

TOSHIBA THYRISTOR SILICON PLANAR TYPE

SF16GZ51, SF16JZ51

MEDIUM POWER CONTROL APPLICATIONS

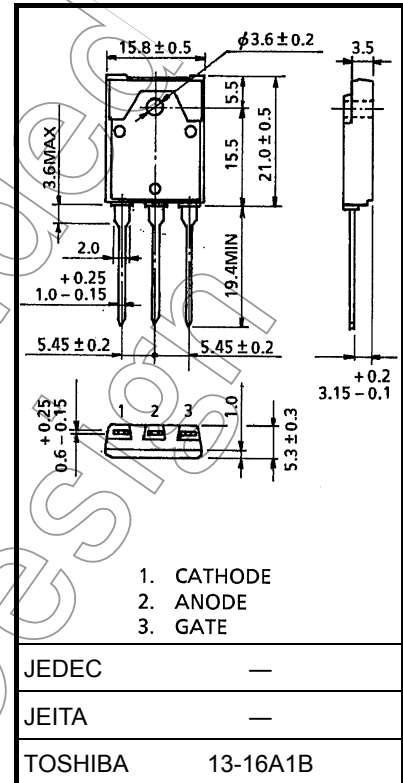
- Repetitive Peak Off-State Voltage: $V_{DRM} = 400V, 600V$
Repetitive Peak Reverse Voltage: $V_{RRM} = 400V, 600V$
- Average On-State Current: $I_T(AV) = 16A$
- Isolation Voltage: $V_{Isol} = 1500V$ AC

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	SF16GZ51	400	V
	SF16JZ51	600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive <5ms, $T_j = 0 \sim 125^\circ C$)	SF16GZ51	500	V
	SF16JZ51	720	
Average On-State Current (Half Sine Waveform)	$I_{T(AV)}$	16	A
R.M.S On-State Current	$I_{T(RMS)}$	25	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	250 (50Hz)	A
		275 (60Hz)	
I^2t Limit Value	I^2t	312	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, $t = 1min.$)	V_{Isol}	1500	V

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

Unit: mm

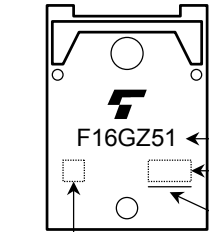


Weight: 5.9 g (typ.)

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

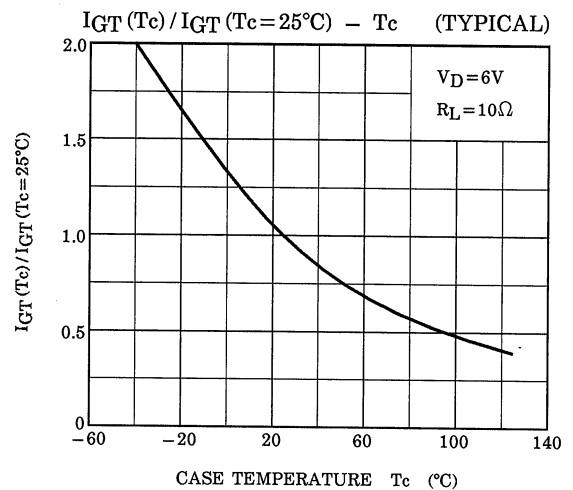
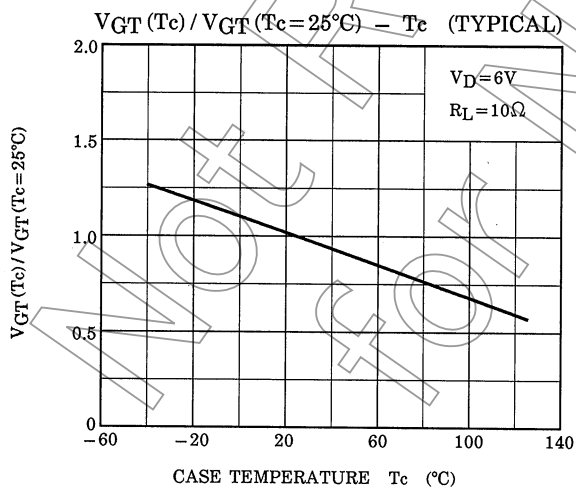
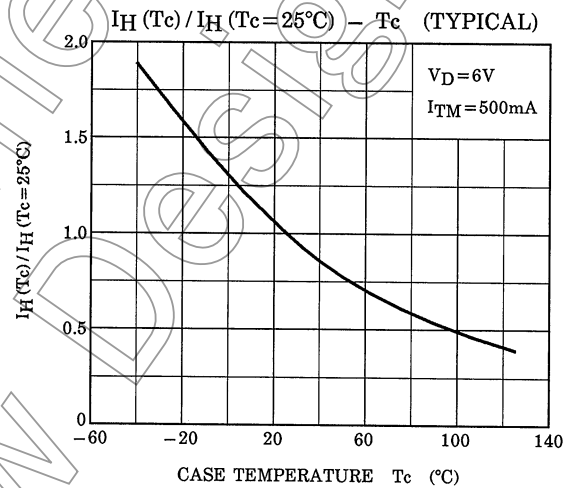
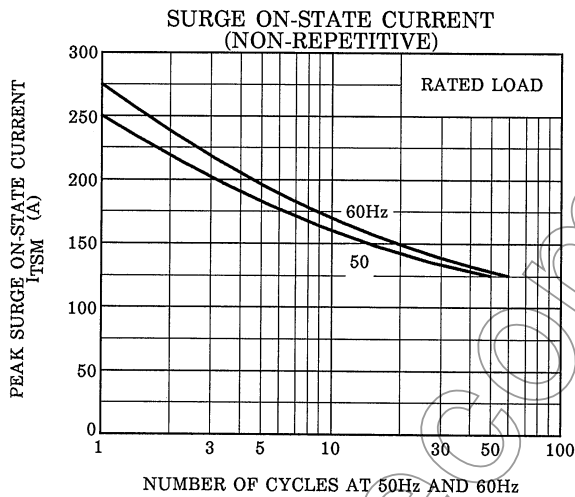
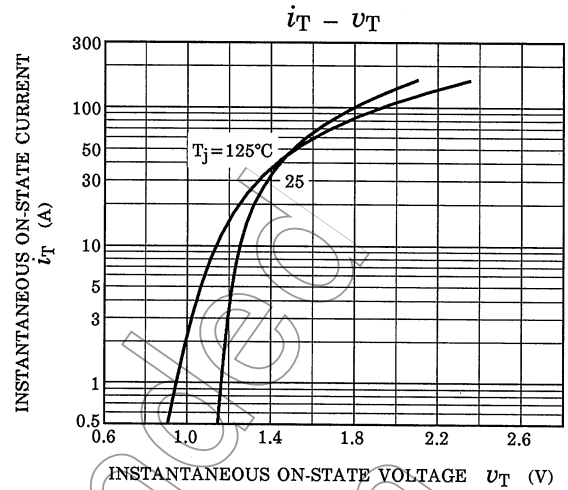
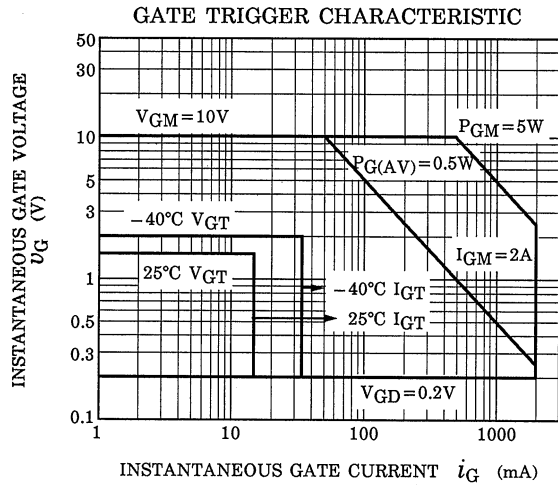
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM} = \text{Rated}$	—	—	20	μA
Peak On-State Voltage	V_{TM}	$I_{TM} = 50\text{A}$	—	—	1.5	V
Gate Trigger Voltage	V_{GT}	$V_D = 6\text{V}, R_L = 10\Omega$	—	—	1.5	V
Gate Trigger Current	I_{GT}		—	—	15	mA
Holding Current	I_H	$V_D = 6\text{V}, I_{TM} = 500\text{mA}$	—	—	50	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	—	—	1.5	$^\circ\text{C} / \text{W}$

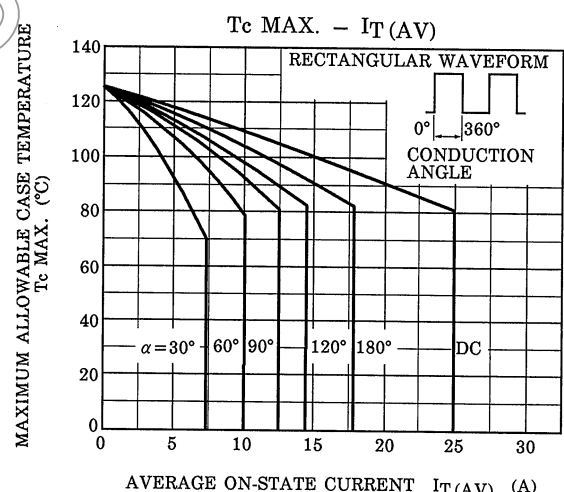
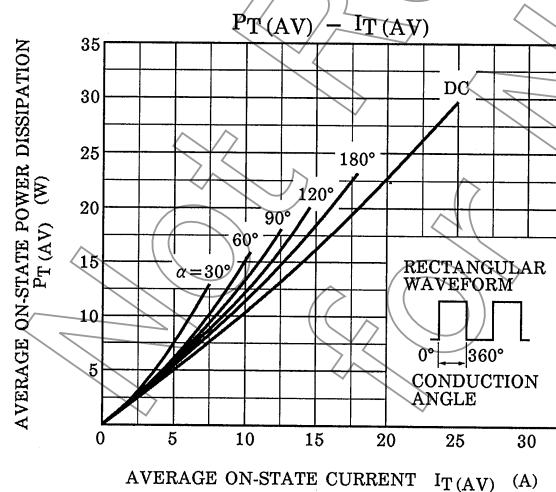
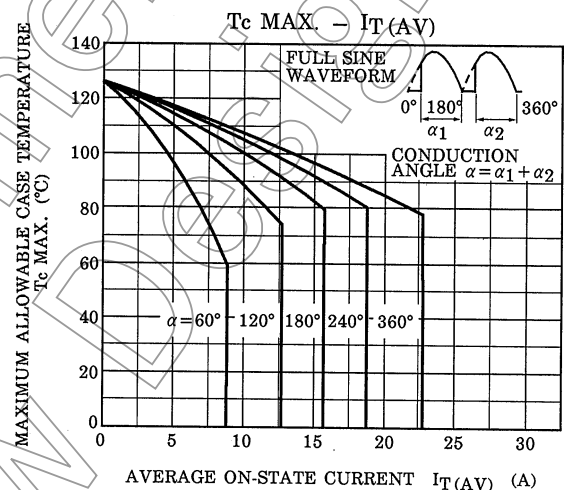
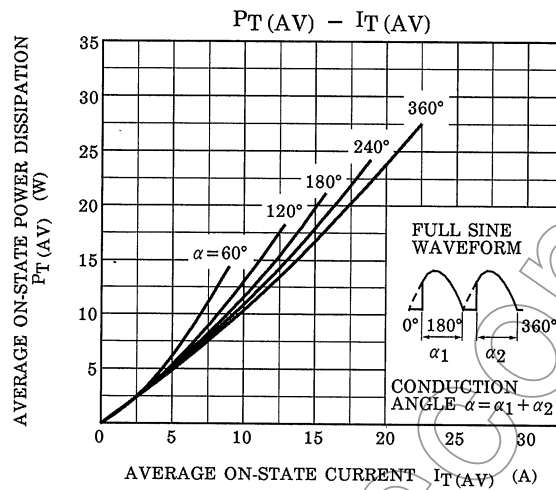
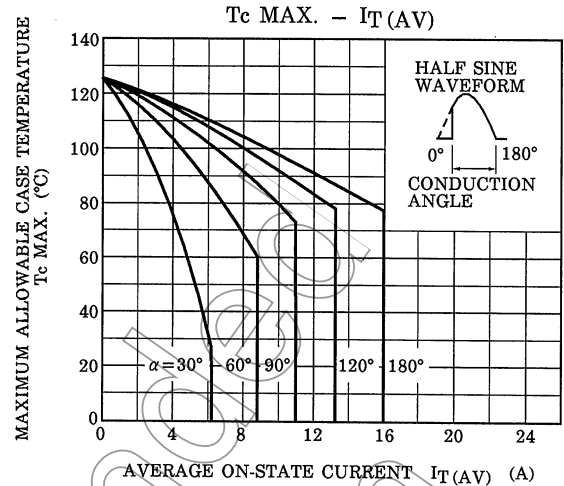
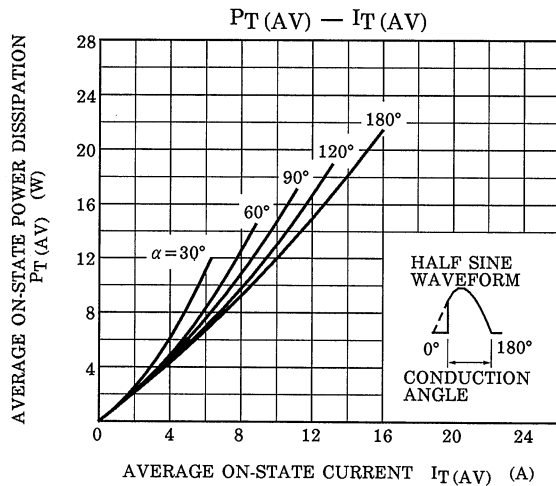
MARKING

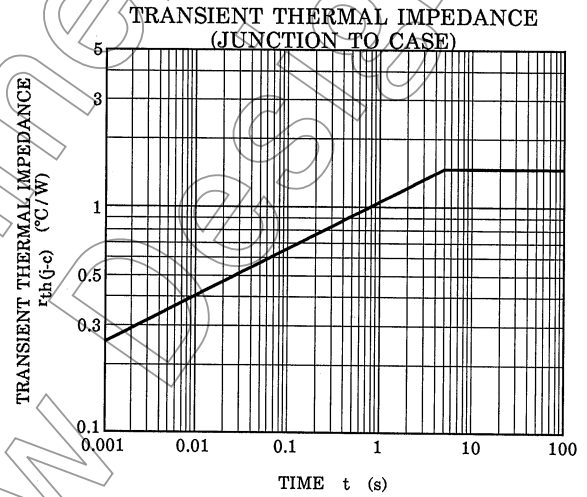
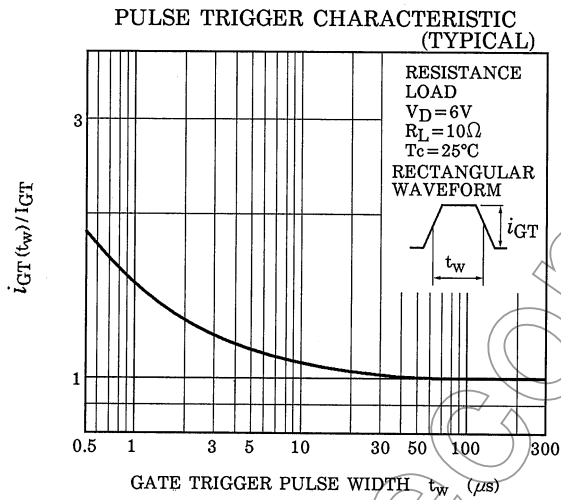
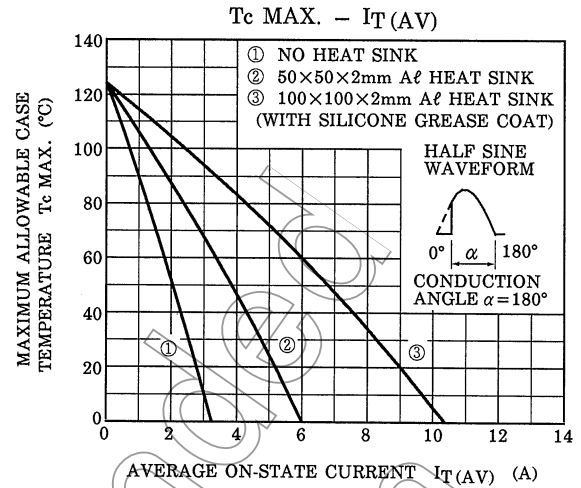
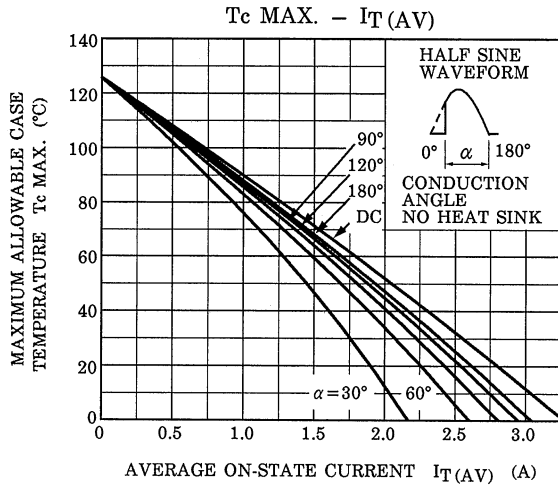


Part No. (or abbreviation code) *1
Lot No.
A line indicates lead (Pb)-free package or lead (Pb)-free finish.

*1	Part No. (or abbreviation code)	Part No.
	F16GZ51	SF16GZ51
	F16JZ51	SF16JZ51







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20070701-EN

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