

TOSHIBA THYRISTOR SILICON DIFFUSED TYPE

SF3GZ47, SF3JZ47

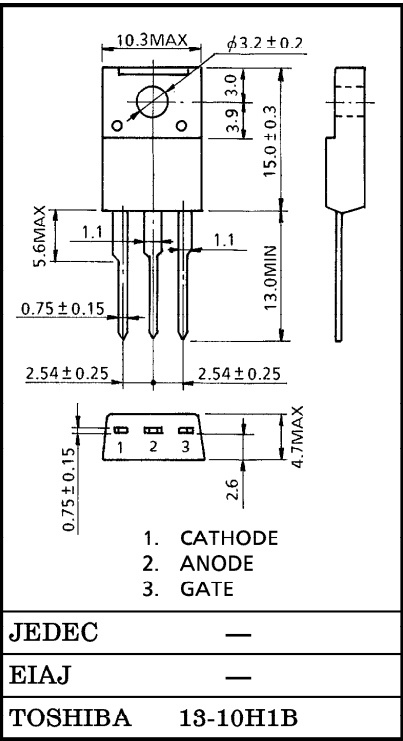
MEDIUM POWER CONTROL APPLICATIONS

Unit in mm

- Repetitive Peak Off-State Voltage : V_{DRM}
- Repetitive Peak Reverse Voltage : V_{RRM}
- Average On-State Current : $I_T(AV)=3A$
- Isolation Voltage : $V_{ISOL}=1500V\ AC$

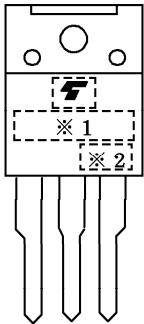
MAXIMUM RATINGS

CHARACTERISTIC		SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	SF3GZ47	V_{DRM} V_{RRM}	400	V
	SF3JZ47		600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive<5ms, T _j =0~125°C)	SF3GZ47	V_{RSM}	500	V
	SF3JZ47		720	
Average On-State Current (Half Sine Waveform T _c =98°C)		I _T (AV)	3	A
R.M.S On-State Current		I _T (RMS)	4.7	A
Peak One Cycle Surge On-State Current (Non-Repetitive)		I _{TSM}	50 (50Hz)	A
			55 (60Hz)	
I ² t Limit Value (t=1~10ms)		I ² t	18	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	°C
Storage Temperature Range		T _{stg}	-40~150	°C
Isolation Voltage (AC, t=1min.)		V _{ISOL}	1500	V



Weight : 1.7g

MARK



Note 1 : di/dt Test Condition
 $V_{DRM}=0.5\times Rated$
 $I_{TM}\leq 12A$
 $t_{gw}\geq 10\mu s$
 $t_{gr}\leq 250ns$
 $i_{gp}=I_{GT}\times 2.0$

※1	MARK	F3GZ47	TYPE NAME	SF3GZ47
		F3JZ47	SF3JZ47	
※2	Lot Number		Example	
	□ □ Month (Starting from Alphabet A) Year (Last Number of the Christian Era)		9A : January 1989 9B : February 1989 9L : December 1989	

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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}	$V_{DRM} = V_{RRM} = \text{Rated}$	—	—	10	μA
Peak On-State Voltage	V_{TM}	$I_{TM} = 12\text{A}$	—	—	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	$V_{DRM} = \text{Rated} \times 2/3, T_c = 125^\circ\text{C}$ 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	—	—	4.5	$^\circ\text{C}/\text{W}$

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