

TOSHIBA THYRISTOR SILICON PLANAR TYPE

SF16GZ51, SF16JZ51

MEDIUM POWER CONTROL APPLICATIONS

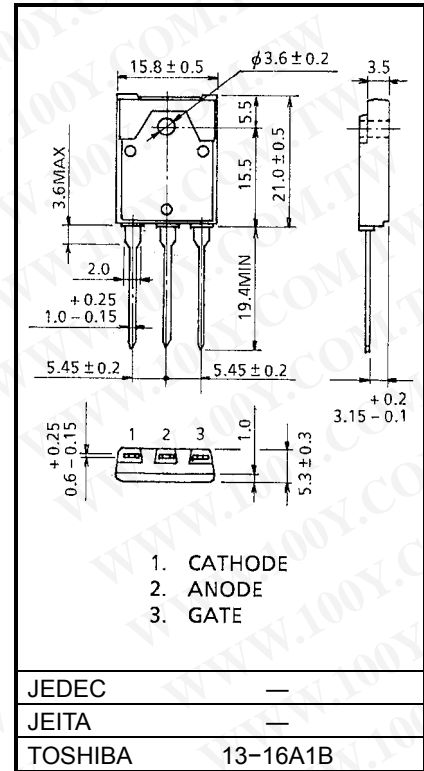
Unit: mm

- Repetitive Peak Off-State Voltage : $V_{DRM} = 400, 600V$
 Repetitive Peak Reverse Voltage : $V_{RRM} = 400, 600V$
- 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	V_{DRM} V_{RRM}	400	V
	SF16JZ51		600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive <5ms, $T_j = 0\sim 125^\circ C$)	SF16GZ51	V_{RSM}	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)	
$I^2 t$ Limit Value		$I^2 t$	312	$A^2 s$
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, $I_G = 30mA$, $t_{gw} = 10\mu s$, $t_{gr} \leq 250ns$



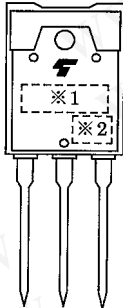
Weight: 5.9g

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-34970699
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

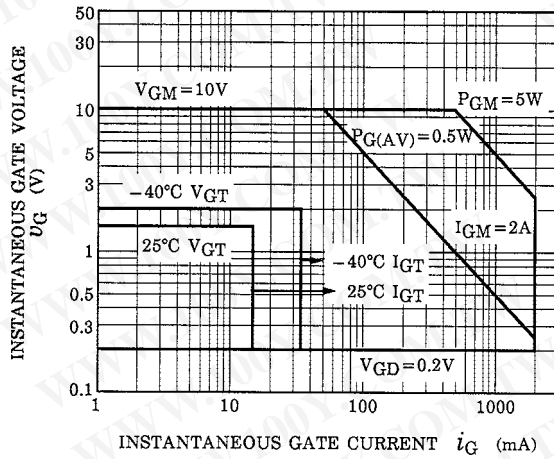
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM} = \text{Rated}$	—	—	20	μA
Peak On-State Voltage	V_{TM}	$I_{TM} = 50\text{A}$	—	—	1.5	V
Gate Trigger Voltage	V_{GT}	$V_D = 6\text{V}, R_L = 10\Omega$	—	—	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	—	V / μs
Thermal Resistance	$R_{th(j-c)}$	Junction to Case	—	—	1.5	$^\circ\text{C} / \text{W}$

MARKING

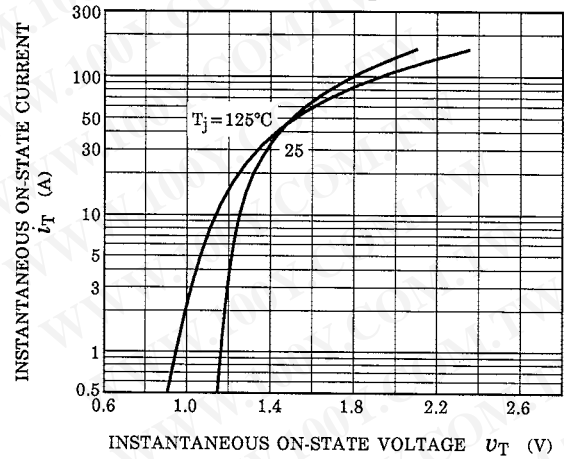


NUMBER	SYMBOL	MARK
*1	TYPE	SF16GZ51
		SF16JZ51
*2	<p>Lot Number</p> <p>Month (Starting from Alphabet A)</p> <p>Year (Last Decimal Digit of the Current Year)</p>	<p>Example</p> <p>8A: January 1998</p> <p>8B: February 1998</p> <p>8L: December 1998</p>

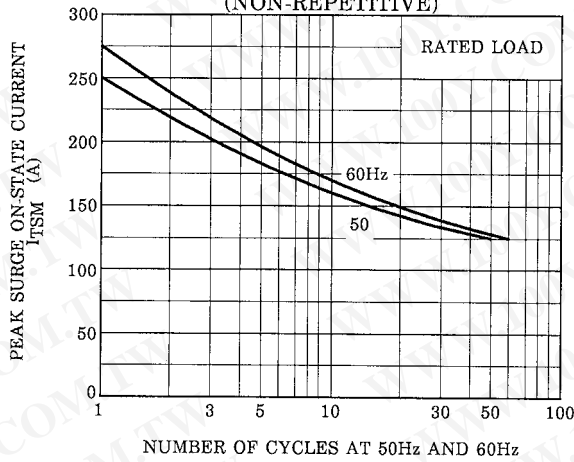
GATE TRIGGER CHARACTERISTIC



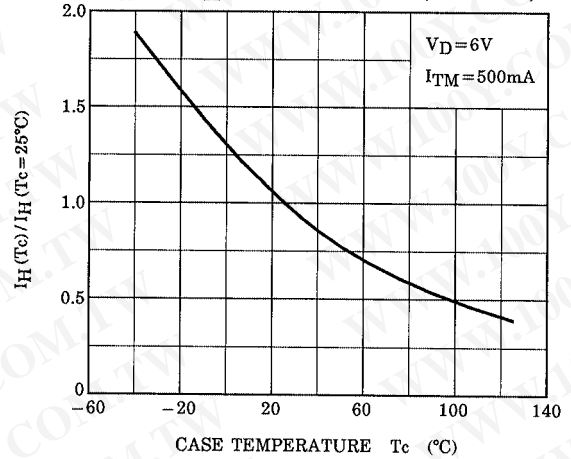
$i_T - v_T$



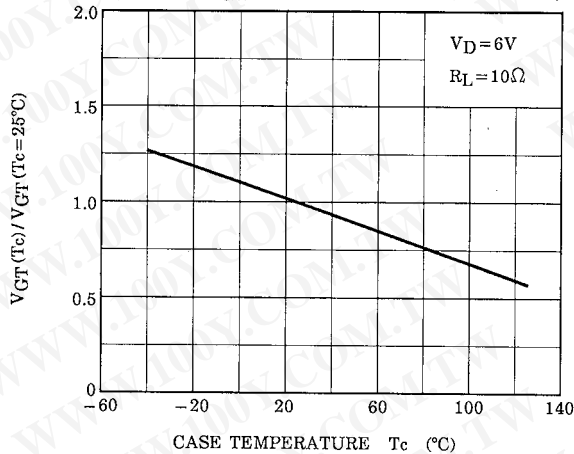
SURGE ON-STATE CURRENT (NON-REPETITIVE)



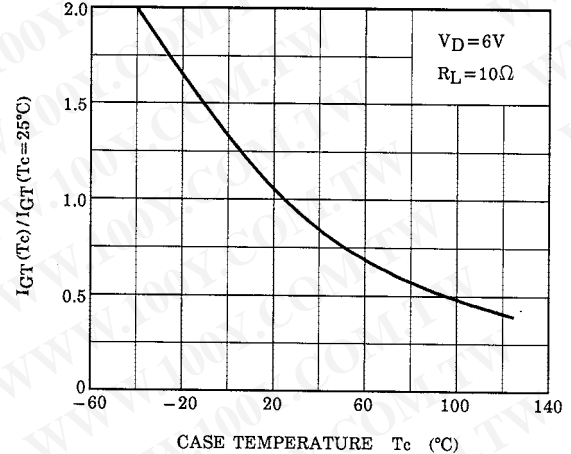
$I_H(T_c)/I_H(T_c=25^\circ\text{C}) - T_c$ (TYPICAL)

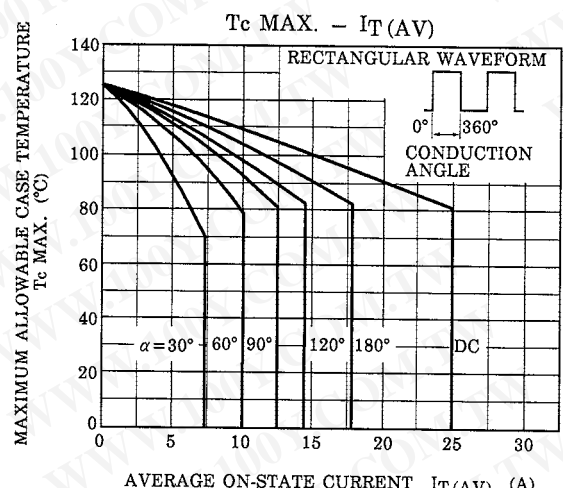
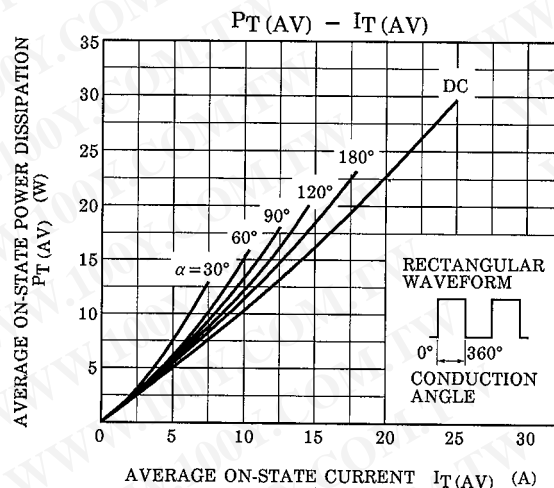
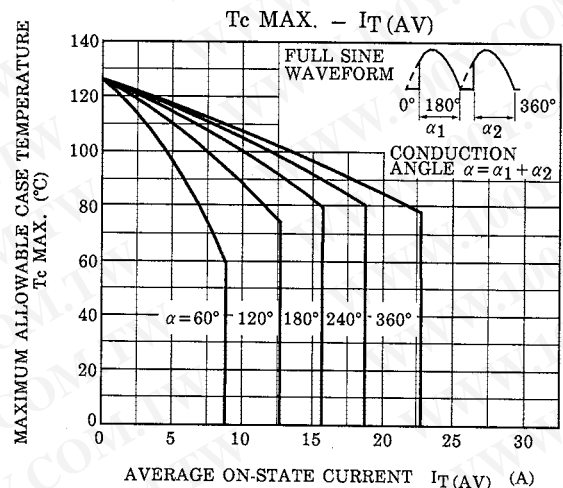
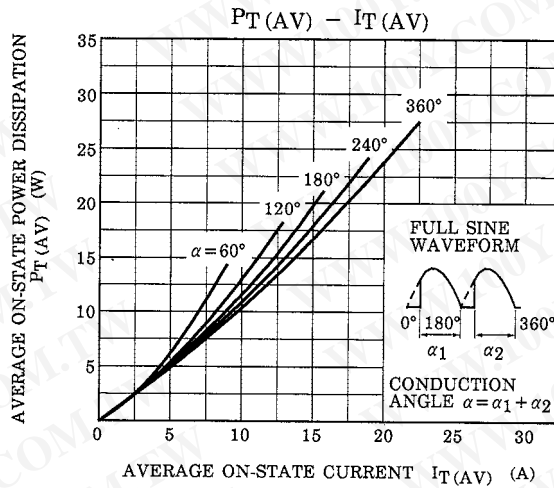
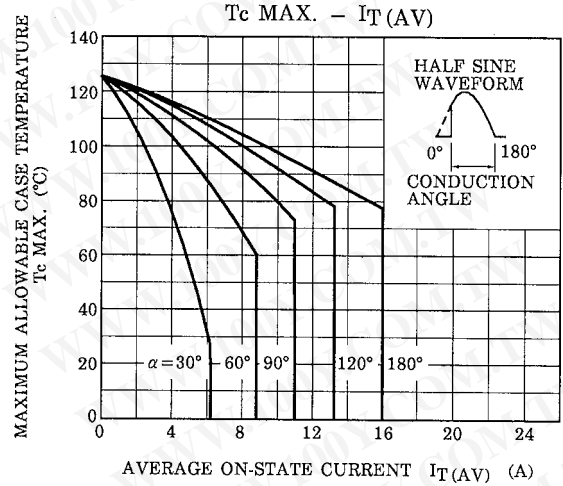
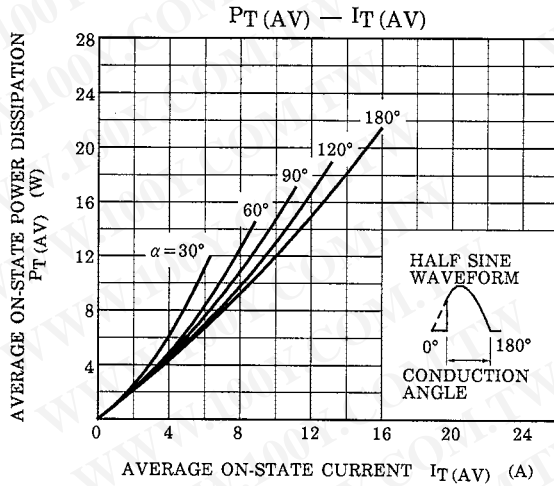


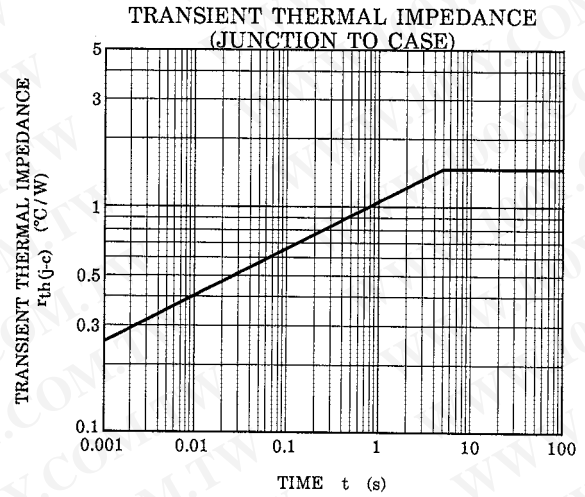
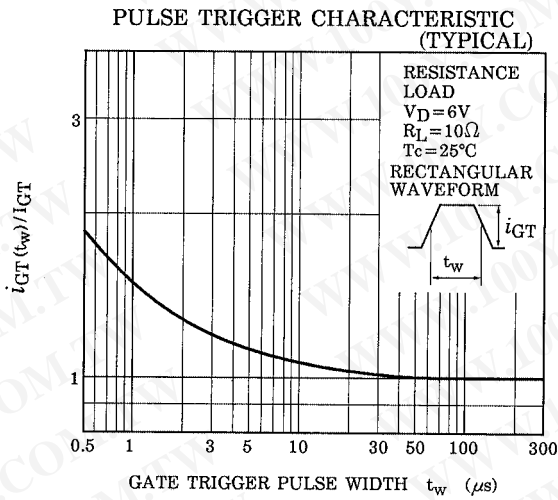
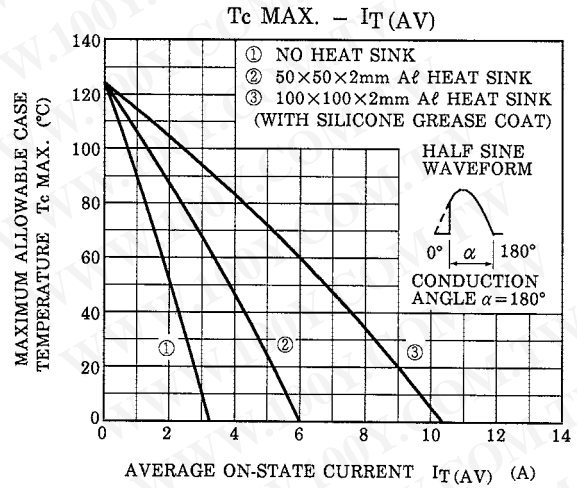
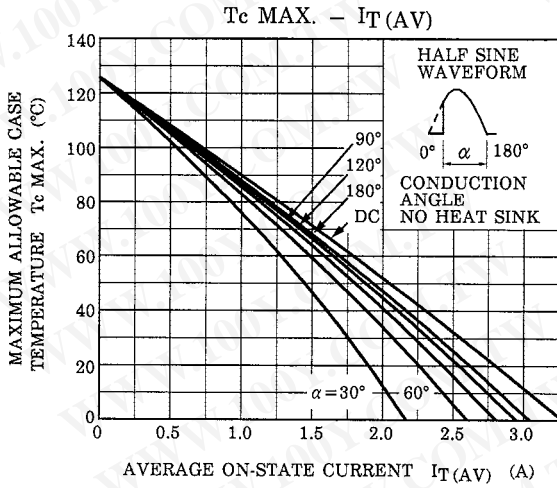
$V_{GT}(T_c)/V_{GT}(T_c=25^\circ\text{C}) - T_c$ (TYPICAL)



$I_{GT}(T_c)/I_{GT}(T_c=25^\circ\text{C}) - T_c$ (TYPICAL)







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