

TOSHIBA THYRISTOR SILICON PLANAR TYPE

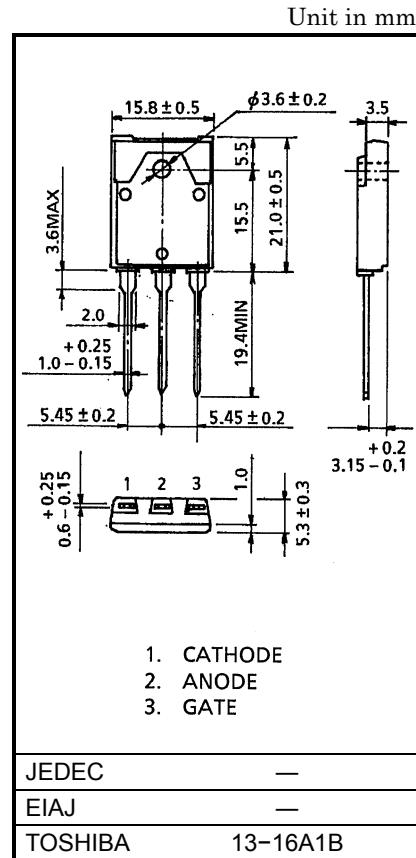
SF25GZ51, SF25JZ51

MEDIUM POWER CONTROL APPLICATIONS

- Repetitive Peak Off-State Voltage : $V_{DRM} = 400, 600$ V
- Repetitive Peak Reverse Voltage : $V_{RRM} = 400, 600$ V
- Average On-State Current : $I_T (AV) = 25$ A
- Isolation Voltage : $V_{Isol} = 1500$ V AC

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	V_{DRM} V_{RRM}	400	V
		600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive < 5 ms, $T_j = 0 \sim 125^\circ C$)	V_{RSM}	500	V
		720	
Average On-State Current (Half Sine Waveform)	$I_T (AV)$	25	A
R.M.S On-State Current	$I_T (RMS)$	39	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	350 (50 Hz)	A
		385 (60 Hz)	
I^2t Limit Value	I^2t	612	A^2s
Critical Rate of Rise of On-State Current (Note)	di / dt	100	$A/\mu s$
Peak Gate Power Dissipation	P_{GM}	5	W
Average Gate Power Dissipation	$P_G (AV)$	0.5	W
Peak Forward Gate Voltage	V_{FGM}	10	V
Peak Reverse Gate Voltage	V_{RGM}	-5	V
Peak Forward Gate Current	I_{GM}	2	A
Junction Temperature	T_j	-40~125	$^\circ C$
Storage Temperature Range	T_{stg}	-40~125	$^\circ C$
Isolation Voltage (AC, $t = 1$ min.)	V_{Isol}	1500	V

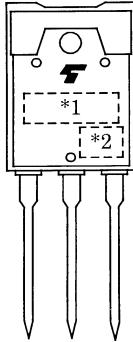
Note : di / dt Test Condition, $i_G = 30mA$, $t_{gw} = 10\mu s$, $t_{gr} \leq 250ns$ 

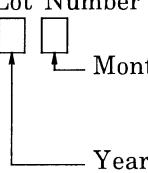
Weight : 5.9g

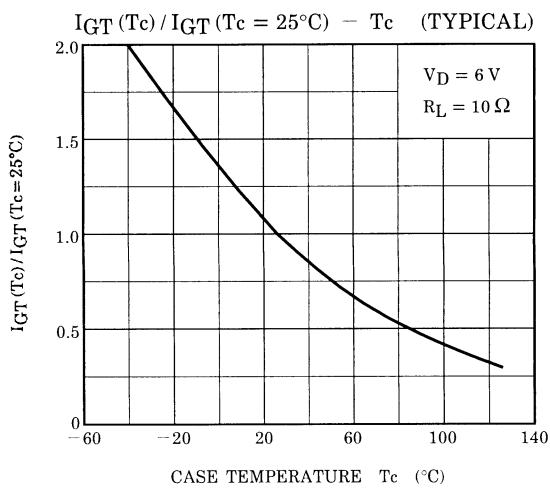
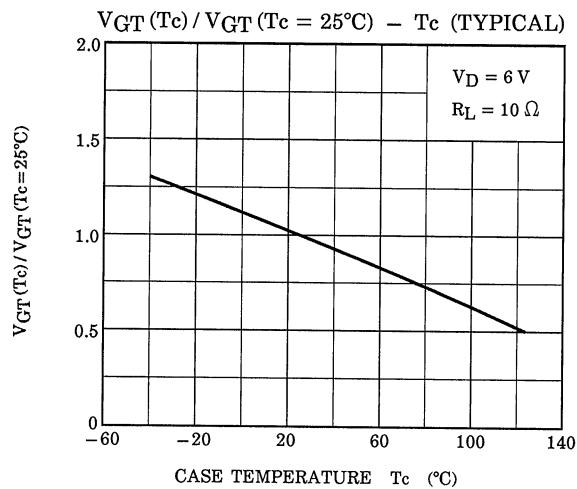
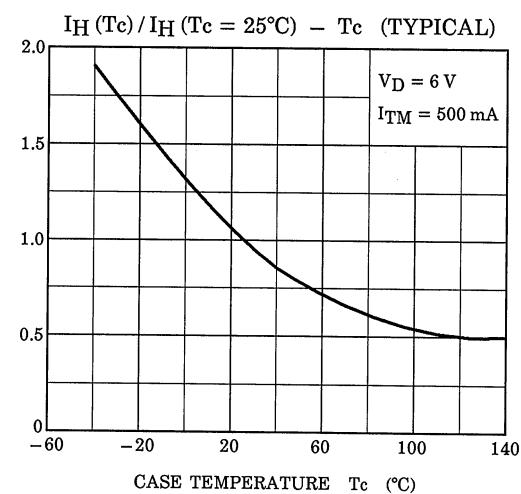
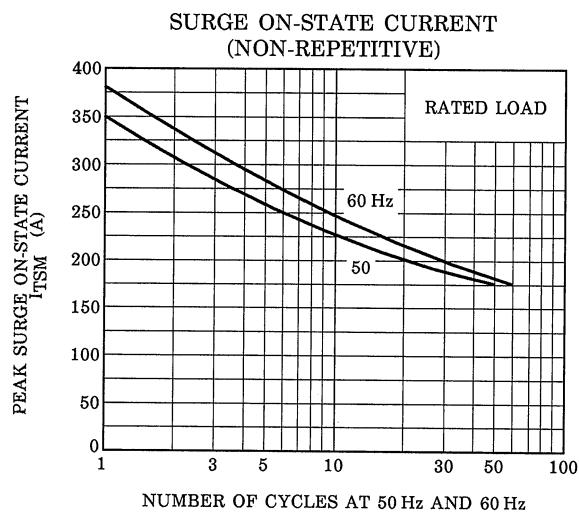
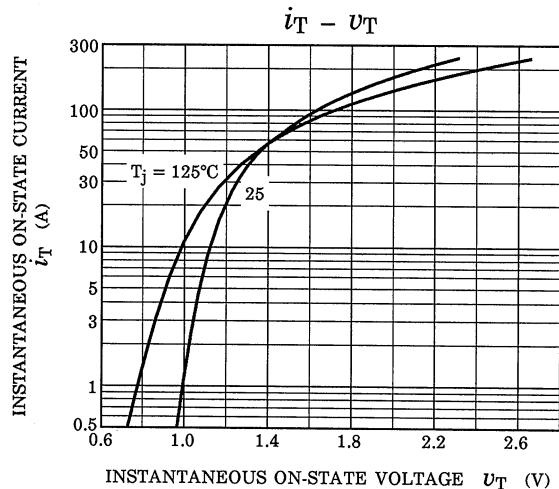
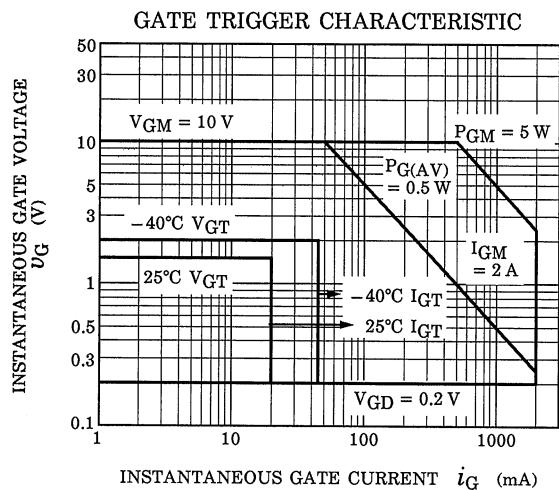
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

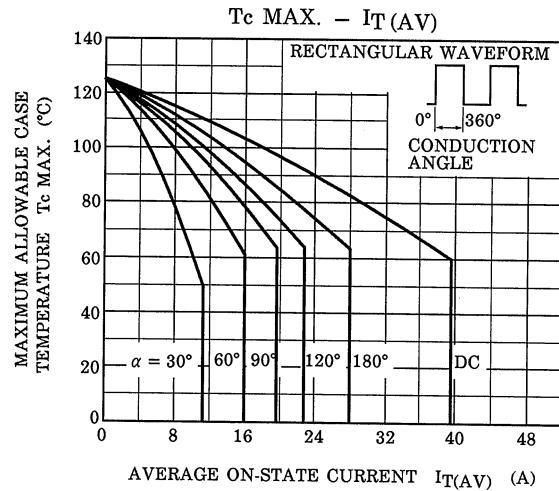
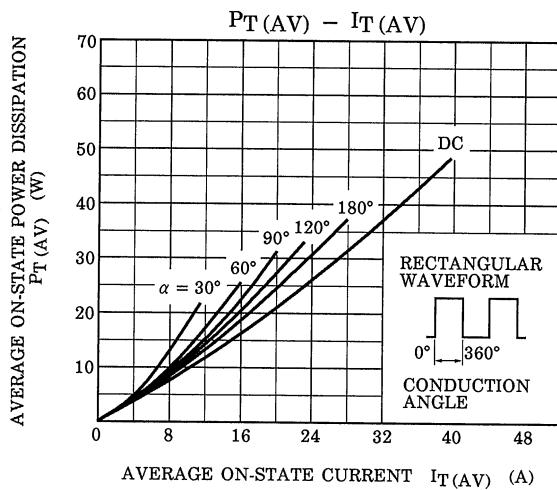
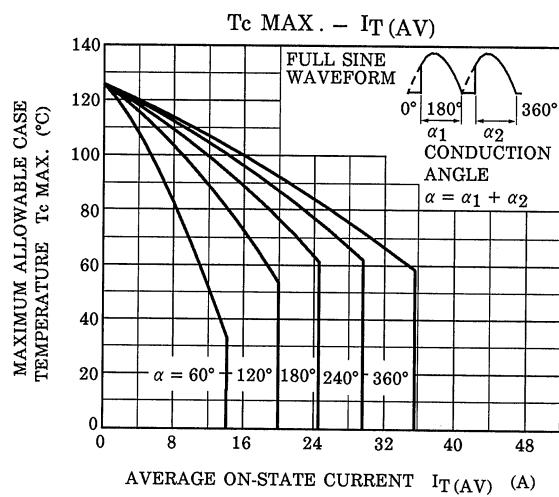
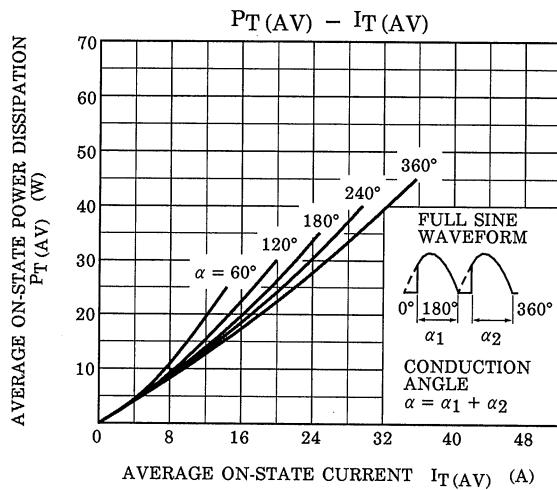
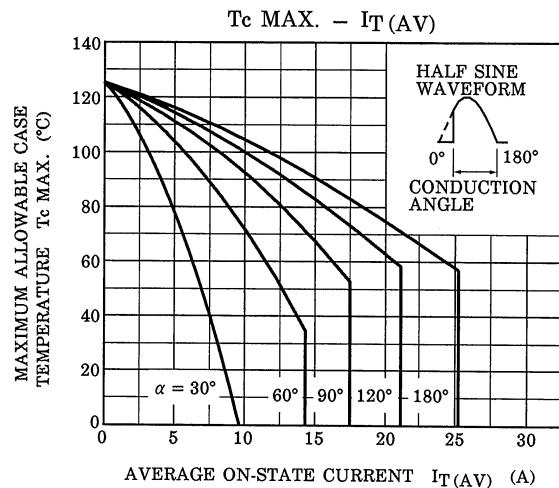
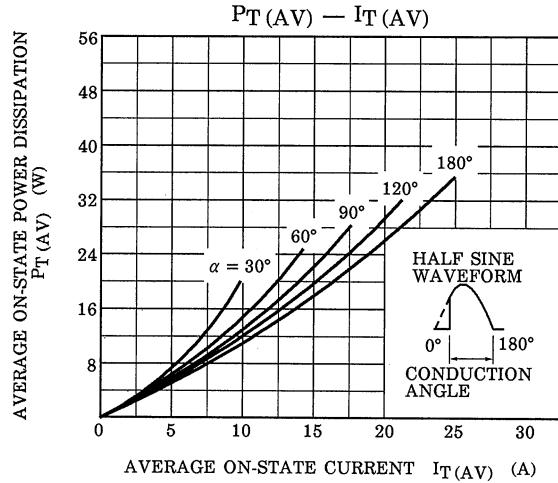
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM}$ = Rated	—	—	20	μA
Peak On-State Voltage	V_{TM}	$I_{TM} = 80$ A	—	—	1.5	V
Gate Trigger Voltage	V_{GT}	$V_D = 6$ V, $R_L = 10$ Ω	—	—	1.5	V
Gate Trigger Current	I_{GT}		—	—	20	mA
Holding Current	I_H	$V_D = 6$ V, $I_{TM} = 500$ mA	—	—	100	mA
Critical Rate of Rise of Off-State Voltage	dv / dt	V_{DRM} = Rated, $T_c = 125^\circ\text{C}$ Exponential Rise	—	50	—	V / μs
Thermal Resistance	$R_{th(j-c)}$	Junction to Case	—	—	1.3	°C / W

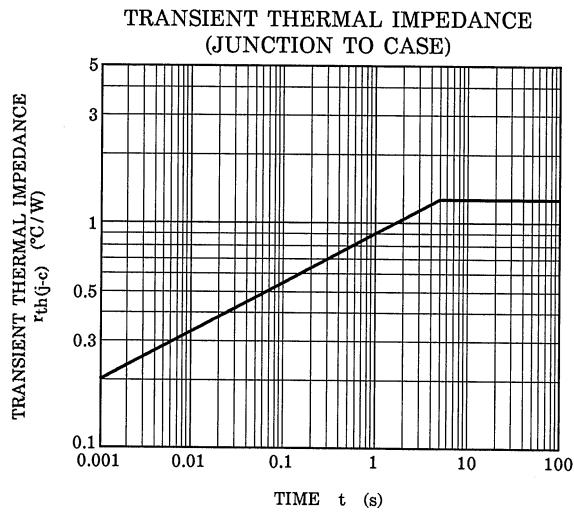
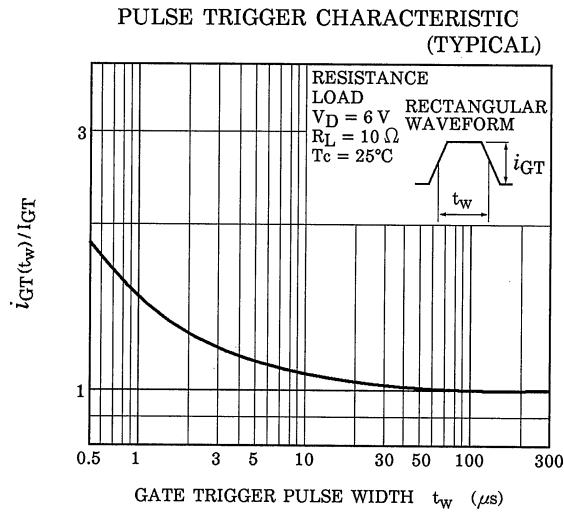
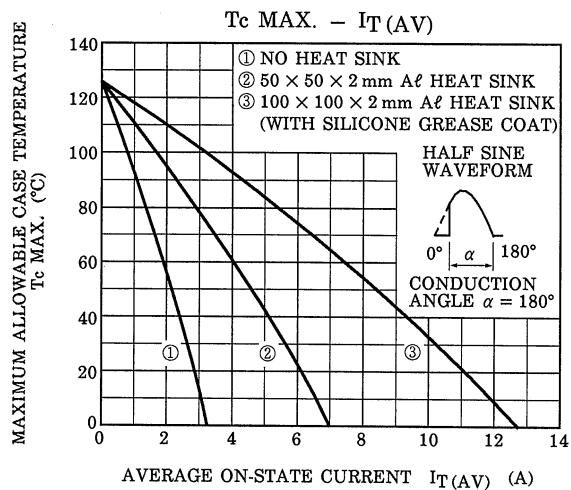
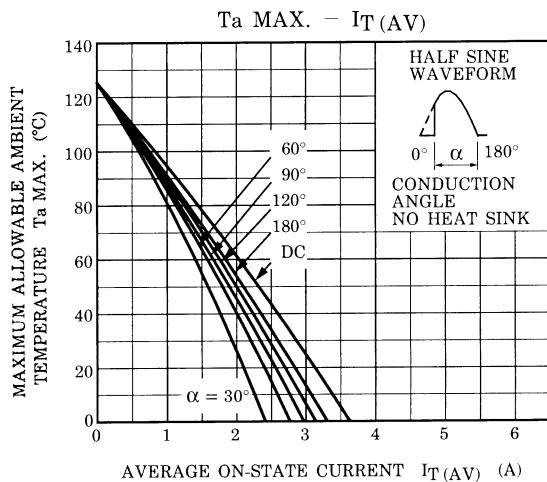
MARKING



NUMBER	SYMBOL		MARK
*1	TYPE	SF25GZ51	F25GZ51
		SF25JZ51	F25JZ51
*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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