

TOSHIBA THYRISTOR SILICON PLANAR TYPE

SF0R3G42

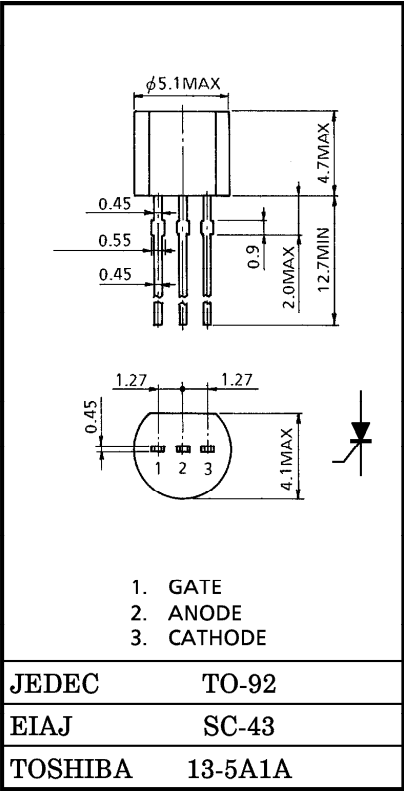
LOW POWER SWITCHING AND CONTROL APPLICATIONS.

Unit in mm

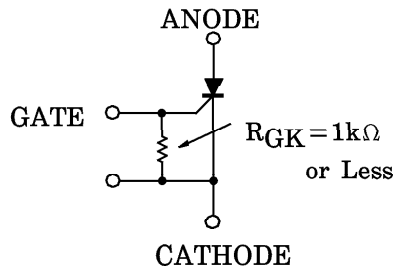
- Repetitive Peak Off-State Voltage : V_{DRM}
Repetitive Peak Reverse Voltage : V_{RRM} } = 400V
- Average On-State Current : $I_{T(AV)} = 300\text{mA}$
- Plastic Mold Type.

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage ($R_{GK} = 1\text{k}\Omega$)	V_{DRM} V_{RRM}	400	V
Non-Repetitive Peak Reverse Voltage (Non-Repetitive < 5ms, $R_{GK} = 1\text{k}\Omega$ $T_j = 0 \sim 125^\circ\text{C}$)	V_{RSM}	500	V
Average On-State Current (Half Sine Waveform $T_a = 45^\circ\text{C}$)	$I_{T(AV)}$	300	mA
R.M.S On-State Current	$I_{T(RMS)}$	450	mA
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	9 (50Hz) 9.9 (60Hz)	A
I^2t Limit Value ($t = 1 \sim 10\text{ms}$)	I^2t	0.4	A^2s
Peak Gate Power Dissipation	P_{GM}	0.1	W
Average Gate Power Dissipation	$P_{G(AV)}$	0.01	W
Peak Forward Gate Voltage	V_{FGM}	3.5	V
Peak Reverse Gate Voltage	V_{RGM}	-5	V
Peak Forward Gate Current	I_{GM}	125	mA
Junction Temperature	T_j	-40 ~ 125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40 ~ 125	$^\circ\text{C}$



Weight : 0.2g
Note : Should be used with gate resistance as follows.



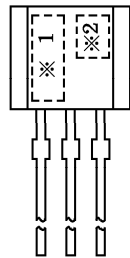
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM} = \text{Rated}$ $R_{GK} = 1k\Omega$, $T_j = 125^\circ\text{C}$	—	—	100	μA
Peak On-State Voltage	V_{TM}	$I_{TM} = 2\text{A}$	—	—	2.0	V
Gate Trigger Voltage	V_{GT}	$V_D = 6\text{V}$, $R_L = 100\Omega$ $R_{GK} = 1k\Omega$	—	—	0.8	V
Gate Trigger Current	I_{GT}		—	—	200	μA
Gate Non-Trigger Voltage	V_{GD}	$V_D = 6\text{V}$, $R_{GK} = 1k\Omega$ $T_a = 125^\circ\text{C}$	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	$^\circ\text{C/W}$

MARK



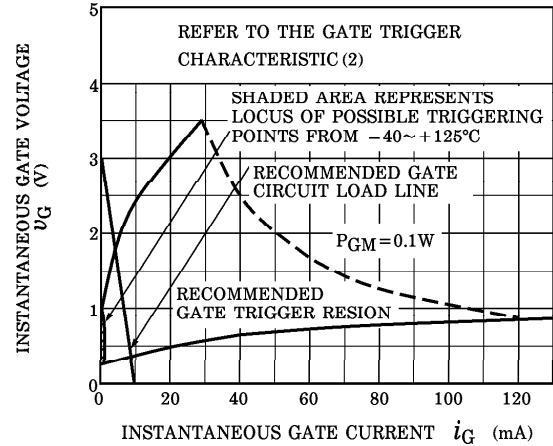
NUMBER	SYMBOL		MARK
※1	TYPE	SF0R3G42	F0R3G
※2	Lot Number Month (Starting from Alphabet A) Year (Last Number of the Christian Era)		Example 2A : January 1992 2B : February 1992 2L : December 1992

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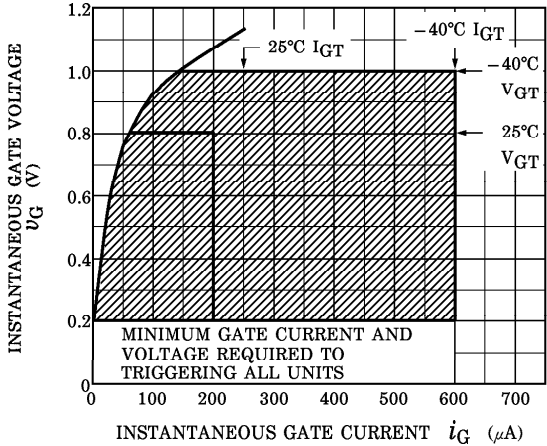
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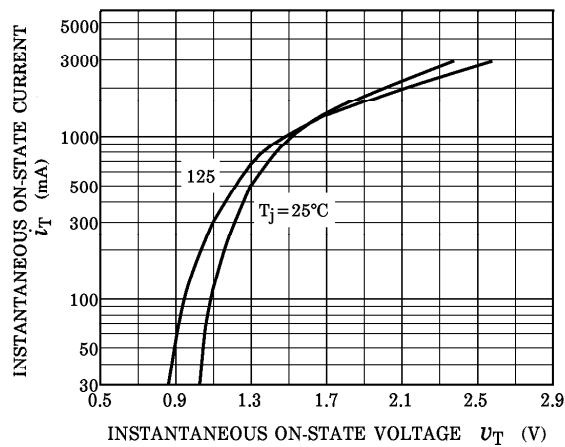
GATE TRIGGER CHARACTERISTIC (1)



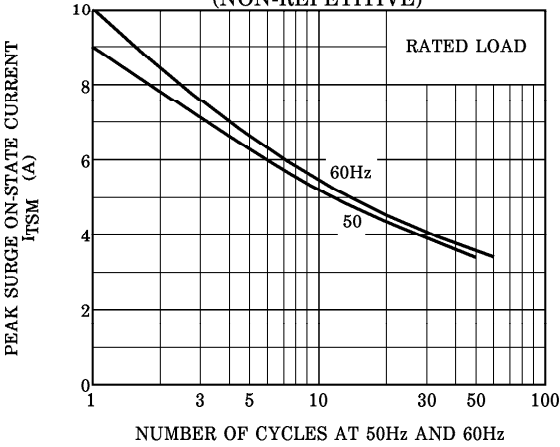
GATE TRIGGER CHARACTERISTIC (2)



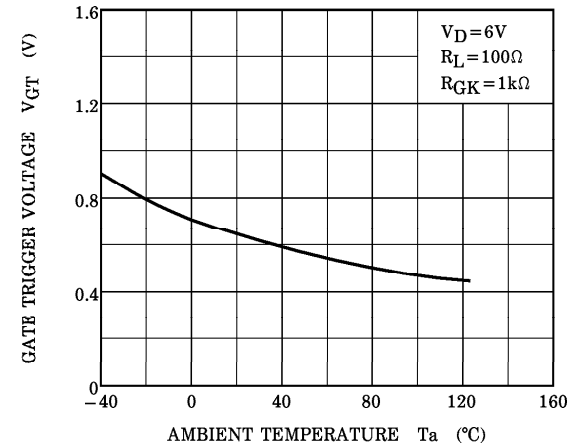
$i_T - v_T$



SURGE ON-STATE CURRENT (NON-REPETITIVE)



$V_{GT} - T_a$ (TYPICAL)



$I_{GT} - T_a$ (TYPICAL)

