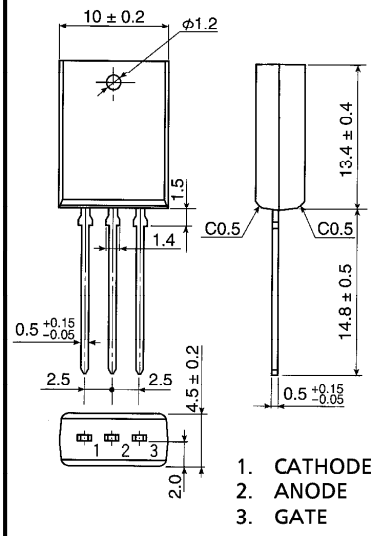
TOSHIBA THYRISTOR SILICON PLANAR TYPE

SF1G53

LOW POWER SWITCHING AND CONTROL APPLICATIONS

Unit in mm

- Radial Taping
- Repetitive Peak Off-State Voltage : V_{DRM} } = 400V
  Repetitive Peak Reverse Voltage : V_{RRM} }
- Average On-State Current : $I_{T(AV)}$ = 1A
- Plastic Mold Type



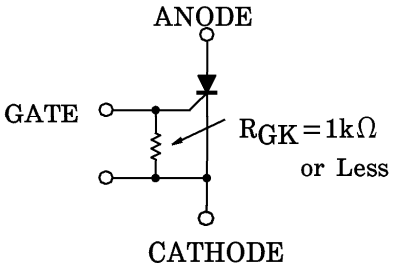
JEDEC	—
EIAJ	—
TOSHIBA	2-10T1A

Weight : 1.5g

MAXIMUM RATINGS (Ta = 25°C)

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-Repetitive < 5ms, R_{GK} = 1kΩ, T_j = 0~125°C)	V_{RSM}	500	V
Average On-State Current (Full Sine Waveform Ta = 37°C)	$I_{T(AV)}$	1	A
R.M.S On-State Current	$I_{T(RMS)}$	1.57	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	8 (50Hz) / 8.8 (60Hz)	A
I^2t Limit Value (t = 1~10ms)	I^2t	0.32	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}	5	V
Peak Reverse Gate Voltage	V_{RGM}	−5	V
Peak Forward Gate Current	I_{GM}	100	mA
Junction Temperature	T_j	−40~125	°C
Storage Temperature Range	T_{stg}	−40~125	°C

(Note) Should be used with gate resistance as follows.



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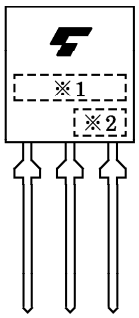
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

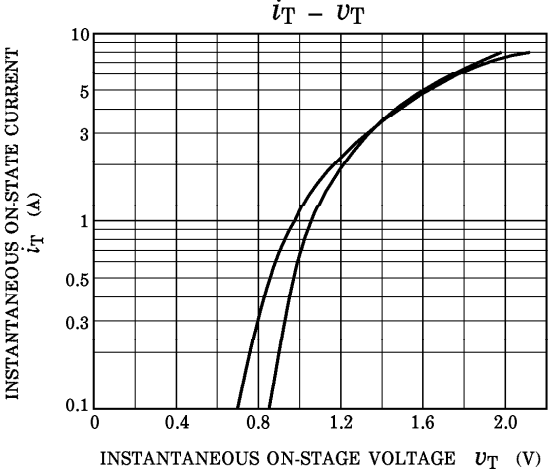
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM}=V_{RRM}$=Rated $R_{GK}=1k\Omega$, $T_j=125°C$	—	—	200	μA
Peak On-State Voltage	V_{TM}	$I_{TM}=2A$	—	—	1.7	V
Gate Trigger Voltage	V_{GT}	$V_D=6V$, $R_L=100\Omega$, $R_{GK}=1k\Omega$	—	—	0.8	V
Gate Trigger Current	I_{GT}		—	—	200	μA
Gate Non-Trigger Voltage	V_{GD}	$V_D=6V$, $R_{GK}=1k\Omega$, $Tc=125°C$	0.2	—	—	V
Holding Current	I_H	$R_L=100\Omega$, $R_{GK}=1k\Omega$	—	3	—	mA
Thermal Resistance	$R_{th\,(j-a)}$	Junction to Ambient	—	—	69	°C / W

MARKING

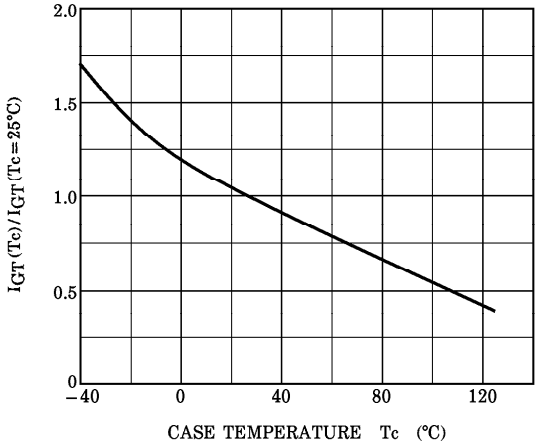


NUMBER	SYMBOL		MARK
※1	TYPE	SF1G53	SF1G53
※2	Lot Number □ □ — Month (Starting from Alphabet A) — Year (Last Decimal Digit of the Current Year)		Example 8A : January 1998 8B : February 1998 8L : December 1998

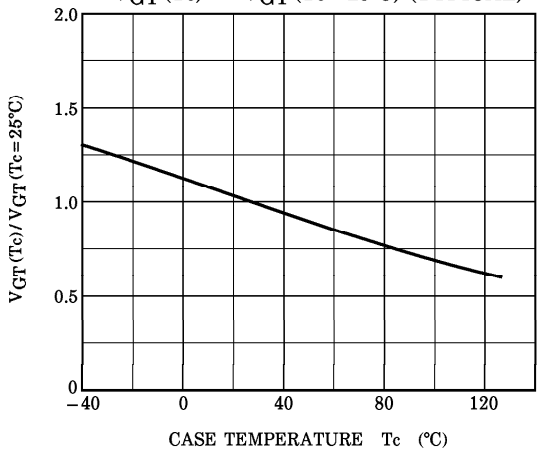
$i_T - v_T$



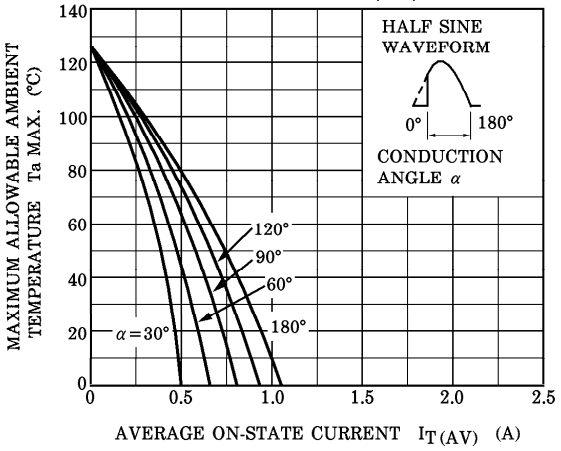
I_{GT} (Tc) – I_{GT} (Tc = 25°C) (TYPICAL)



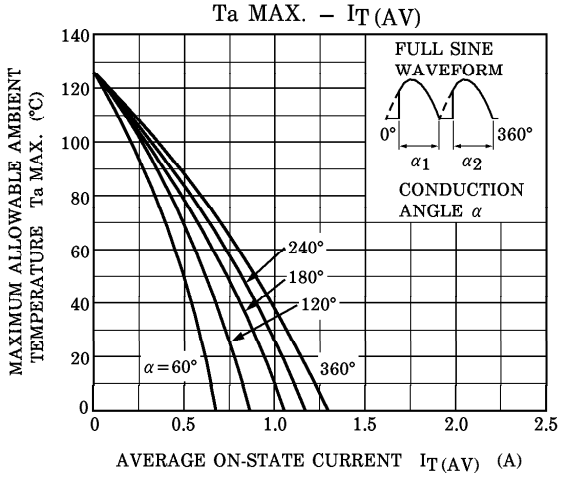
V_{GT} (Tc) – V_{GT} (Tc = 25°C) (TYPICAL)



Ta MAX. – $I_{T(AV)}$



Ta MAX. – $I_{T(AV)}$



Ta MAX. – $I_{T(AV)}$