

TOSHIBA THYRISITOR SILICON PLANAR TYPE

SF8GZ47, SF8JZ47

MEDIUM POWER CONTROL APPLICATIONS

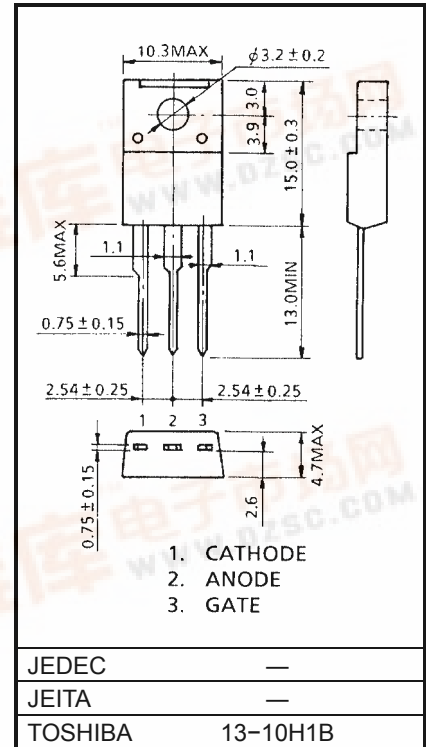
- Repetitive Peak off-State Voltage : $V_{DRM} = 400, 600V$
 Repetitive Peak Reverse Voltage : $V_{RRM} = 400, 600V$
- Average On-State Current : $I_T(AV) = 8A$
- Isolation Voltage : $V_{ISOL} = 1500V AC$

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	SF8GZ47	400	V
	SF8JZ47	600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive <5ms, $T_j = 0\sim 125^\circ C$)	SF8GZ47	500	V
	SF8JZ47	720	
Average On-State Current (Half Sine Waveform $T_c = 72^\circ C$)	$I_T(AV)$	8	A
R.M.S On-State Current	$I_T(RMS)$	12.6	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	120 (50 Hz)	A
		132 (60 Hz)	
I^2t Limit Value	I^2t	72	A^2s
Critical Rate of Rise of On-State Current (Note 1)	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, $t = 1 \text{ min.}$)	V_{ISOL}	1500	V

Note 1: di/dt test condition,
 $V_{DRM} = 0.5 \times \text{Rated}$, $I_{TM} \leq 25A$, $t_{gw} \geq 10\mu s$,
 $t_{gr} \leq 250ns$, $i_{gp} = I_{GT} \times 2.0$

Unit: mm

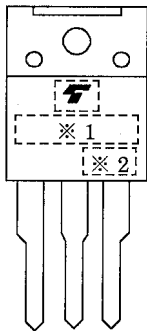


Weight: 1.7g

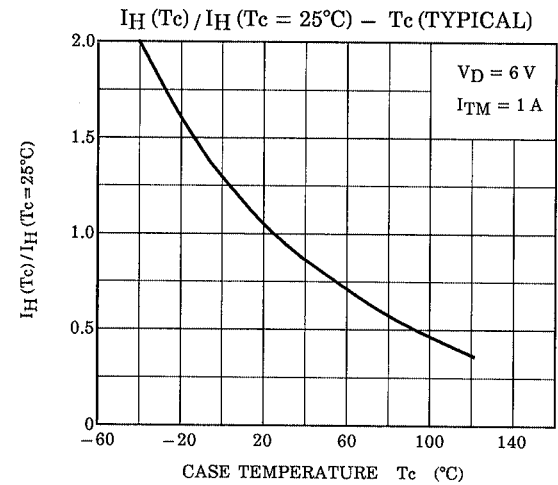
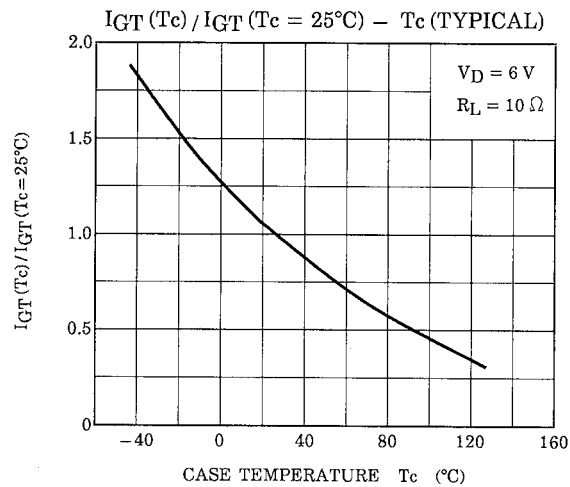
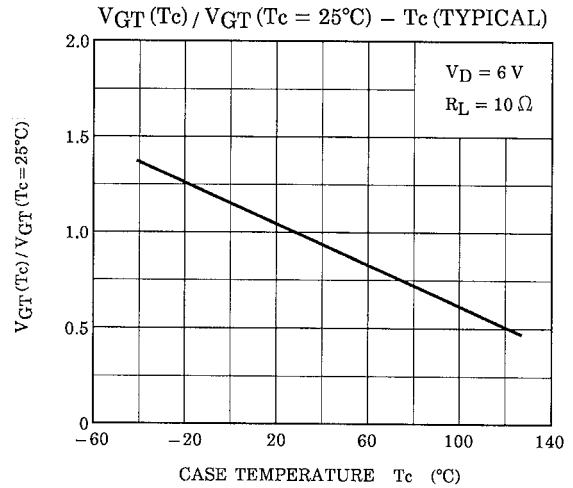
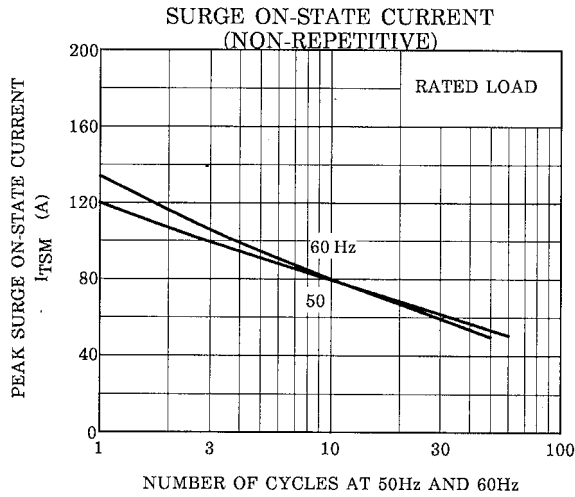
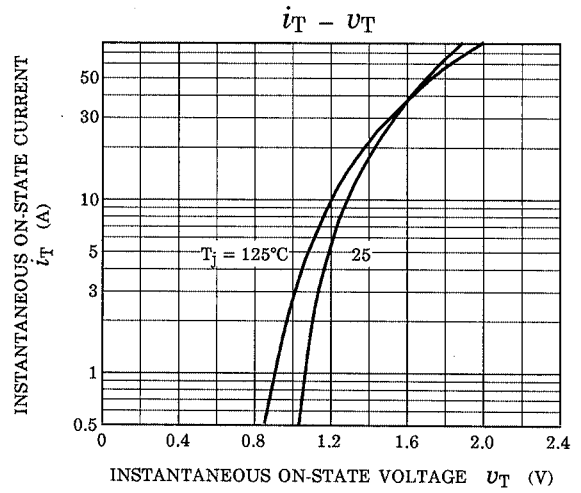
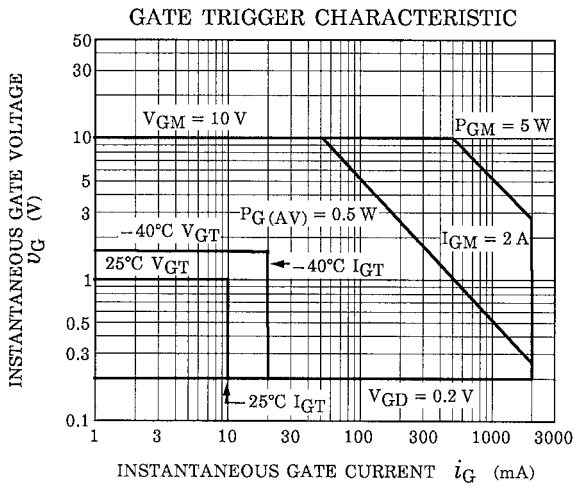
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

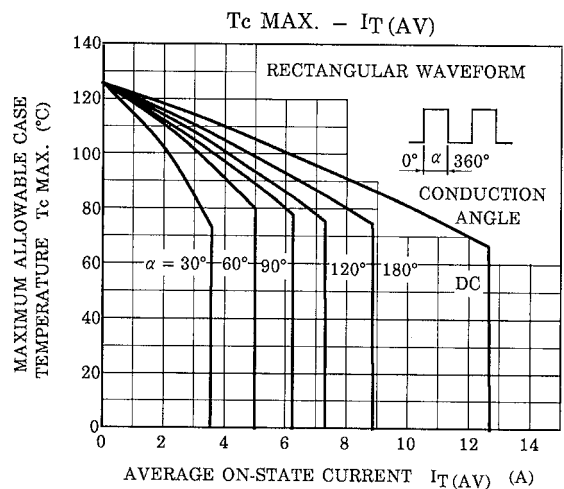
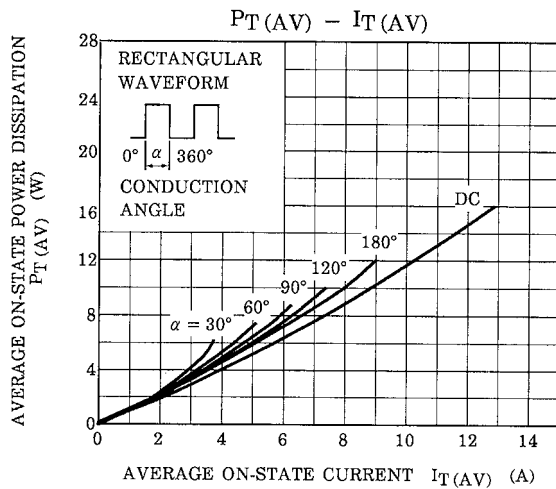
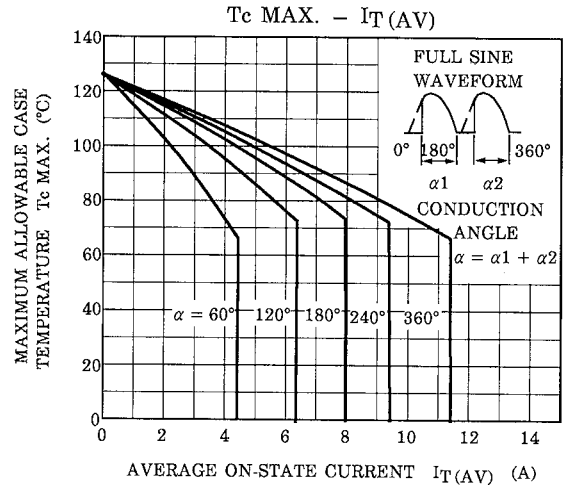
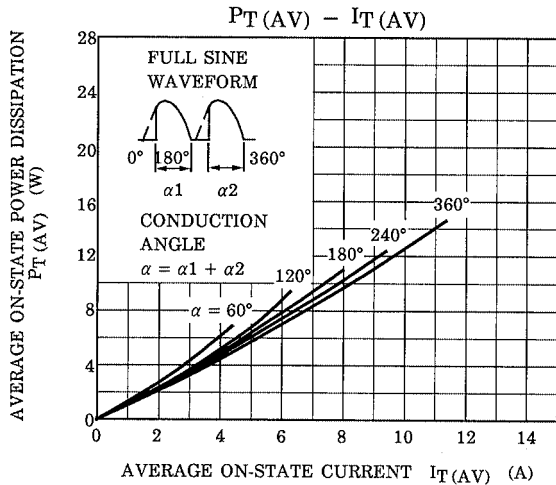
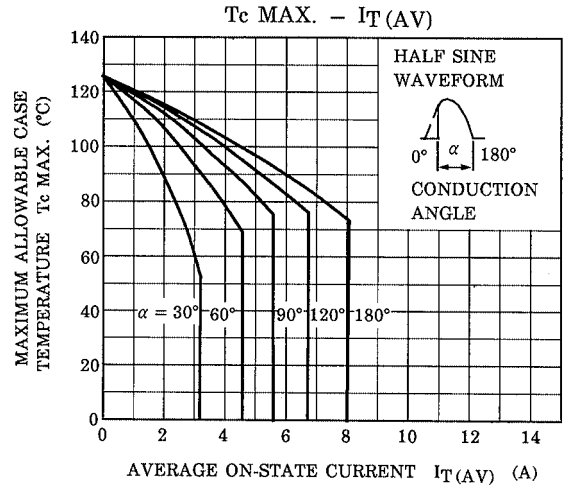
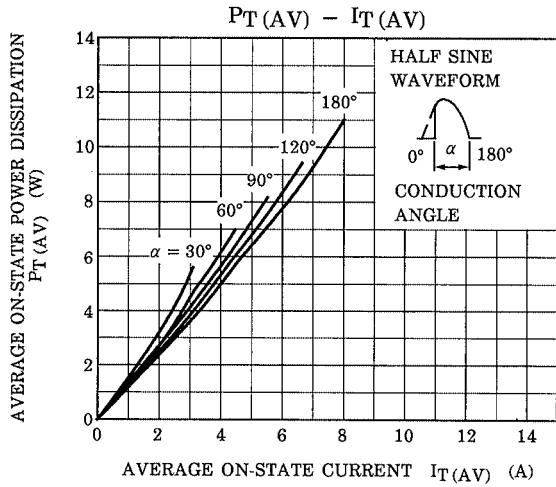
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM} = \text{Rated}$	—	—	10	μA
Peak On-State Voltage	V_{TM}	$I_{TM} = 25 \text{ A}$	—	—	1.5	V
Gate Trigger Voltage	V_{GT}	$V_D = 6 \text{ V}, R_L = 10 \Omega$	—	—	1.0	V
Gate Trigger Current	I_{GT}		—	—	10	mA
Gate Non-Trigger Voltage	V_{GD}	$V_D = \text{Rated} \times 2 / 3, T_c = 125^\circ\text{C}$	0.2	—	—	V
Critical Rate of Rise of Off-State Voltage	dv / dt	$V_{DRM} = \text{Rated}, T_c = 125^\circ\text{C}$ Exponential Rise	—	50	—	$\text{V} / \mu\text{s}$
Holding Current	I_H	$V_D = 6 \text{ V}, I_{TM} = 1 \text{ A}$	—	—	40	mA
Latching Current	I_L	$V_D = 6 \text{ V}, f = 50\text{Hz},$ $t_{gw} = 50 \mu\text{s}, I_G = 30 \text{ mA}$	—	—	50	mA
Thermal Resistance	$R_{th(j-c)}$	Junction to Case	—	—	3.7	$^\circ\text{C} / \text{W}$

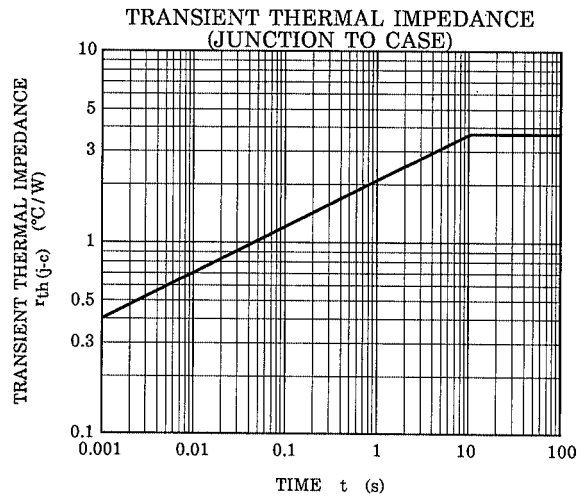
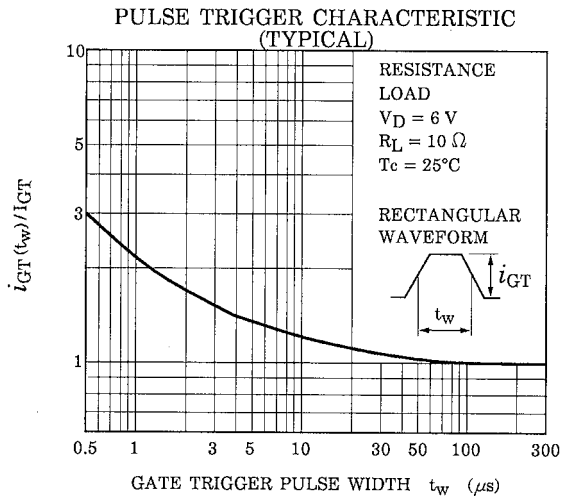
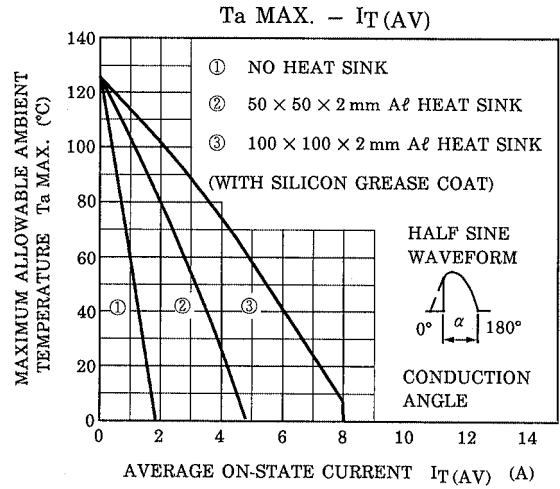
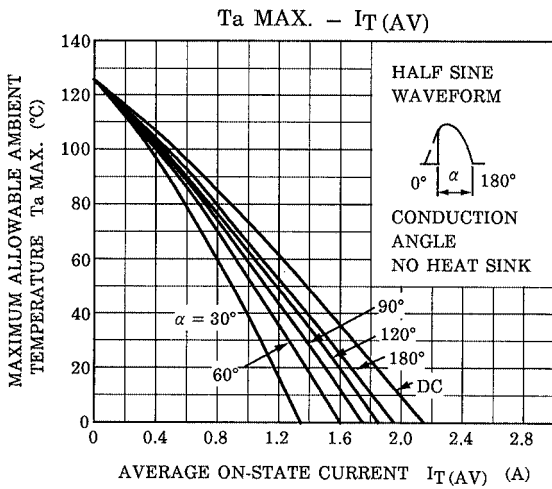
MARKING



*1	TYPE	F8GZ47	TYPE NAME	SF8GZ47
		F8JZ47		SF8JZ47
*2	Lot Number Month (Starting from Alphabet A) Year (Last Decimal Digit of the Current Year)		Example 8A: January 1998 8B: February 1998 8L: December 1998	







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