

TOSHIBA THYRISTOR SILICON PLANAR TYPE

SF25GZ51, SF25JZ51

MEDIUM POWER CONTROL APPLICATIONS

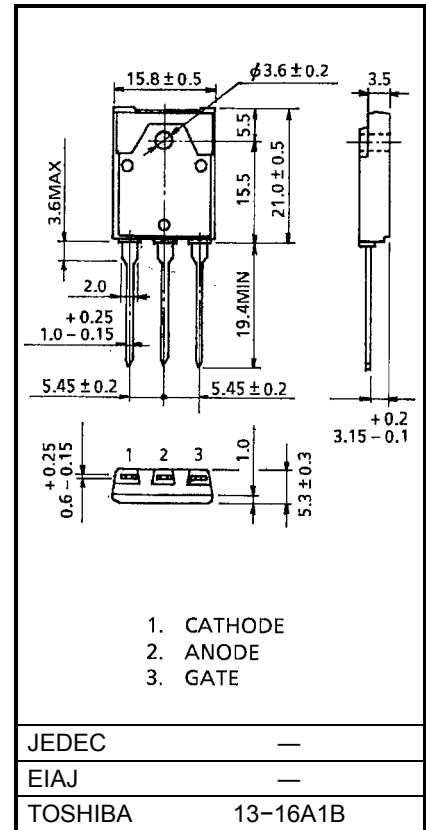
- Repetitive Peak Off-State Voltage : $V_{DRM} = 400, 600 \text{ V}$
 Repetitive Peak Reverse Voltage : $V_{RRM} = 400, 600 \text{ V}$
- Average On-State Current : $I_T (AV) = 25 \text{ A}$
- Isolation Voltage : $V_{Isol} = 1500 \text{ V AC}$

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	SF25GZ51	400	V
	SF25JZ51	600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive < 5 ms, $T_j = 0\sim 125^\circ\text{C}$)	SF25GZ51	500	V
	SF25JZ51	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	$\text{A} / \mu\text{s}$
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	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40~125	$^\circ\text{C}$
Isolation Voltage (AC, $t = 1 \text{ min.}$)	V_{Isol}	1500	V

Note : di / dt Test Condition, $I_G = 30\text{mA}$, $t_{GW} = 10\mu\text{s}$, $t_{GR} \leq 250\text{ns}$

Unit in mm

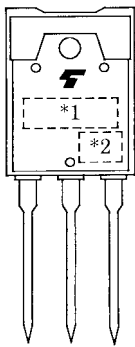


Weight : 5.9g

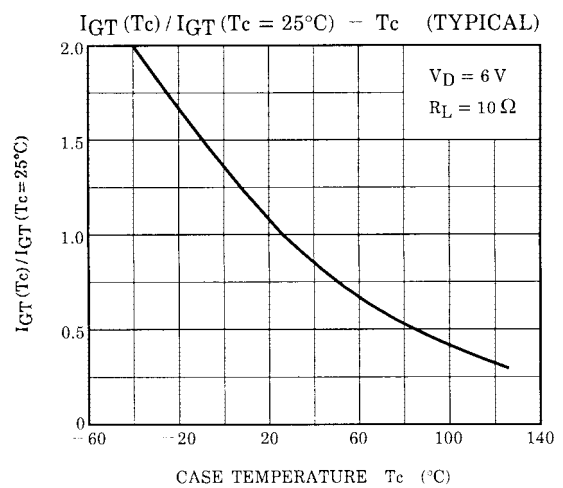
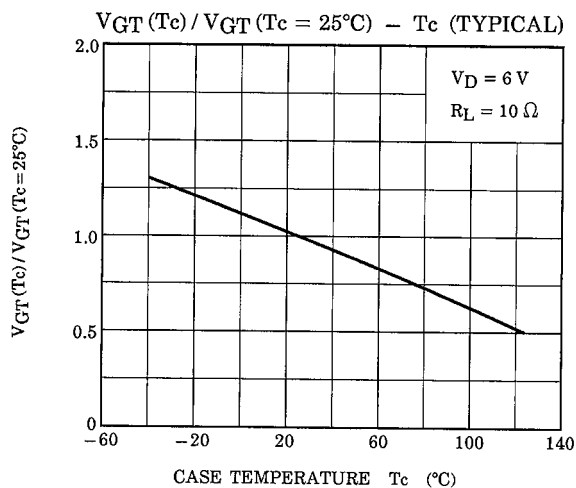
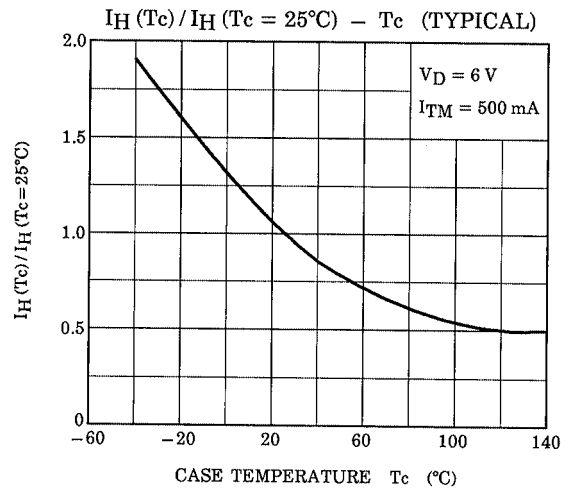
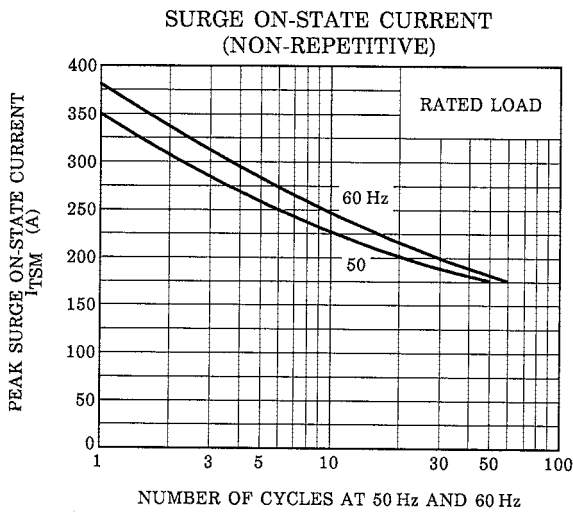
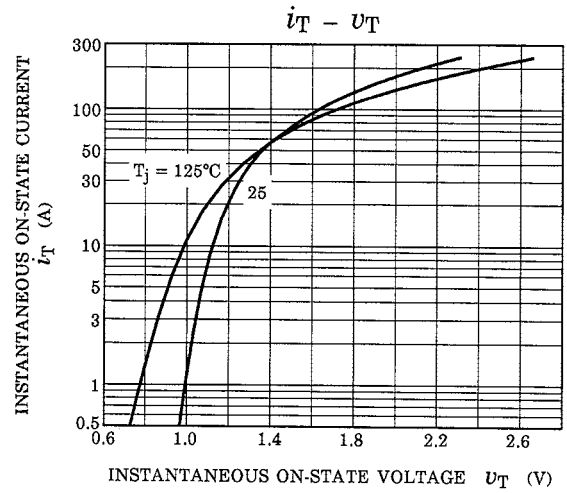
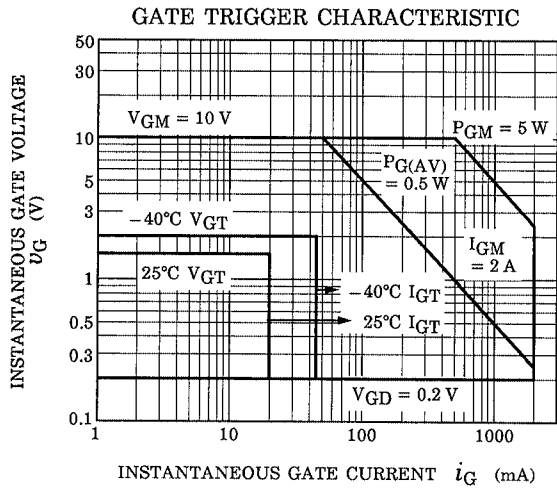
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

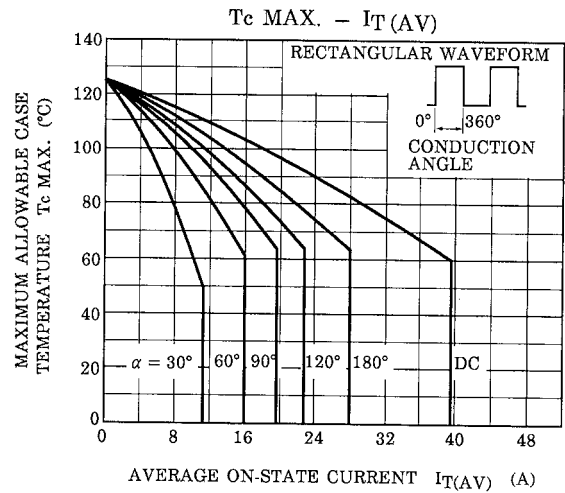
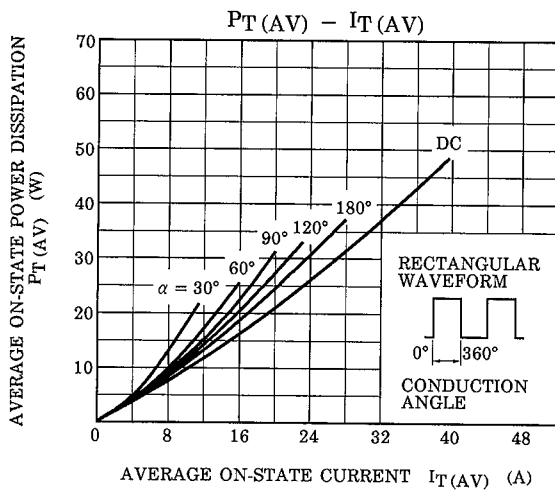
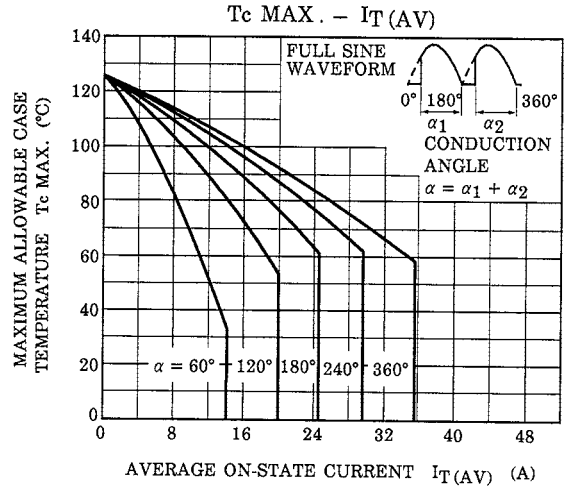
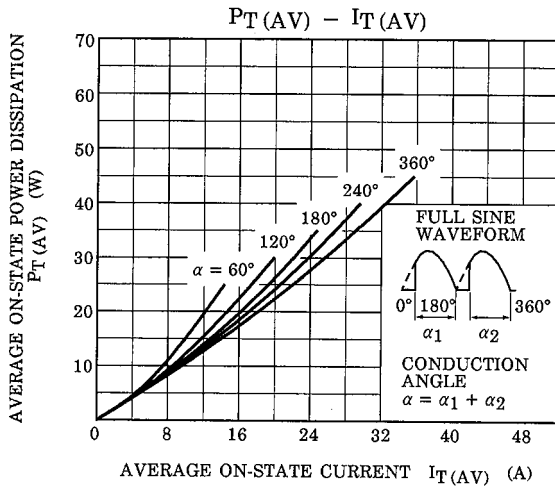
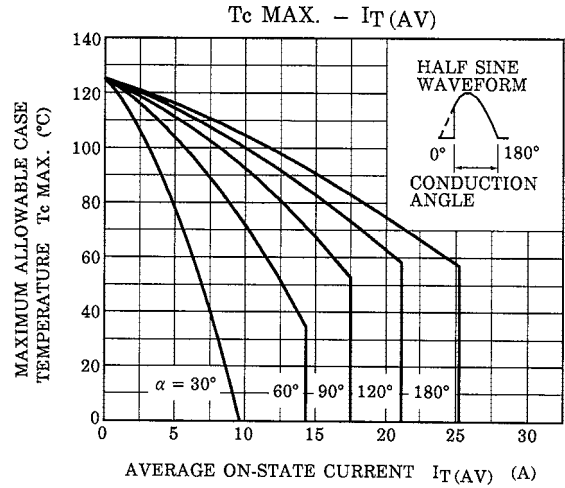
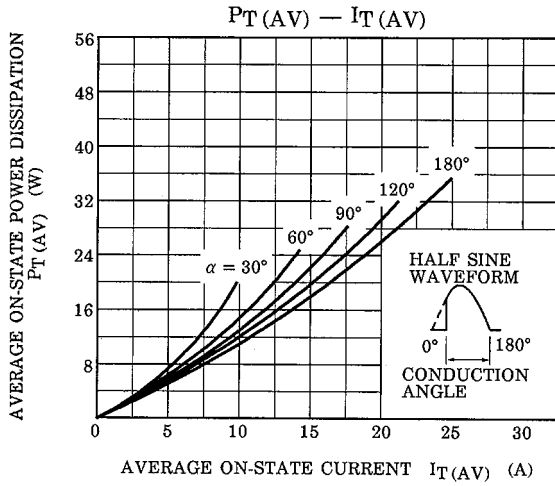
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM} = \text{Rated}$	—	—	20	μA
Peak On-State Voltage	V_{TM}	$I_{TM} = 80 \text{ A}$	—	—	1.5	V
Gate Trigger Voltage	V_{GT}	$V_D = 6 \text{ V}, R_L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

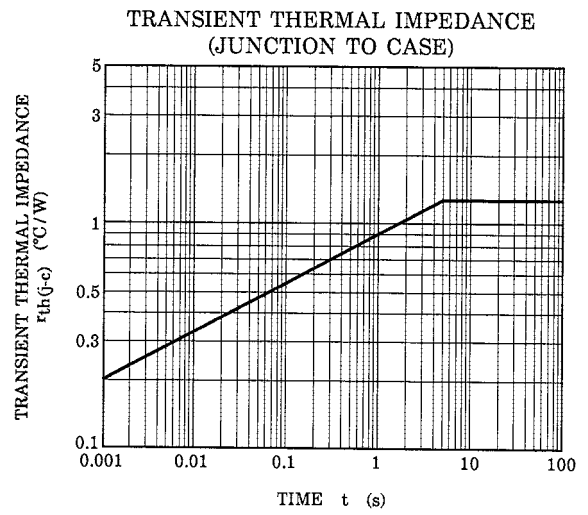
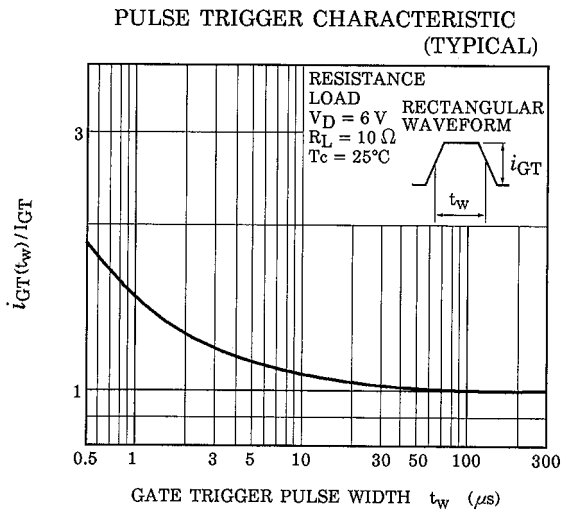
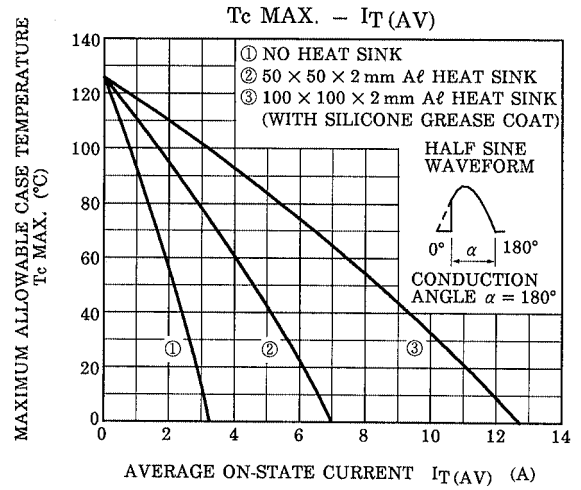
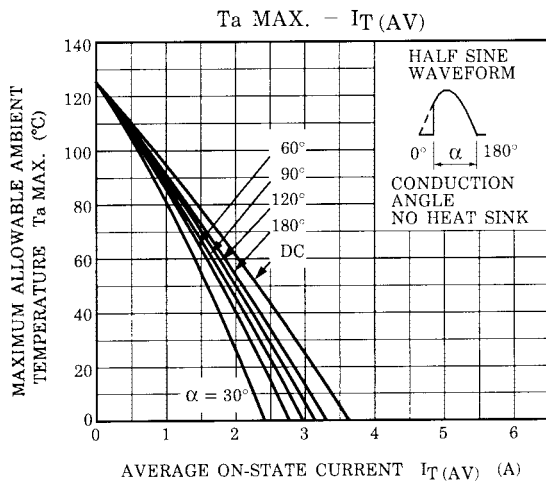
MARKING



NUMBER	SYMBOL	MARK
*1	TYPE	SF25GZ51
		SF25JZ51
*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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