulse. Pulse Width = 50 $\mu\text{s}$ , 0.1% Duty Cycle, $di/dt = 6.0\text{A}/\mu\text{s},$ $dv/dt = 20\text{V}/\mu\text{s}, I_{GT} = 1\text{mA}$		20		$\mu\text{s}$
Critical Rate of Rise of Off-State Voltage	$dv/dt$	$V_{AK} = \text{Rated } V_{DRM}, R_{GK} = 1.0\text{K}\Omega$		30		$\text{V}/\mu\text{s}$

(3).  $R_{GK} = 1.0\text{K}\Omega$  is included in measurement

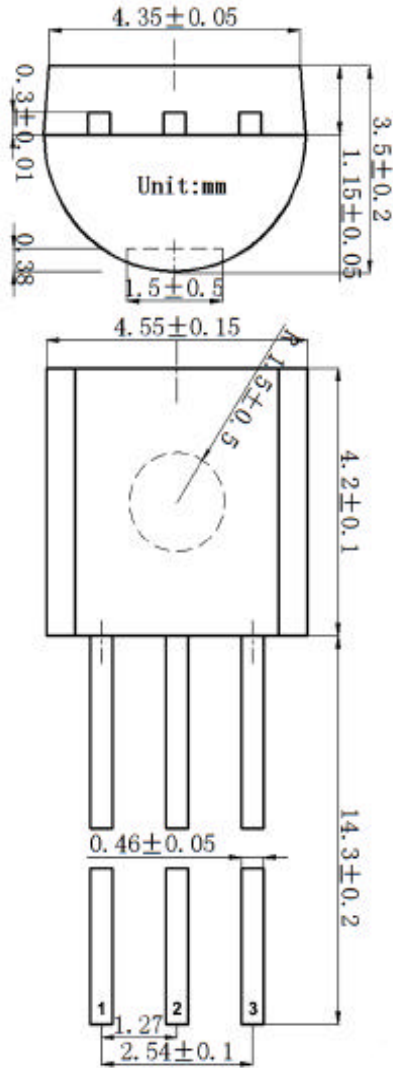
(4). Forward Current applied for 1ms maximum duration, duty cycle  $\leq 1\%$

(5).  $R_{GK}$  Current is not included in measurement

**Voltage Current Characteristics of SCR**



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