

**TOSHIBA**

**SM08G43**

TOSHIBA BI-DIRECTIONAL TRIODE THYRISTOR SILICON PLANAR TYPE

# SM08G43

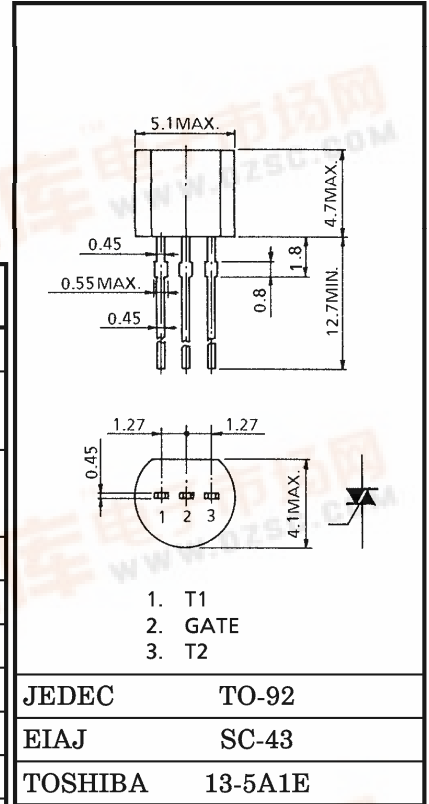
AC POWER CONTROL APPLICATIONS

Unit in mm

- Repetitive Peak Off-State Voltage :  $V_{DRM} = 400V$
- R.M.S On-State Current :  $I_T(RMS) = 0.8A$

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage	$V_{DRM}$	400	V
R.M.S On-State Current (Full Sine Waveform $T_c = 65^\circ C$ )	$I_T(RMS)$	0.8	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	$I_{TSM}$	6 (50Hz)	A
		6.6 (60Hz)	
$I^2t$ Limit Value	$I^2t$	0.18	$A^2s$
Peak Gate Power Dissipation	$P_{GM}$	0.5	W
Average Gate Power Dissipation	$P_G(AV)$	0.05	W
Peak Gate Voltage	$V_{GM}$	5	V
Peak Gate Current	$I_{GM}$	0.3	A
Junction Temperature	$T_j$	-40~125	$^\circ C$
Storage Temperature Range	$T_{stg}$	-40~125	$^\circ C$



Weight : 0.2g

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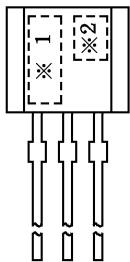
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

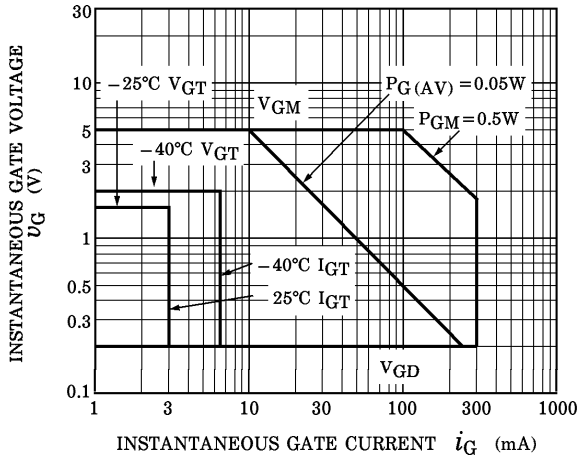
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Repetitive Peak Off-State Current		$I_{DRM}$	$V_{DRM} = \text{Rated}$	—	—	10	$\mu A$	
Gate Trigger Voltage	I (1+)	$V_{GT}$	$V_D = 12V,$ $R_L = 20\Omega$	T2 (+), Gate (+)	—	—	—	V
	II (1-)			T2 (+), Gate (-)	—	—	1.5	
	III (3-)			T2 (-), Gate (-)	—	—	1.5	
	IV (3+)			T2 (-), Gate (+)	—	—	—	
Gate Trigger Current	I (1+)	$I_{GT}$		T2 (+), Gate (+)	—	—	—	mA
	II (1-)			T2 (+), Gate (-)	—	—	3	
	III (3-)			T2 (-), Gate (-)	—	—	3	
	IV (3+)			T2 (-), Gate (+)	—	—	—	
Peak On-State Voltage		$V_{TM}$	$I_{TM} = 1.2A$	—	—	1.5	V	
Gate Non-Trigger Voltage		$V_{GD}$	$V_D = \text{Rated}, T_c = 125^\circ C$	0.2	—	—	V	
Holding Current		$I_H$	$V_D = 12V, \text{ Gate Open}$	—	—	10	mA	
Thermal Resistance		$R_{th(j-e)}$	Junction to Case	—	—	50	$^\circ C/W$	
Thermal Resistance		$R_{th(j-a)}$	Junction to Ambient	—	—	220	$^\circ C/W$	

MARKING

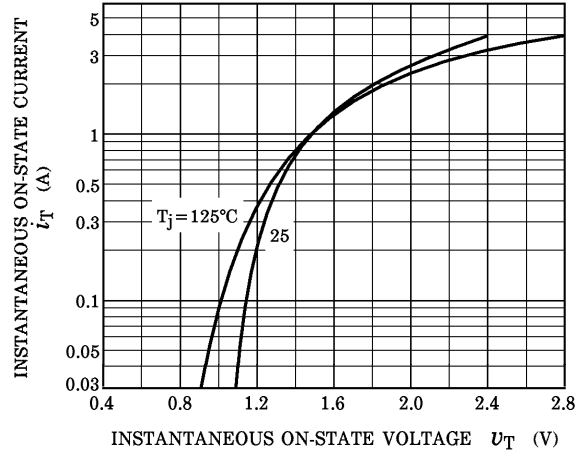


NUMBER	SYMBOL		MARK
※1	TYPE	SM08G43	M08G
※2	Lot Number Month (Starting from Alphabet A) Year (Last Decimal Digit of the Current Year)		Example 8A : January 1998 8B : February 1998 8L : December 1998

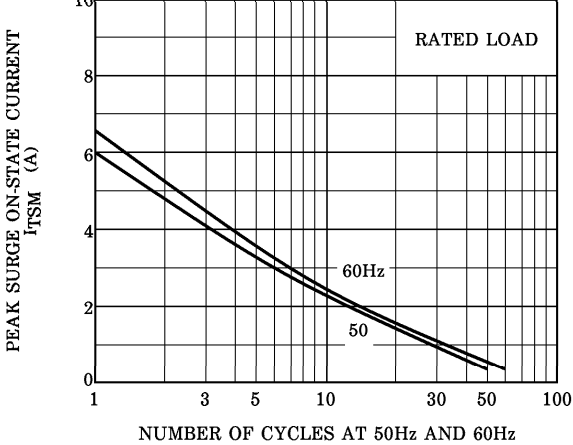
GATE TRIGGER CHARACTERISTIC



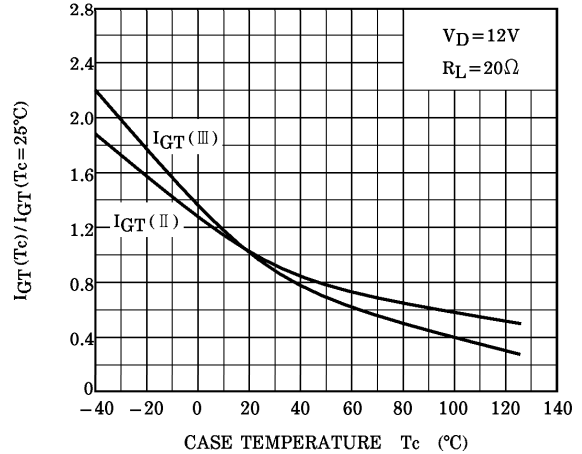
$i_T - v_T$



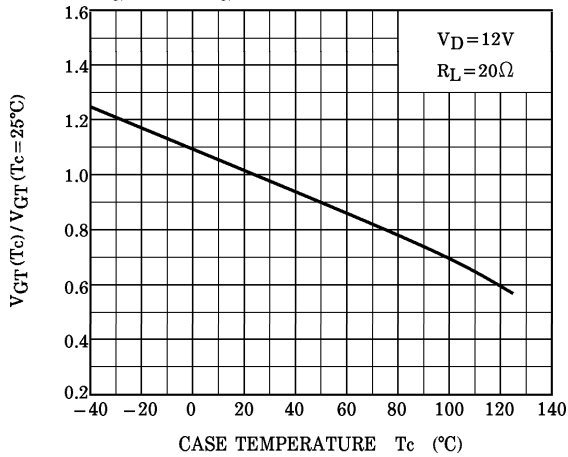
SURGE ON-STATE CURRENT (NON-REPETITIVE)



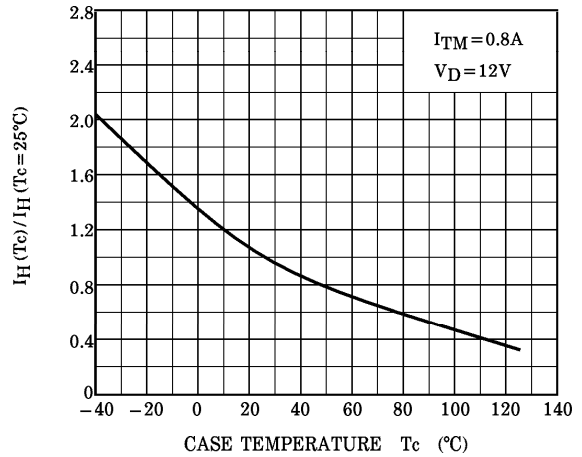
$I_{GT}(T_c) / I_{GT}(T_c = 25^\circ C) - T_c$  (TYPICAL)



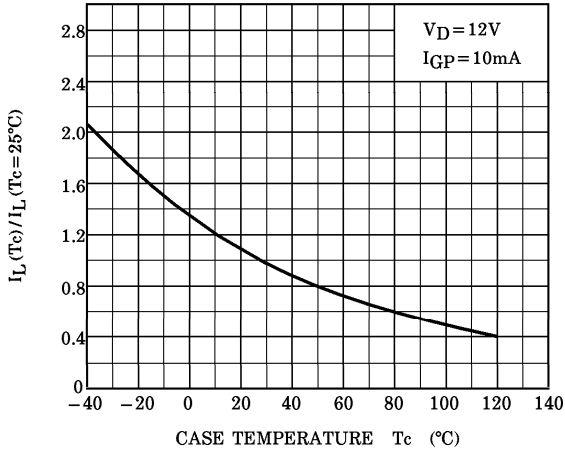
$V_{GT}(T_c) / V_{GT}(T_c = 25^\circ C) - T_c$  (TYPICAL)



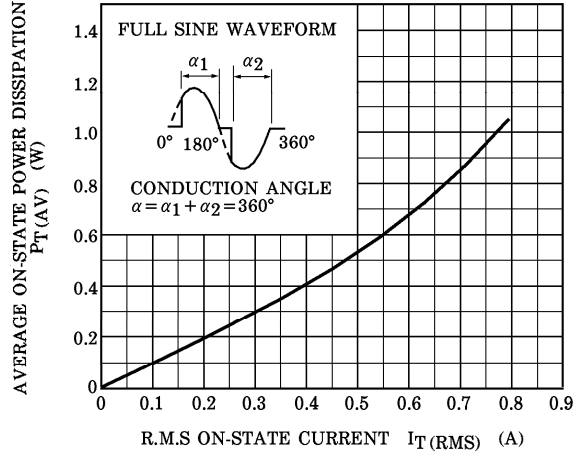
$I_H(T_c) / I_H(T_c = 25^\circ C) - T_c$  (TYPICAL)



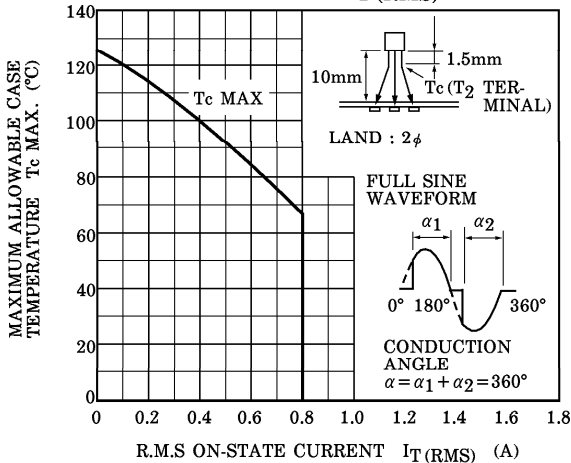
$I_L(T_c) / I_L(T_c=25^\circ\text{C}) - T_c$  (TYPICAL)



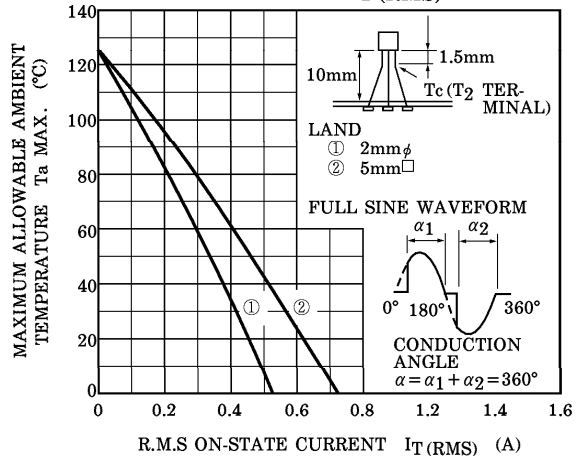
$P_T(\text{AV}) - I_T(\text{RMS})$



$T_c \text{ MAX.} - I_T(\text{RMS})$



$T_a \text{ MAX.} - I_T(\text{RMS})$



$r_{th}(j-c), r_{th}(j-a) - t$

