### TOSHIBA THYRISTOR SILICON PLANAR TYPE

# S6370

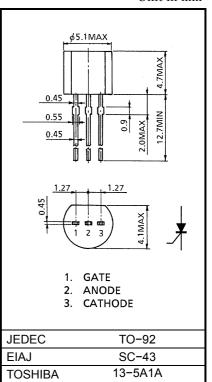
# LOW POWER SWITCHING APPLICATIONS (STROBE TRIGGER)

- Repetitive Peak Off-State Voltage : V<sub>DRM</sub> = 400V
  - Repetitive Peak Reverse Voltage  $:V_{RRM} = 400V$
- Fast Turn On Time
- Plastic Mold Package (TO-92)

#### **MAXIMUM RATINGS**

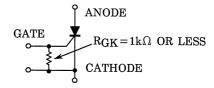
CHARACTERISTIC	SYMBOL	RATING	UNIT	
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage $(R_{GK}=1k\Omega)$	V <sub>DRM</sub> V <sub>RRM</sub>	400	V	
Non-Repetitive Peak Reverse Voltage (Non-rep<5ms, R <sub>GK</sub> =1kΩ, Tj=0~125°C)	V <sub>RSM</sub>	450	V	
Average On-State Current	I=	300	mA	
(Half Sine Waveform Ta=45°C)	I <sub>T (AV)</sub>	300		
R.M.S. On-State Current	I <sub>T (RMS)</sub>	450	mW	
Peak One Cycle Surge On-State Current (Non-Repetitive)	ITSM	9 (50Hz)	A	
		9.9 (60Hz)		
Peak Gate Power Dissipation	P <sub>GM</sub>	0.1	W	
Average Gate Power Dissipation	P <sub>G (AV)</sub>	0.01	W	
Peak Reverse Gate Voltage	V <sub>RGM</sub>	-5	V	
Peak Forward Gate Current	I <sub>GM</sub>	125	mA	
Junction Temperature	Тj	-40~125	°C	
Storage Temperature Range	T <sub>stg</sub>	-40~125	°C	

 $t_{gt} = 1.5 \mu s$ 



Weight : 0.2 g

Note : Use with gate resistance by all means



000707EAA2

TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general
can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the
buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and
to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or
damage to property.

damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc..

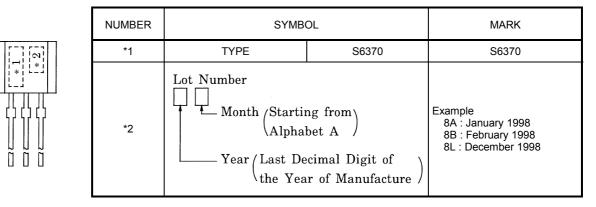
• The TOSHIBA products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These TOSHIBA products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of TOSHIBA products listed in this document shall be made at the customer's own risk.

Unit in mm

## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I <sub>DRM</sub> I <sub>RRM</sub>	V <sub>DRM</sub> = V <sub>RRM</sub> = 400V R <sub>GK</sub> = 1kΩ	_	_	10	μΑ
Peak On-State Voltage	V <sub>TM</sub>	I <sub>TM</sub> = 2A	_		2.0	V
Gate Trigger Voltage	V <sub>GT</sub>	V <sub>D</sub> = 6V, R <sub>I</sub> = 100Ω, R <sub>GK</sub> = 1kΩ	_	_	0.8	V
Gate Trigger Current	I <sub>GT</sub>	$v_{\rm D} = 0v, \kappa_{\rm L} = 100s_2, \kappa_{\rm GK} = 1\kappa_{\rm S2}$	_		200	μA
Turn On Time	t <sub>gt</sub>	V <sub>D</sub> = 400V, i <sub>G</sub> = 5mA	_		1.5	μS
Gate Non-Trigger Voltage	V <sub>GD</sub>	$V_D = 6V, R_{GK} = 1k\Omega$	0.2	_	_	V
Holding Current	Ι <sub>Η</sub>	R <sub>L</sub> = 100Ω, R <sub>GK</sub> = 1kΩ	_	4	_	mA
Thermal Resistance	R <sub>th (j−a)</sub>	Junction to Ambient	_	_	250	°C/W

### MARKING



000707EAA2

 The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.

The information contained herein is subject to change without notice.

40°C

 $v_{GT}$ 

25°C

VGT

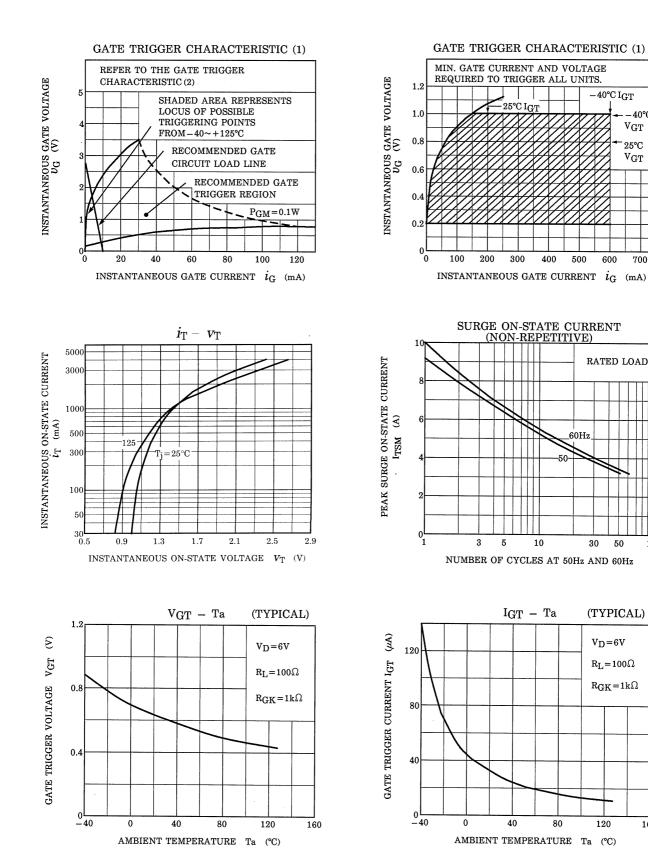
700

600

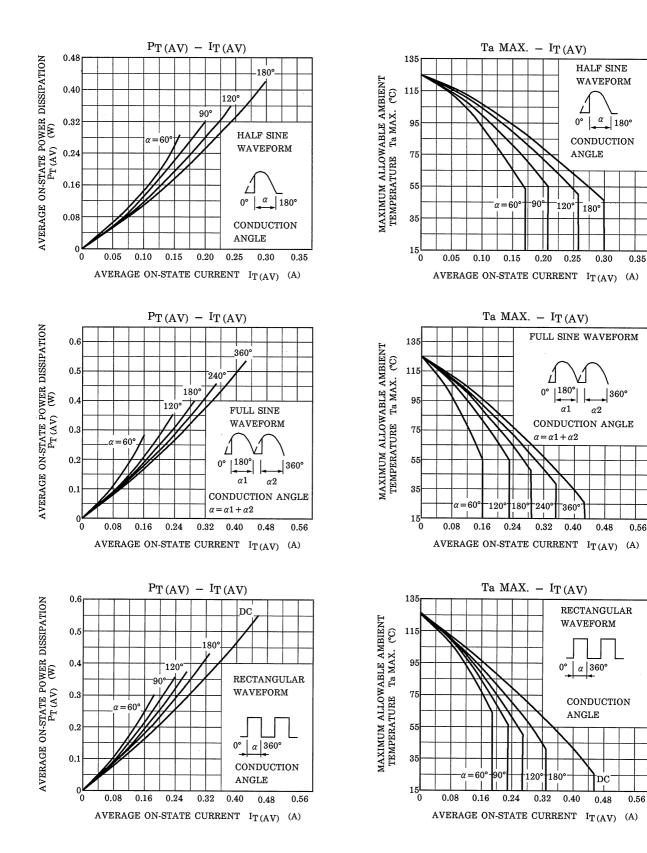
50

100

160



## **TOSHIBA**



# TOSHIBA

