

TOSHIBA THYRISTOR SILICON PLANAR TYPE

SF25GZ51, SF25JZ51

MEDIUM POWER CONTROL APPLICATIONS

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

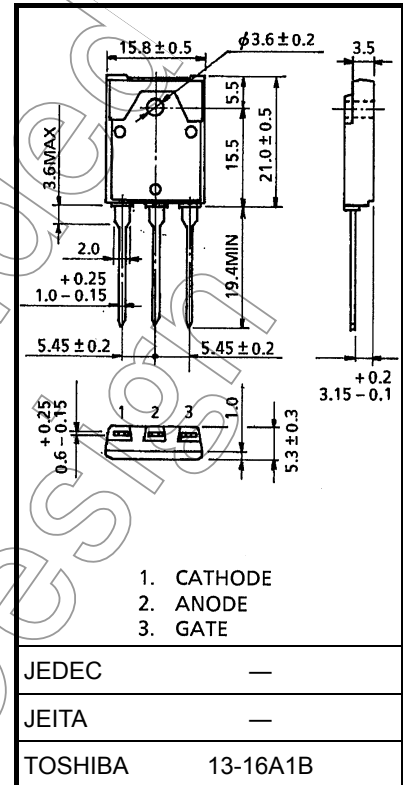
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	SF25GZ51	400	V
	SF25JZ51	600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive < 5 ms, $T_j = 0 \sim 125^\circ C$)	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)	
$I^2 t$ Limit Value	$I^2 t$	612	$A^2 s$
Critical Rate of Rise of On-State Current (Note)	di / dt	100	A / μs
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, $t = 1 \text{ min.}$)	V_{Isol}	1500	V

Note : di / dt Test Condition

$i_G = 30mA, t_{gw} = 10\mu s, t_{gr} \leq 250ns$

Unit: mm

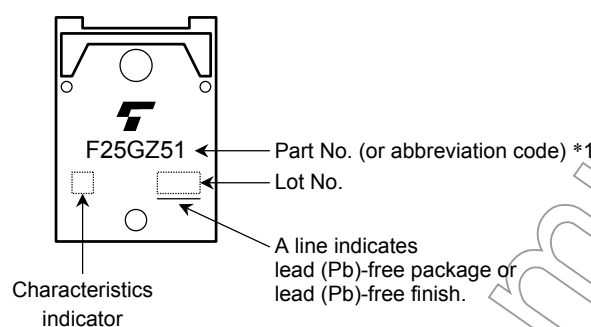


Weight: 5.9 g (typ.)

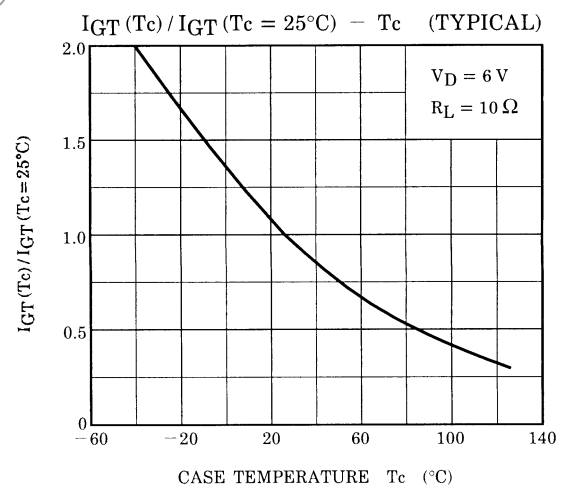
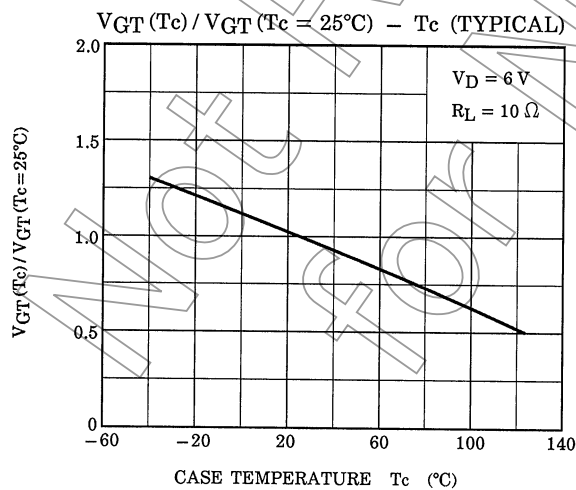
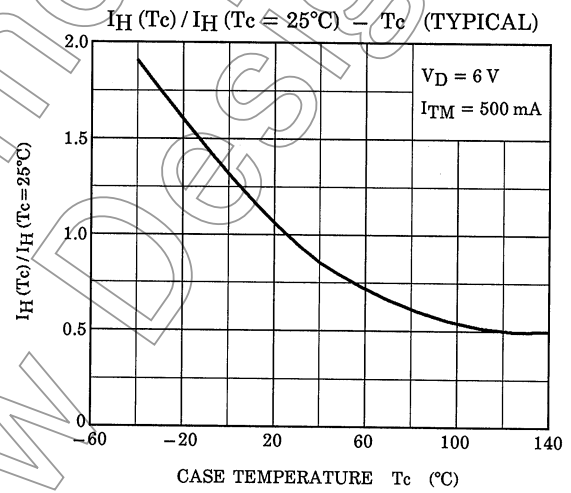
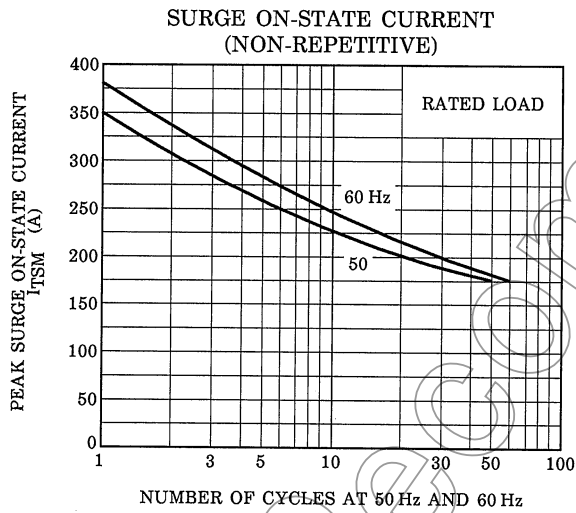
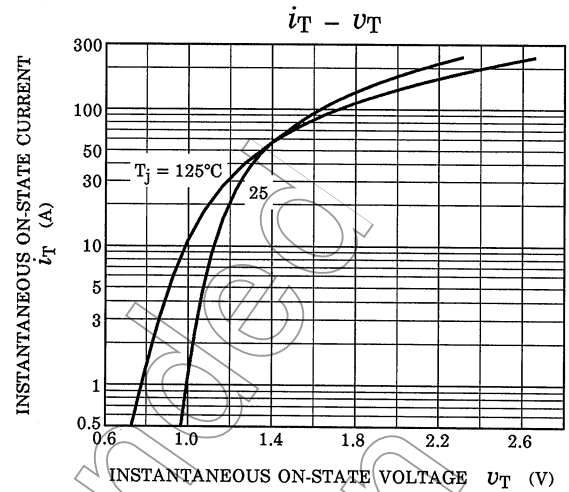
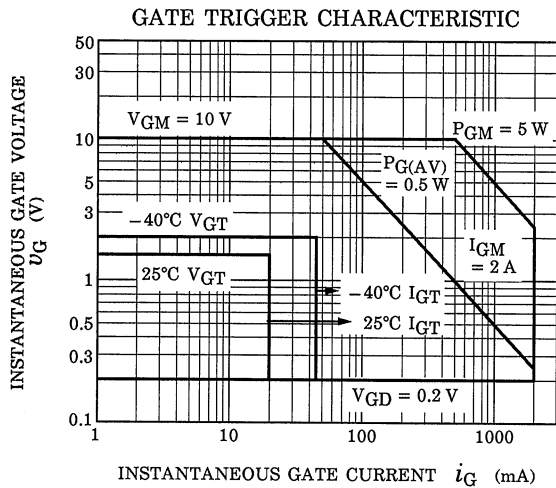
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

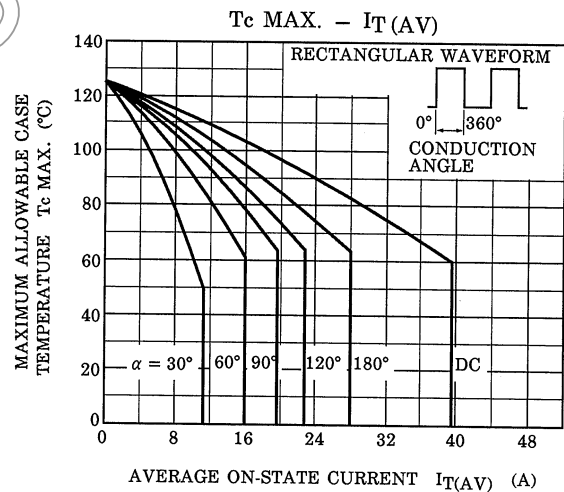
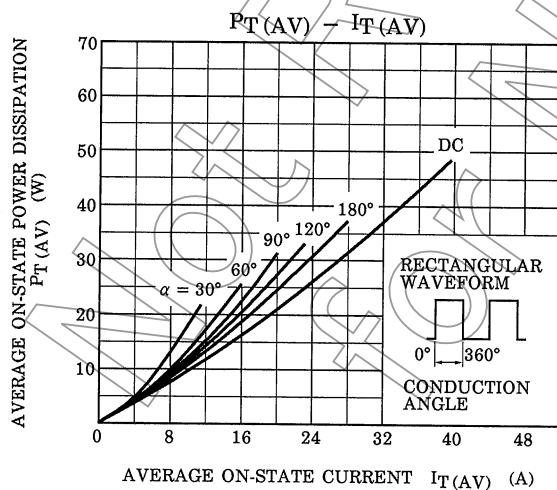
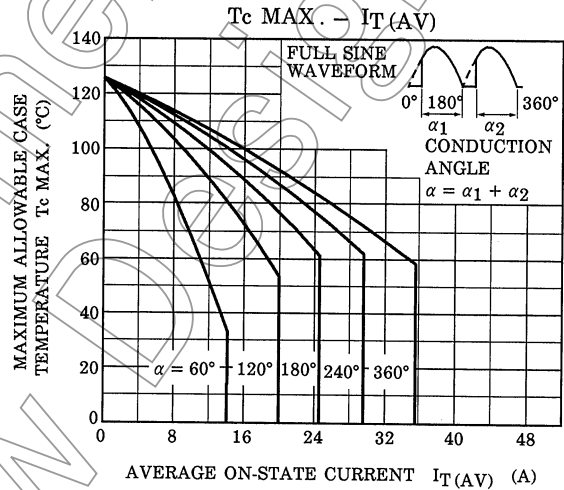
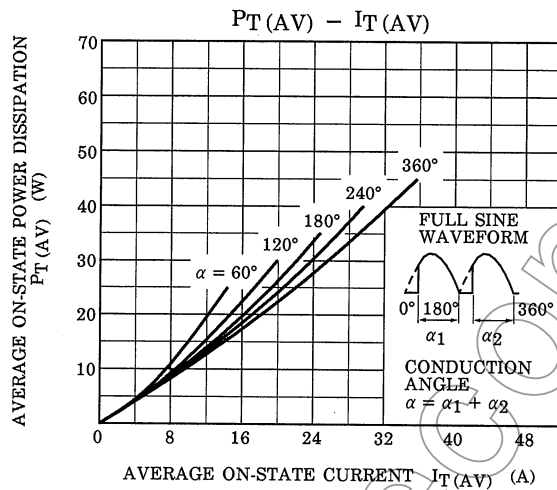
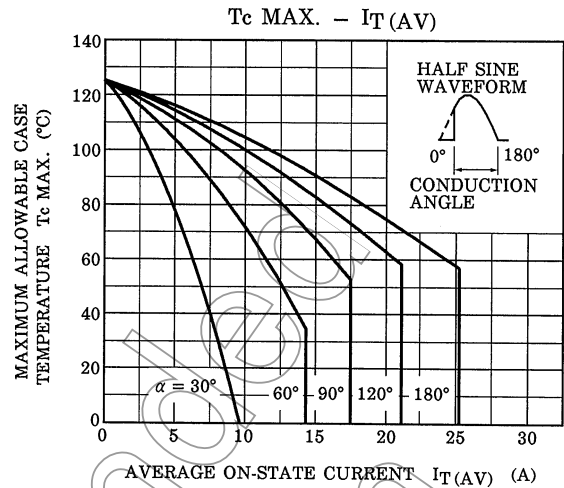
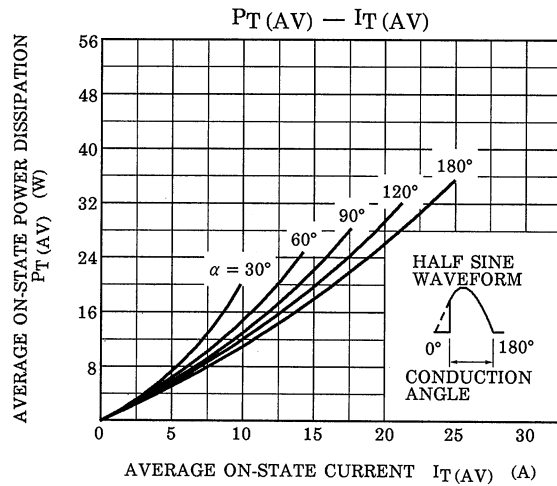
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM} = \text{Rated}$	—	—	20	μA
Peak On-State Voltage	V_{TM}	$I_{TM} = 80 \text{ A}$	—	—	1.5	V
Gate Trigger Voltage	V_{GT}	$V_D = 6 \text{ V}, R_L = 10 \Omega$	—	—	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	—	V / μs
Thermal Resistance	$R_{th(j-c)}$	Junction to Case	—	—	1.3	$^\circ\text{C} / \text{W}$

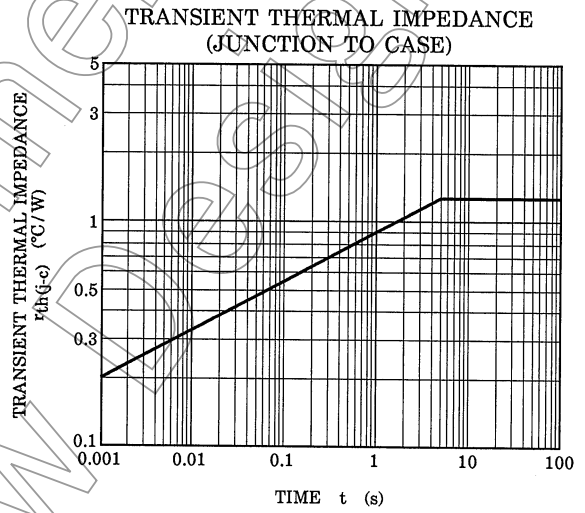
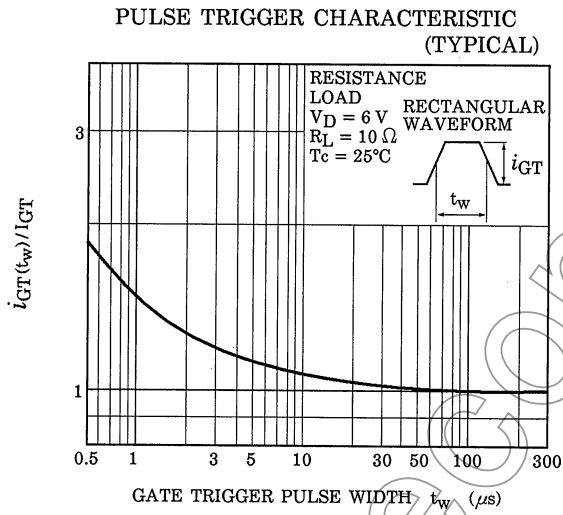
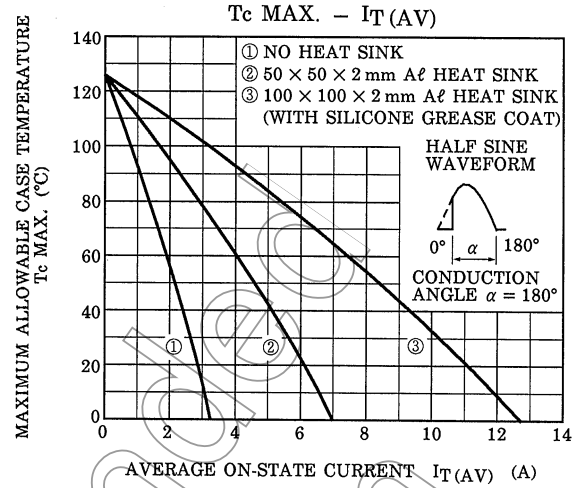
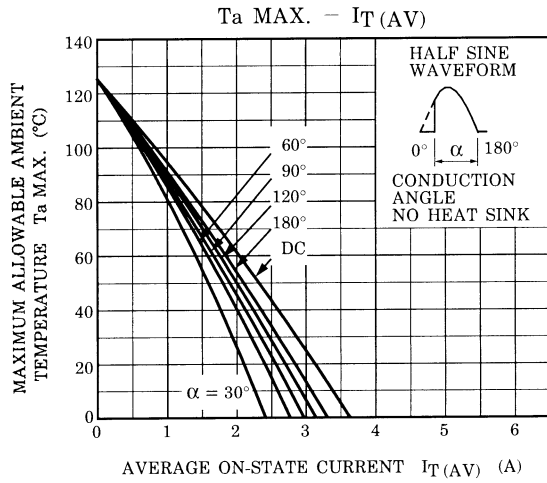
MARKING



*1	Part No. (or abbreviation code)	Part No.
	F25GZ51	SF25GZ51
	F25JZ51	SF25JZ51







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