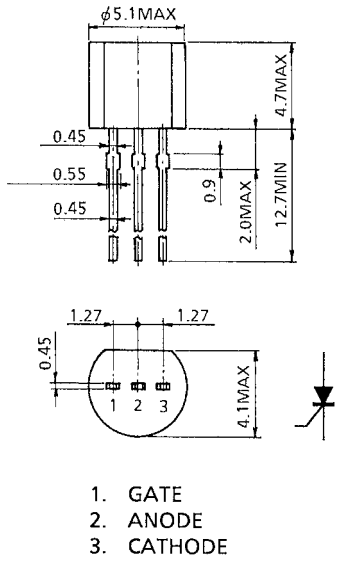
TOSHIBA THYRISTOR SILICON PLANAR TYPE

S6370

Unit in mm

LOW POWER SWITCHING APPLICATIONS
(STROBE TRIGGER)

- Repetitive Peak Off-State Voltage : V_{DRM} = 400V
- Repetitive Peak Reverse Voltage : V_{RRM} = 400V
- Fast Turn On Time : t_{gt} = 1.5μs
- Plastic Mold Package (TO−92)



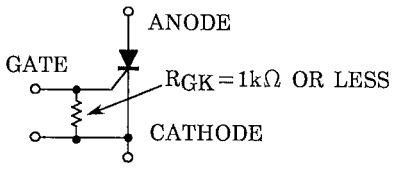
JEDEC	TO−92
EIAJ	SC−43
TOSHIBA	13−5A1A

Weight : 0.2 g

MAXIMUM RATINGS

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

Note : Use with gate resistance by all means



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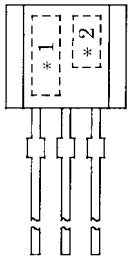
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Repetitive Peak Off−State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM} = 400V$ $R_{GK} = 1k\Omega$	—	—	10	μA
Peak On−State Voltage	V_{TM}	$I_{TM} = 2A$	—	—	2.0	V
Gate Trigger Voltage	V_{GT}	$V_D = 6V$, $R_L = 100\Omega$, $R_{GK} = 1k\Omega$	—	—	0.8	V
Gate Trigger Current	I_{GT}		—	—	200	μA
Turn On Time	t_{gt}	$V_D = 400V$, $i_G = 5mA$	—	—	1.5	μs
Gate Non−Trigger Voltage	V_{GD}	$V_D = 6V$, $R_{GK} = 1k\Omega$	0.2	—	—	V
Holding Current	I_H	$R_L = 100\Omega$, $R_{GK} = 1k\Omega$	—	4	—	mA
Thermal Resistance	$R_{th\ (j-a)}$	Junction to Ambient	—	—	250	°C / W

MARKING



NUMBER	SYMBOL		MARK
*1	TYPE	S6370	S6370
*2	Lot Number □□ — Month (Starting from Alphabet A) — Year (Last Decimal Digit of the Year of Manufacture)		Example 8A : January 1998 8B : February 1998 8L : December 1998

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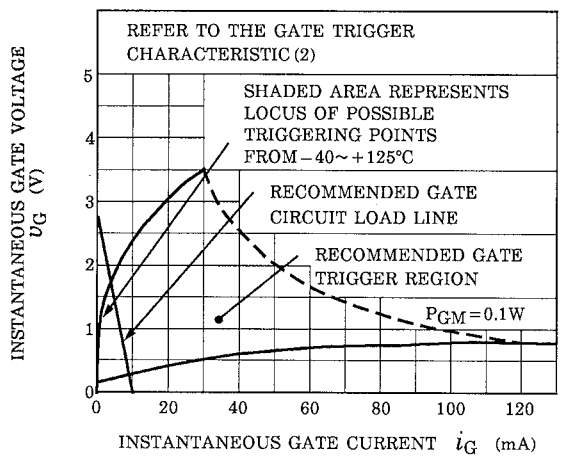
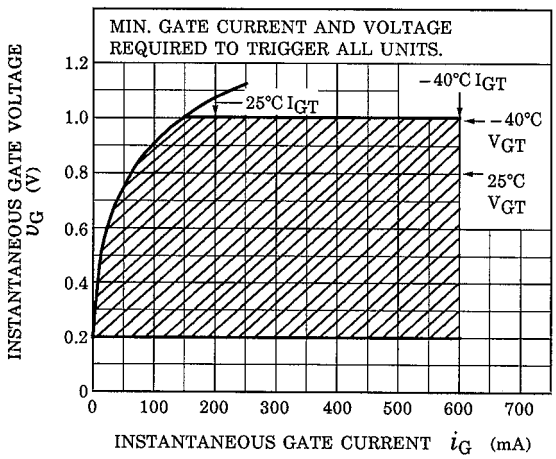
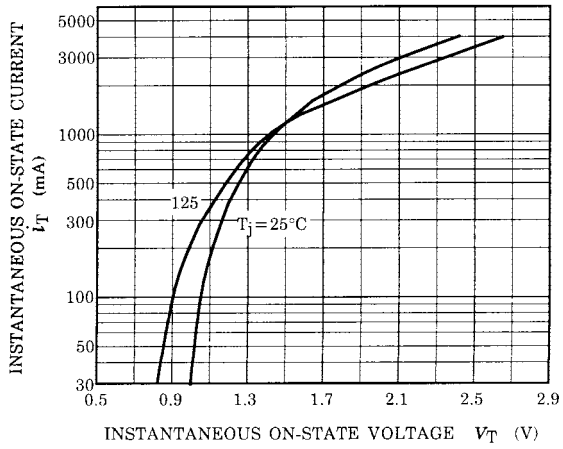
GATE TRIGGER CHARACTERISTIC (1)



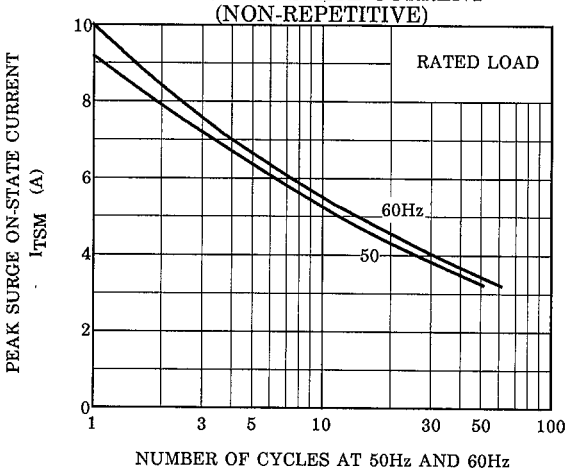
GATE TRIGGER CHARACTERISTIC (1)



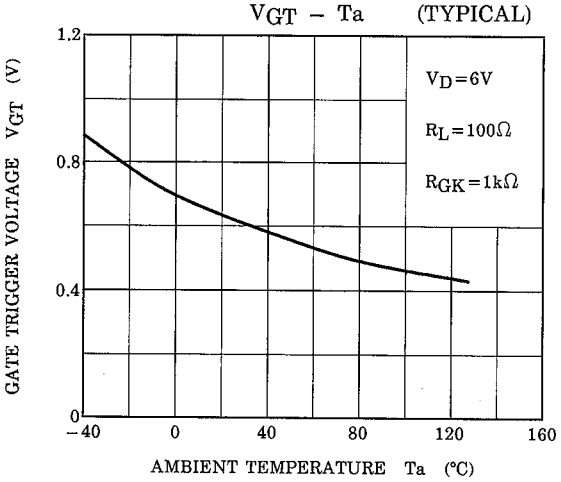
$i_T - v_T$



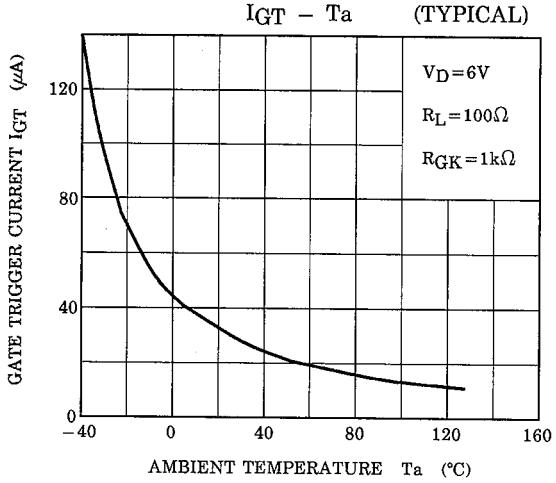
SURGE ON-STATE CURRENT (NON-REPETITIVE)



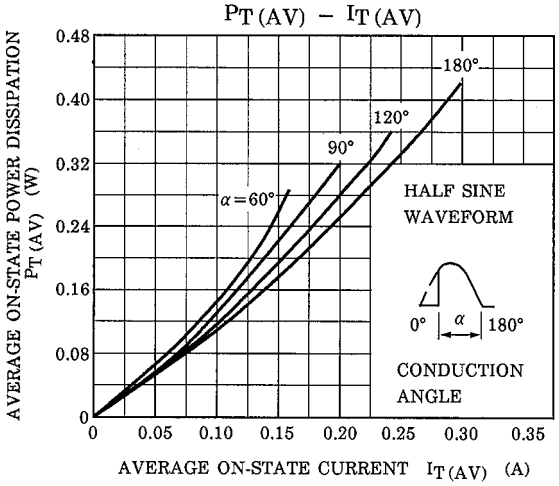
V_{GT} – Ta (TYPICAL)



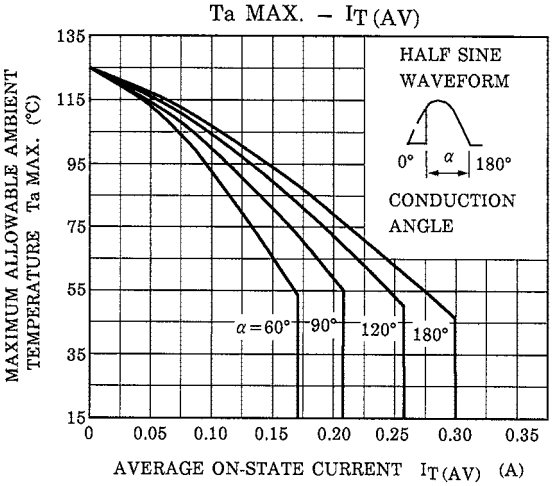
I_{GT} – Ta (TYPICAL)



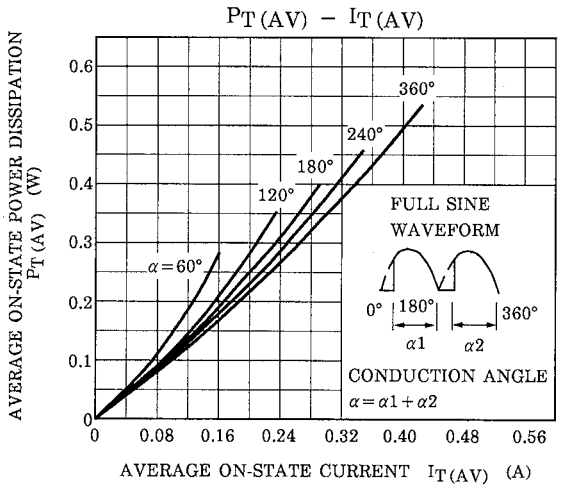
$P_{T(AV)}$ – $I_{T(AV)}$



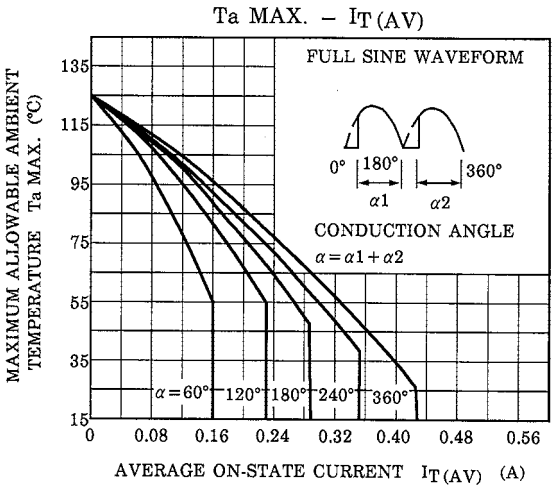
Ta MAX. – $I_{T(AV)}$



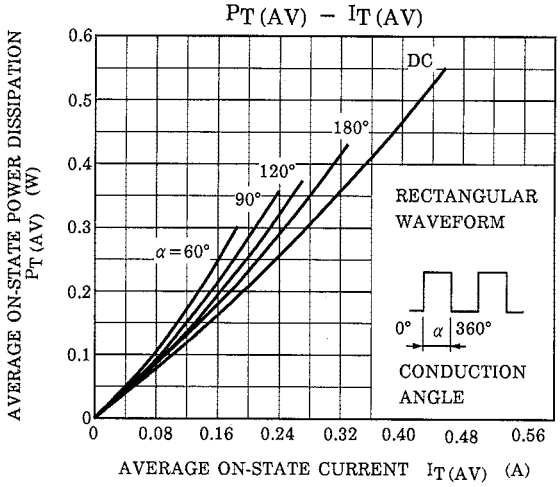
$P_{T(AV)}$ – $I_{T(AV)}$



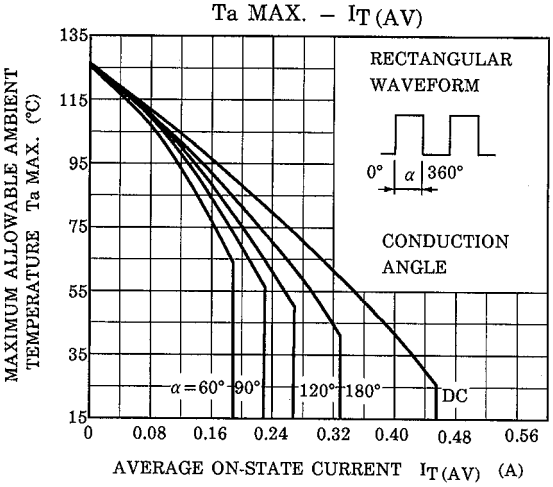
Ta MAX. – $I_{T(AV)}$

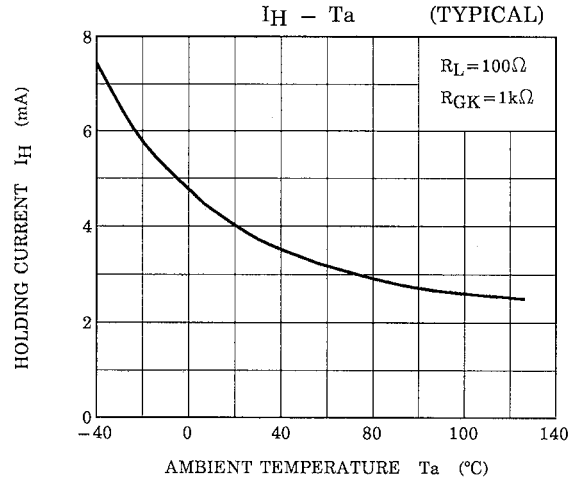


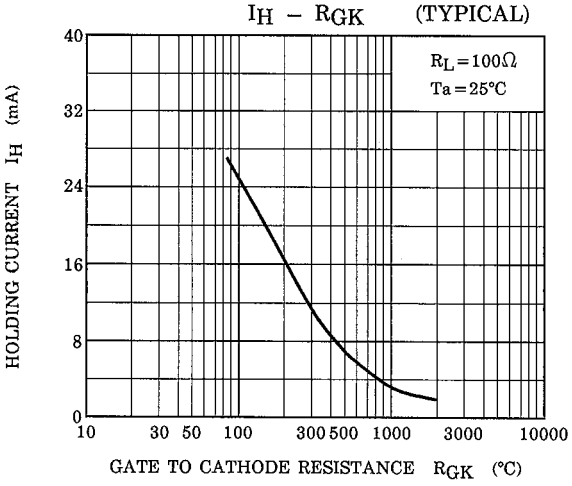
$P_{T(AV)}$ – $I_{T(AV)}$

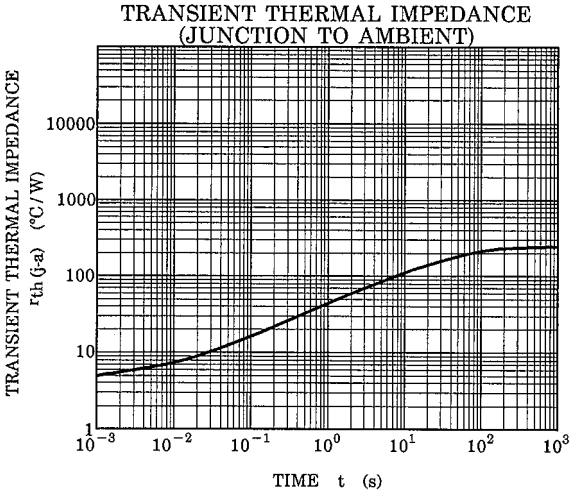


Ta MAX. – $I_{T(AV)}$




I_H – Ta (TYPICAL)
R_L = 100Ω
R_{GK} = 1kΩ
HOLDING CURRENT I_H (mA)
AMBIENT TEMPERATURE Ta (°C)


I_H – R_{GK} (TYPICAL)
R_L = 100Ω
Ta = 25°C
HOLDING CURRENT I_H (mA)
GATE TO CATHODE RESISTANCE R_{GK} (°C)


TRANSIENT THERMAL IMPEDANCE
(JUNCTION TO AMBIENT)
TRANSIENT THERMAL IMPEDANCE r_{th} (j-a) (°C/W)
TIME t (s)