

TOSHIBA THYRISTOR SILICON PLANAR TYPE

SF16GZ51, SF16JZ51

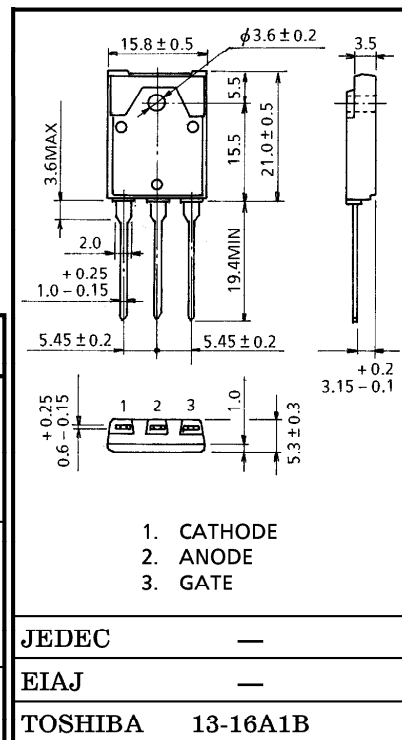
MEDIUM POWER CONTROL APPLICATIONS.

Unit in mm

- Repetitive Peak Off-State Voltage : V_{DRM}
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^2t Limit Value ($t = 1 \sim 10ms$)		I^2t	312	A^2s
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



Weight : 5.9g

Note : di/dt Test Condition, $i_G = 30mA$, $t_{gw} = 10\mu s$, $t_{gr} \leq 250ns$

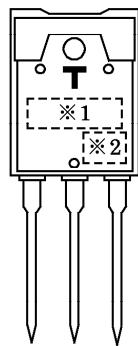
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

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	—	$\text{V}/\mu\text{s}$
Thermal Resistance	$R_{th(j-c)}$	Junction to Case	—	—	1.5	$^\circ\text{C}/\text{W}$

MARK

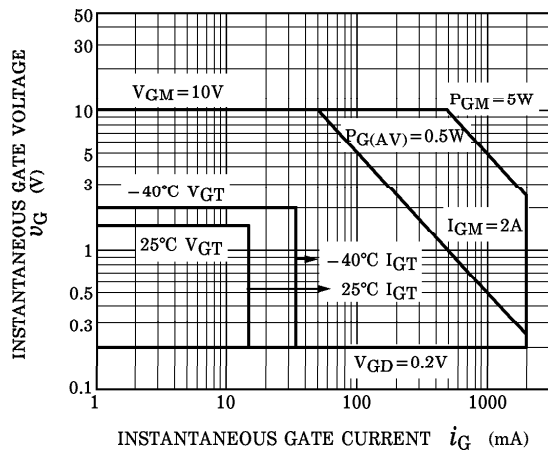
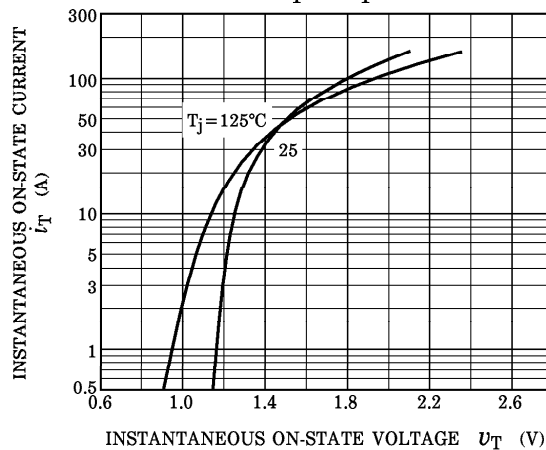


NUMBER	SYMBOL		MARK
※1	TYPE	SF16GZ51	F16GZ51
		SF16JZ51	F16JZ51
※2	Lot Number Month (Starting from Alphabet A) Year (Last Number of the Christian Era)		Example 2A : January 1992 2B : February 1992 2L : December 1992

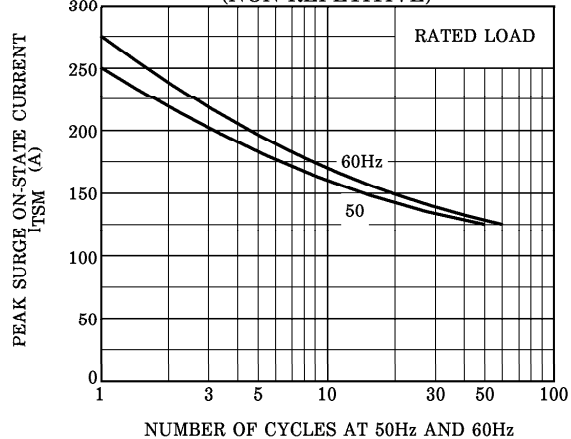
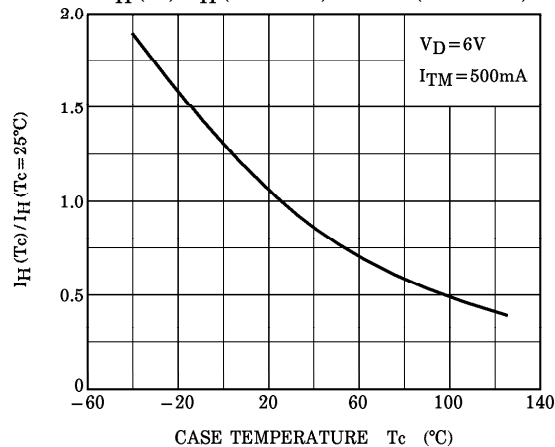
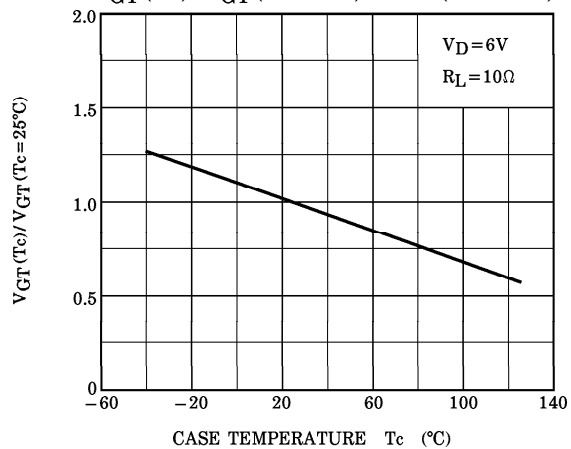
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GATE TRIGGER CHARACTERISTIC

 $i_T - v_T$ 

SURGE ON-STATE CURRENT (NON-REPETITIVE)

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