

TOSHIBA THYRISTOR SILICON PLANAR TYPE

SF10GZ47, SF10JZ47

MEDIUM POWER CONTROL APPLICATIONS

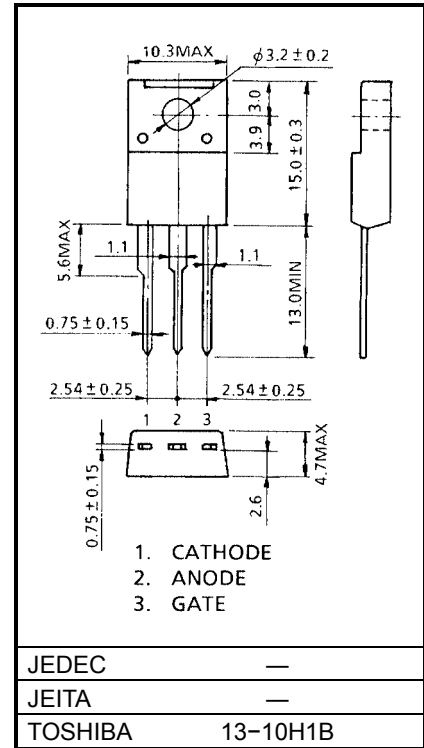
- Repetitive Peak Off-State Voltage : $V_{DRM} = 400,600V$
 Repetitive Peak Reverse Voltage : $V_{RRM} = 400,600V$
- Average On-State Current : $I_T (AV) = 10A$
- Isolation Voltage : $V_{Isol} = 1500V AC$

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	SF10GZ47	400	V
	SF10JZ47	600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive < 5ms, $T_j = 0 \sim 125^\circ C$)	SF10GZ47	500	V
	SF10JZ47	720	
Average On-State Current (Half Sine Waveform $T_c = 66^\circ C$)	$I_T (AV)$	10	A
R.M.S. On-State Current	$I_T (RMS)$	16	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	160 (50Hz)	A
		176 (60Hz)	
$I^2 t$ Limit Value	$I^2 t$	125	$A^2 s$
Critical Rate of Rise of On-State Current (Note 1)	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, $t = 1min.$)	V_{Isol}	1500	V

Note 1: di / dt test condition
 $V_{DRM} = 0.5 \times \text{Rated}$
 $I_{TM} \leq 30A$
 $t_{gw} \geq 10\mu s$
 $t_{gr} \leq 250ns$
 $i_{gp} = I_{GT} \times 2.0$

Unit: mm

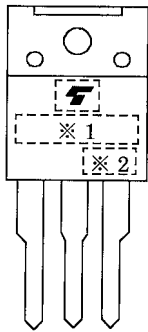


Weight: 1.7 g

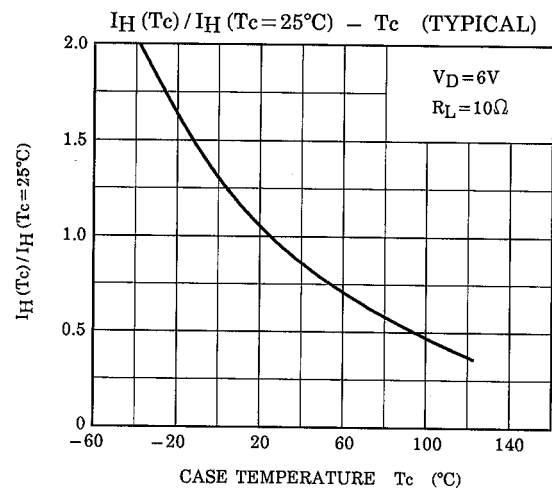
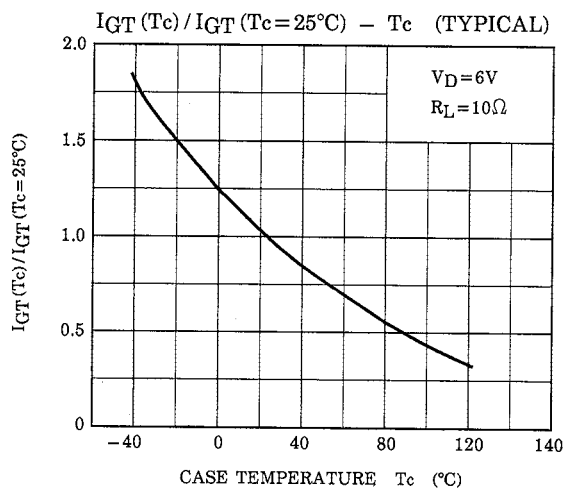
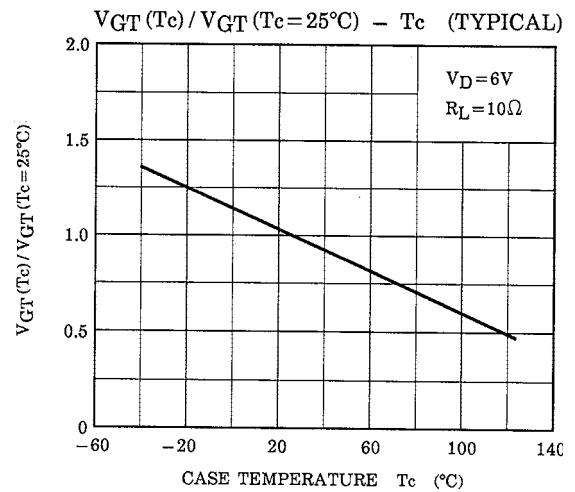
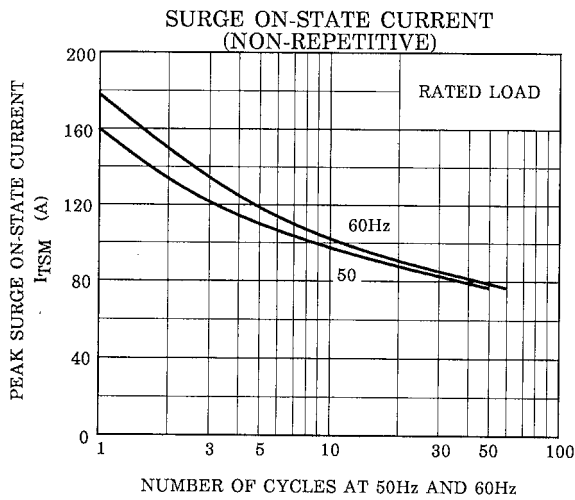
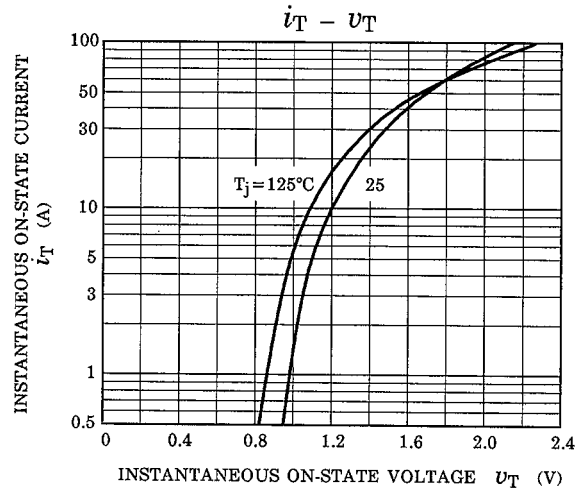
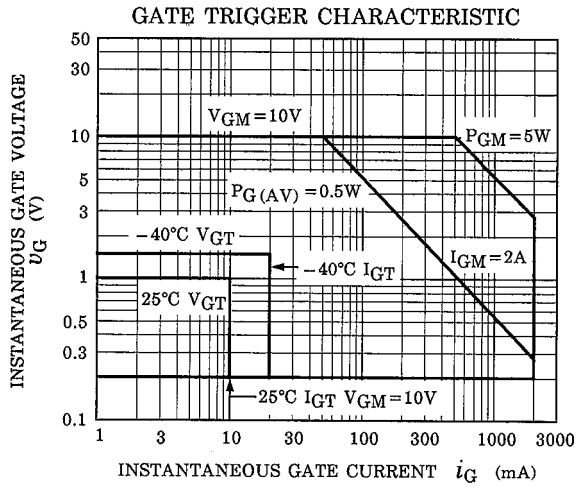
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

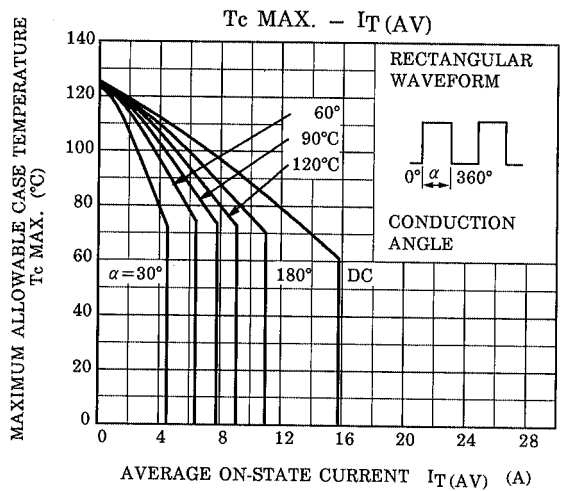
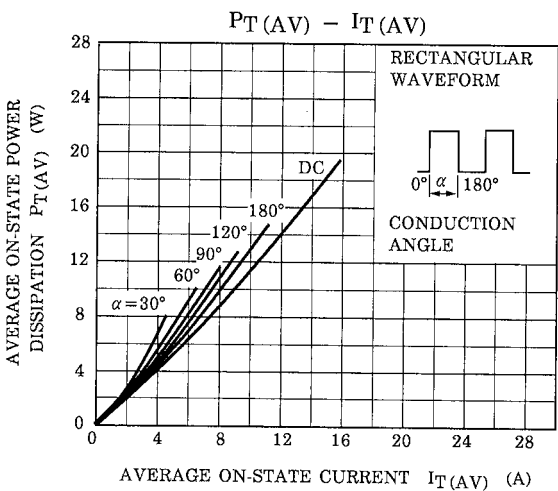
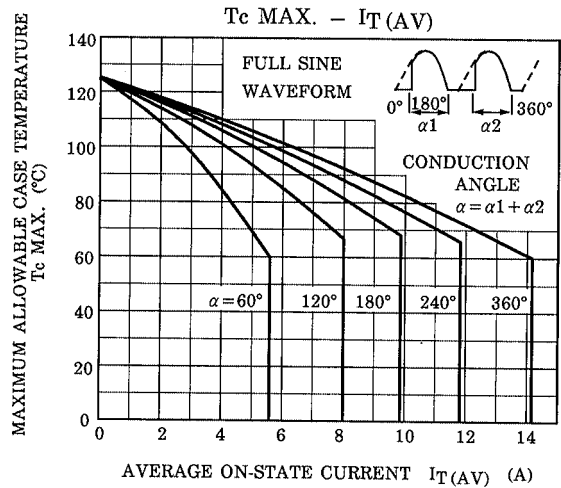
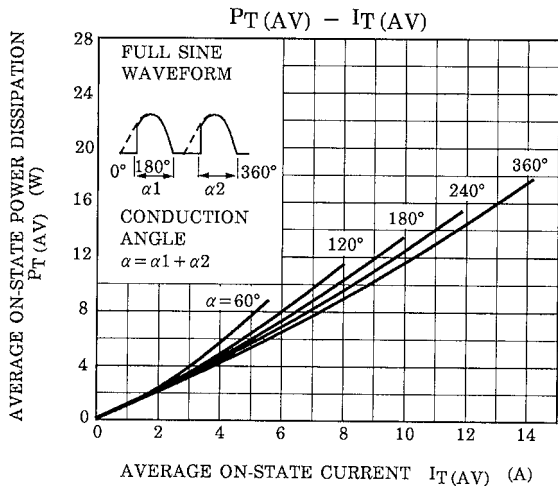
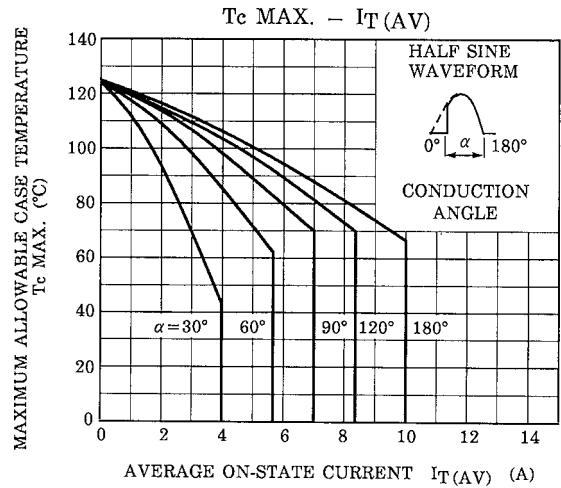
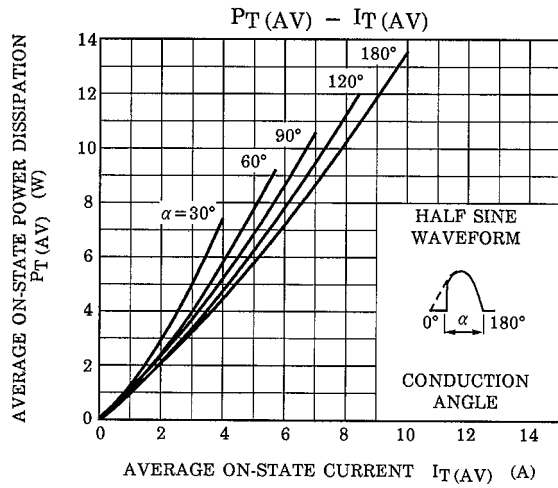
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM} = \text{Rated}$	—	—	10	μA
Peak On-State Voltage	V_{TM}	$I_{TM} = 30\text{A}$	—	—	1.5	V
Gate Trigger Voltage	V_{GT}	$V_D = 6\text{V}, R_L = 10\Omega$	—	—	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	—	V / μs
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	—	—	3.4	$^\circ\text{C} / \text{W}$

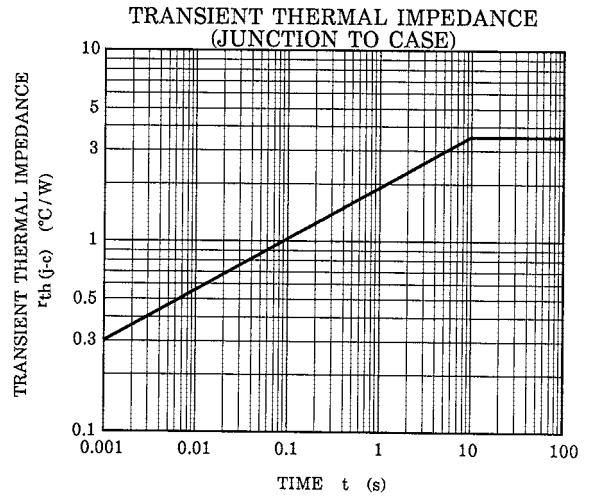
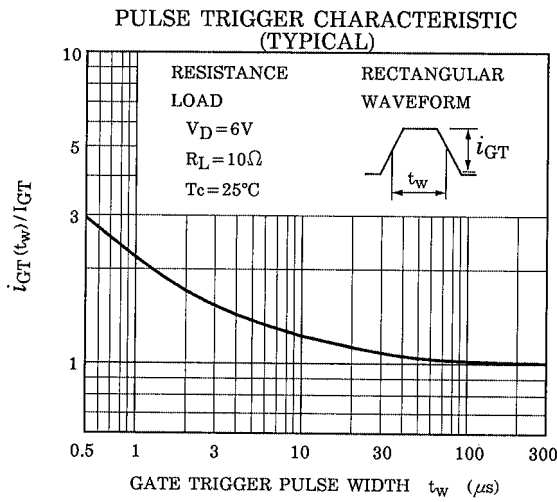
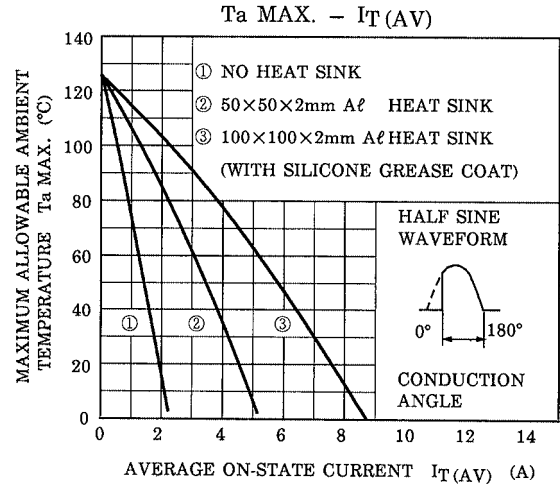
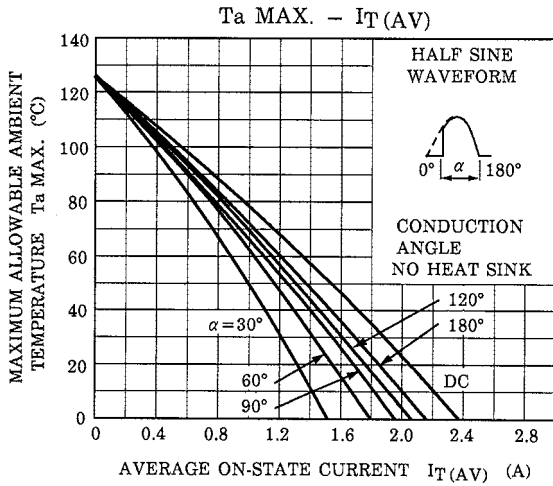
MARKING



*1	MARK	F10GZ47	TYPE NAME	SF10GZ47
		F10JZ47		SF10JZ47
*2	<p>Lot Number</p> <p>□ □</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>		







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