

TOSHIBA BI-DIRECTIONAL TRIODE THYRISTOR SILICON PLANAR TYPE

SM2GZ47, SM2GZ47A, SM2JZ47, SM2JZ47A

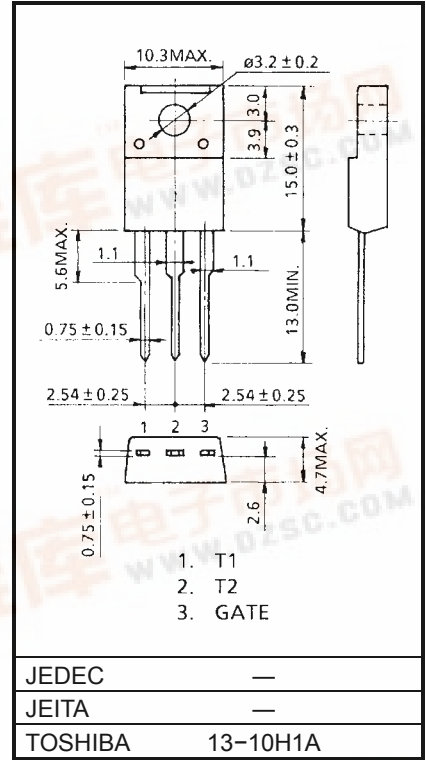
AC POWER CONTROL APPLICATIONS

- I_T (RMS) = 1A ($T_a = 65^\circ\text{C}$ without radiator)
- Gate Trigger Current : $I_{GT} = 5\text{mA Max. (TYPE "A")}$
- Repetitive Peak Off-State Voltage : $V_{DRM} = 400\text{V, } 600\text{V}$
- R.M.S On-State Current : I_T (RMS) = 2A ($T_c = 110^\circ\text{C}$)
- Isolation Voltage : $V_{ISOL} = 1500\text{V (AC, } t = 60\text{s)}$

MAXIMUM RATINGS

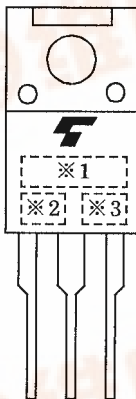
CHARACTERISTIC		SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	SM2GZ47 SM2GZ47A	V_{DRM}	400	V
	SM2JZ47 SM2JZ47A		600	
R.M.S On-State Current (Full Sine Waveform)	$T_c = 110^\circ\text{C}$	I_T (RMS)	2	A
	$T_a = 65^\circ\text{C}$		1	
Peak One Cycle Surge On-State Current (Non-Repetitive)		I_{TSM}	8 (50Hz)	A
			8.8 (60Hz)	
I^2t Limit Value		I^2t	0.32	A^2s
Peak Gate Power Dissipation		P_{GM}	3	W
Average Gate Power Dissipation		$P_{G(AV)}$	0.3	W
Peak Gate Voltage		V_{FGM}	10	V
Peak Gate Current		I_{GM}	1.6	A
Junction Temperature		T_j	-40~125	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	-40~125	$^\circ\text{C}$
Isolation Voltage (AC, $t = 1\text{min.}$)		V_{ISOL}	1500	V

Unit: mm



Weight: 1.7g (Typ.)

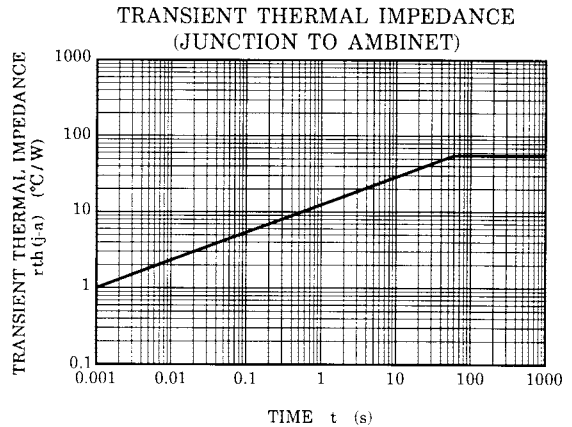
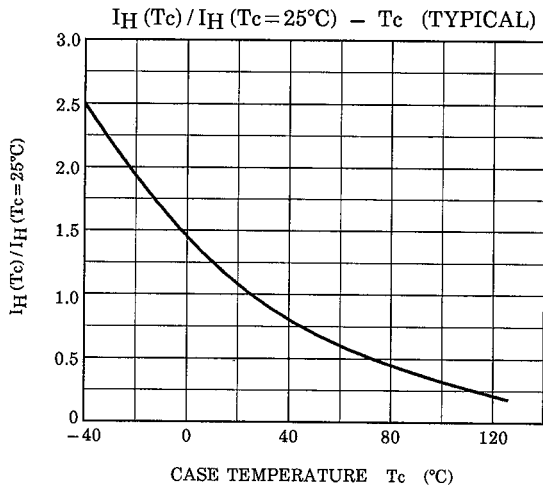
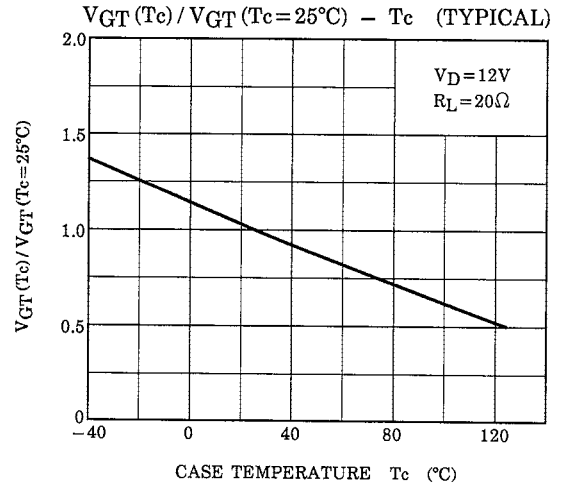
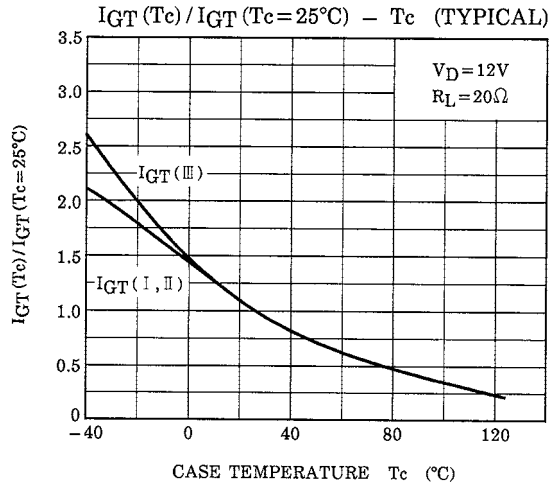
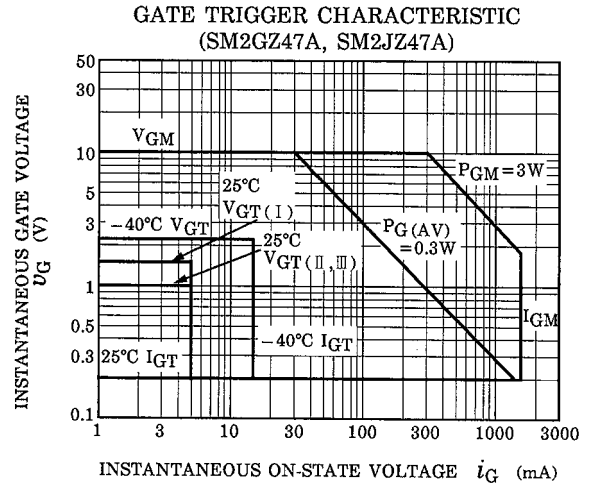
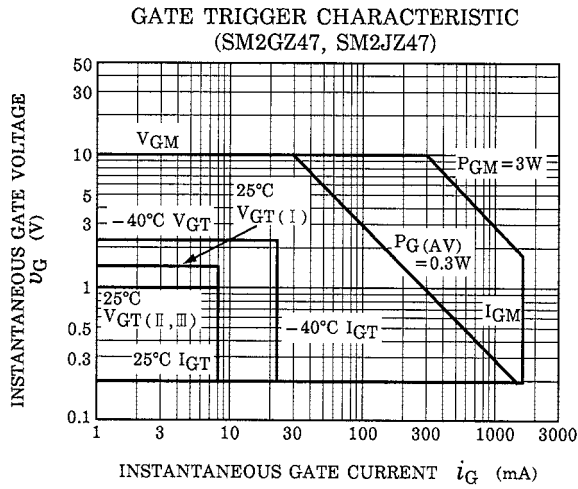
MARKING

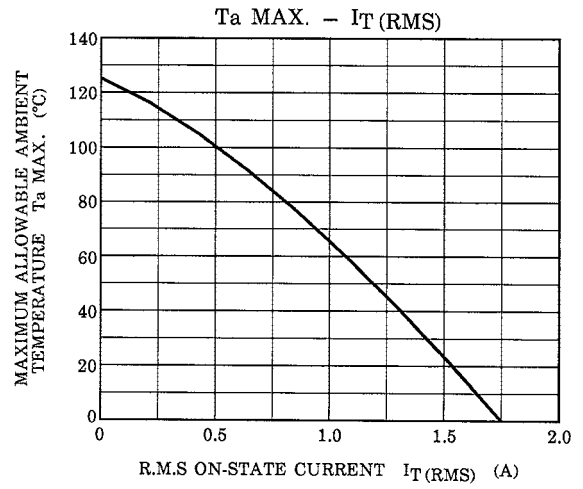
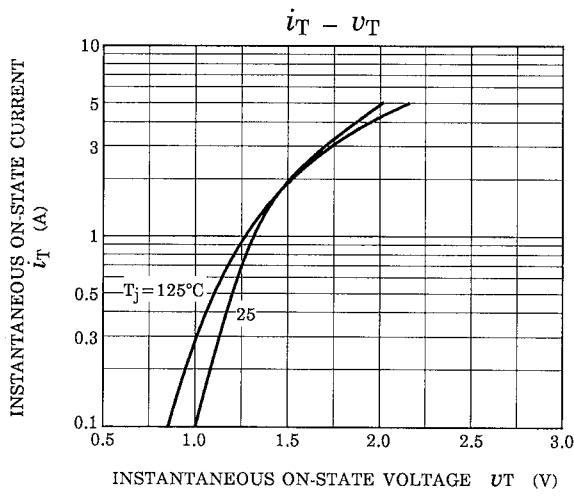


NUMBER	SYMBOL	MARK
*1	TYPE	SM2GZ47, SM2GZ47A
		SM2JZ47, SM2JZ47A
*2		A
*3	Lot Number	Example 8A : January 1998 8B : February 1998 8L : December 1998
		Month (Starting from) (Alphabet A) Year (Last Decimal Digit of) (the Current Year)

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT		
Repetitive Peak Off-State Current		I_{DRM}	$V_{DRM} = \text{Rated}$	—	—	20	μA		
Gate Trigger Voltage	I	V_{GT}	$V_D = 12\text{V}$ $R_L = 20\Omega$	T2 (+), Gate (+)	—	—	1.5	V	
	II			T2 (+), Gate (-)	—	—	1		
	III			T2 (-), Gate (-)	—	—	1		
	IV			T2 (-), Gate (+)	—	—	—		
Gate Trigger Current	SM2GZ47 SM2JZ47	I_{GT}	$V_D = 12\text{V}$ $R_L = 20\Omega$	T2 (+), Gate (+)	—	—	8	mA	
				II	T2 (+), Gate (-)	—	—		8
				III	T2 (-), Gate (-)	—	—		8
				IV	T2 (-), Gate (+)	—	—		—
	SM2GZ47A SM2JZ47A			I	T2 (+), Gate (+)	—	—		5
				II	T2 (+), Gate (-)	—	—		5
				III	T2 (-), Gate (-)	—	—		5
				IV	T2 (-), Gate (+)	—	—		—
Peak On-State Voltage		V_{TM}	$I_{TM} = 3\text{A}$	—	—	1.7	V		
Gate Non-Trigger Voltage		V_{GD}	$V_D = \text{Rated}, T_c = 125^\circ\text{C}$	0.2	—	—	V		
Holding Current		I_H	$R_L = 100\Omega$	—	—	10	mA		
Thermal Resistance		$R_{th(j-a)}$	Junction to Ambient, AC	—	—	55	$^\circ\text{C} / \text{W}$		





<CONDITION>

- ◆ NO HEAT SINK
- ◆ LEAD FORMING : LB182
- ◆ PRINT BOARD

($t = 1.6\text{mm}$
SOLDER LAND : $2\text{mm}\phi$)

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