

TOSHIBA THYRISTOR SILICON DIFFUSED TYPE

SF5G42, SF5J42

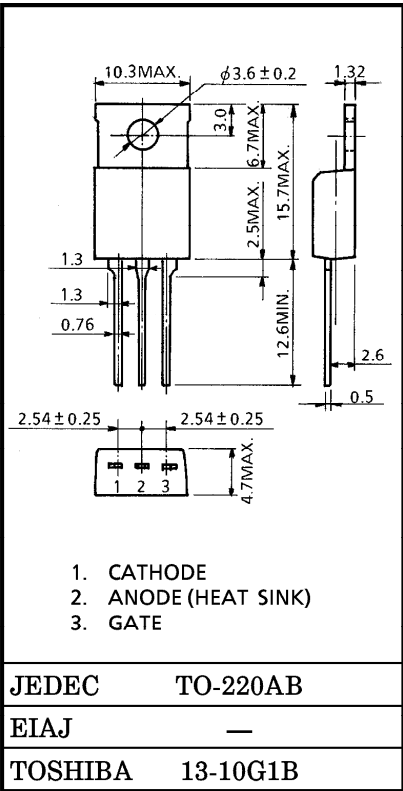
MEDIUM POWER CONTROL APPLICATIONS.

Unit in mm

- Repetitive Peak Off-State Voltage : V_{DRM}
Repetitive Peak Reverse Voltage : V_{RRM} } = 400, 600V
- Average On-State Current : $I_{T(AV)} = 5A$
- JEDEC TO-220AB Package.

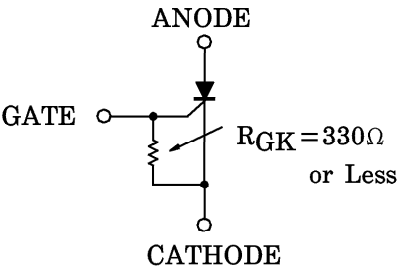
MAXIMUM RATINGS

CHARACTERISTIC		SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage ($R_{GK}=330\Omega$)	SF5G42	V_{DRM} V_{RRM}	400	V
	SF5J42		600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive < 5ms, $T_j=0\sim125^{\circ}C$, $R_{GK}=330\Omega$)	SF5G42	V_{RSM}	500	V
	SF5J42		720	
Average On-State Current (Half Sine Waveform $T_c=91^{\circ}C$)		$I_{T(AV)}$	5	A
R.M.S On-State Current		$I_{T(RMS)}$	7.8	A
Peak One Cycle Surge On-State Current (Non-Repetitive)		I_{TSM}	80 (50Hz)	A
			88 (60Hz)	
I^2t Limit Value ($t=1\sim10ms$)		I^2t	32	A^2s
Peak Gate Power Dissipation		P_{GM}	0.5	W
Average Gate Power Dissipation		$P_{G(AV)}$	0.05	W
Peak Forward Gate Voltage		V_{FGM}	5	V
Peak Reverse Gate Voltage		V_{RGM}	-5	V
Peak Forward Gate Current		I_{GM}	200	mA
Junction Temperature		T_j	-40~125	$^{\circ}C$
Storage Temperature Range		T_{stg}	-40~125	$^{\circ}C$



Weight : 2g

Note : Should be used with gate resistance as follows.



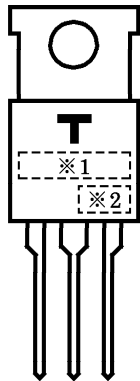
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM}=V_{RRM}=\text{Rated}$ $T_j=125^{\circ}\text{C}$, $R_{GK}=330\Omega$	—	—	2	mA
Peak On-State Voltage	V_{TM}	$I_{TM}=15\text{A}$	—	—	1.6	V
Gate Trigger Voltage	V_{GT}	$V_D=6\text{V}$, $R_L=100\Omega$ $R_{GK}=330\Omega$	—	—	0.8	V
Gate Trigger Current	I_{GT}		—	—	200	μA
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	$V_{DRM}=\text{Rated}\times 2/3$, $T_c=75^{\circ}\text{C}$ $R_{GK}=330\Omega$, Exponential Rise	—	50	—	$\text{V}/\mu\text{s}$
Holding Current	I_H	$R_L=100\Omega$, $R_{GK}=330\Omega$	—	4	—	mA
Thermal Resistance	$R_{th(j-c)}$	Junction to Case	—	—	3	$^{\circ}\text{C}/\text{W}$

MARK

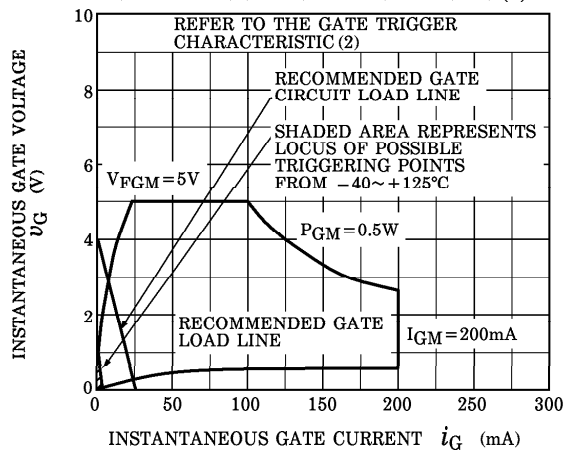


NUMBER	SYMBOL		MARK
※1	TYPE	SF5G42	SF5G42
		SF5J42	SF5J42
※2	Lot Number □ □ Month (Starting from Alphabet A) Year (Last Number of the Christian Era)		Example 2A : January 1992 2B : February 1992 2L : December 1992

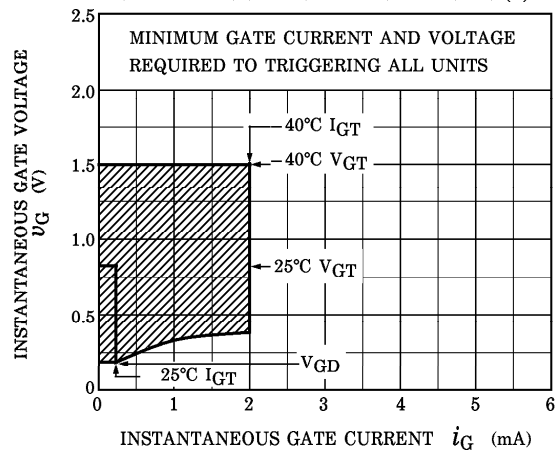
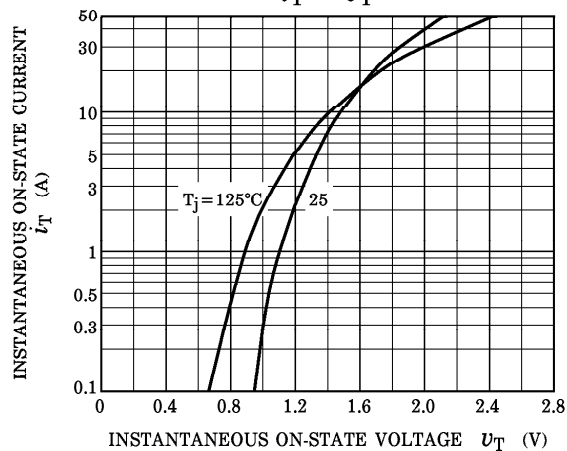
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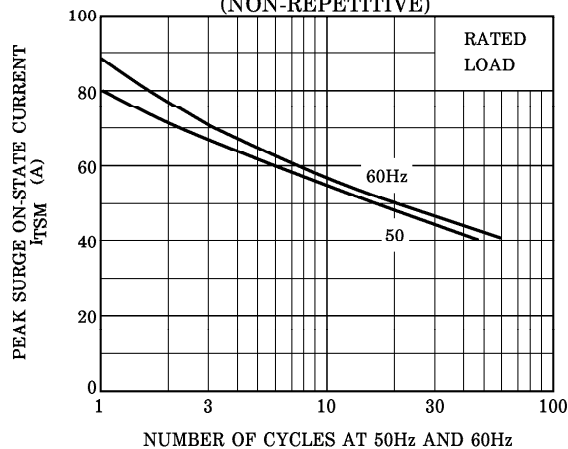
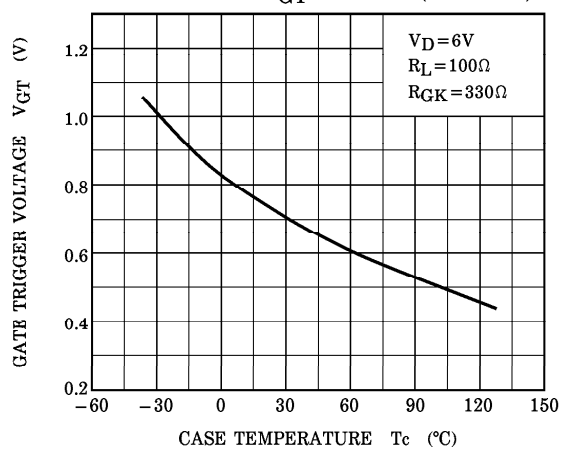
GATE TRIGGER CHARACTERISTIC (1)



GATE TRIGGER CHARACTERISTIC (2)

 $i_T - v_T$ 

SURGE ON-STATE CURRENT (NON-REPETITIVE)

 $V_{GT} - T_c$ (TYPICAL) $I_{GT} - T_c$ (TYPICAL)