

TOSHIBA THYRISITOR SILICON PLANAR TYPE

SF5G42, SF5J42

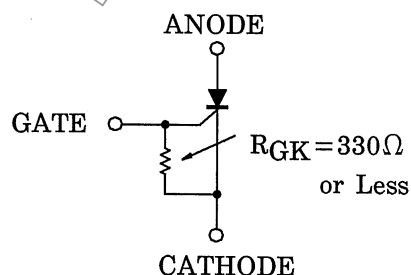
MEDIUM POWER CONTROL APPLICATIONS

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

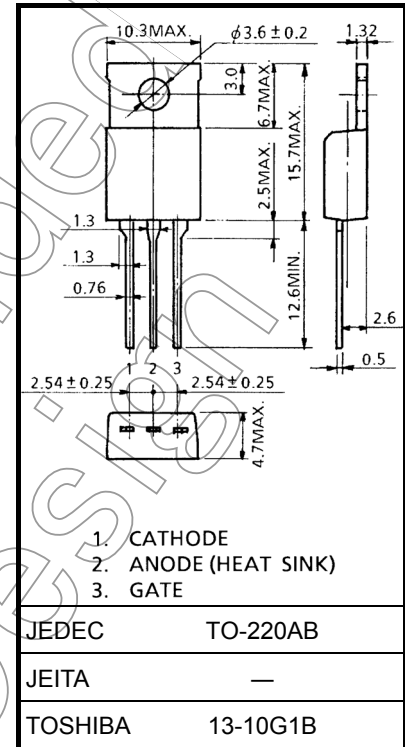
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage (RGK = 330Ω)	SF5G42	400	V
	SF5J42	600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive < 5ms, $T_j = 0 \sim 125^\circ C$, RGK = 330Ω)	SF5G42	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	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	$^\circ C$

Note: Should be used with gate resistance as shown below.



Unit: mm

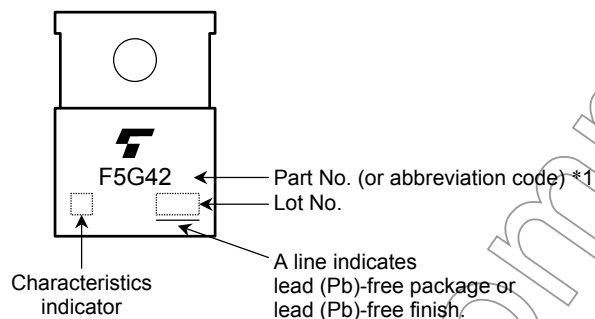


Weight: 2.0 g (typ.)

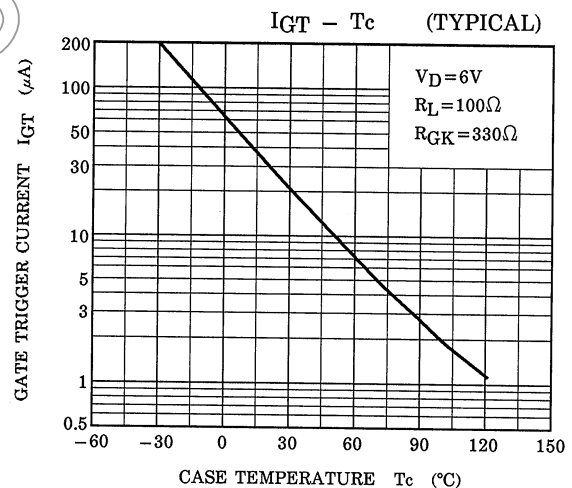
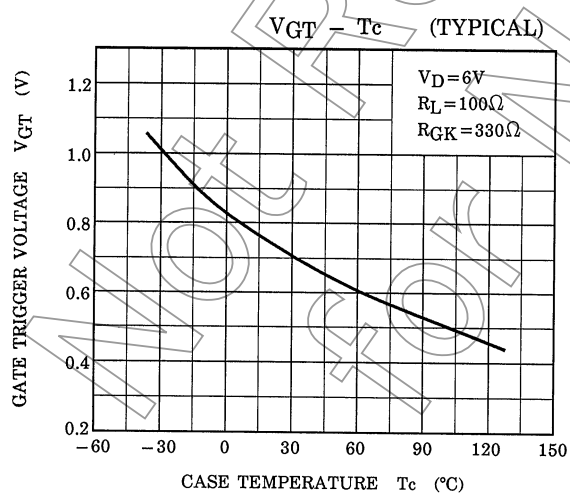
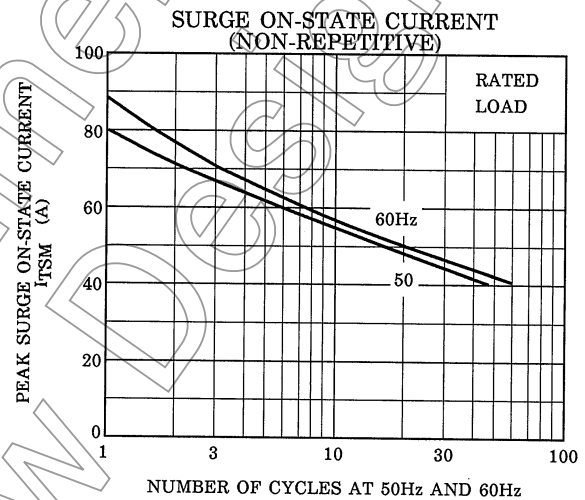
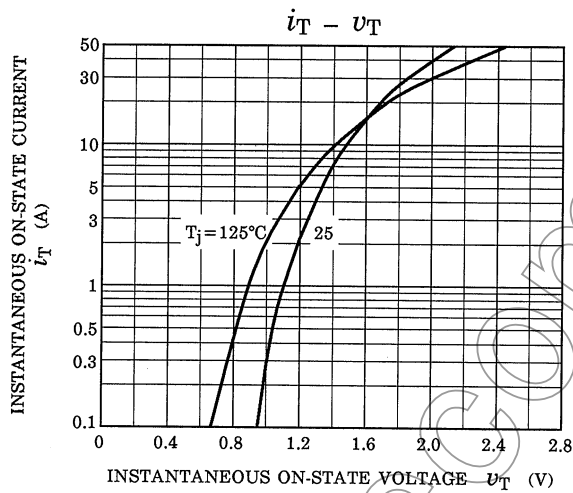
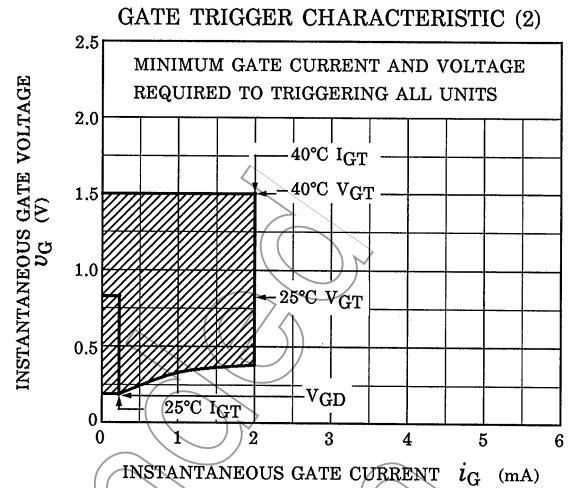
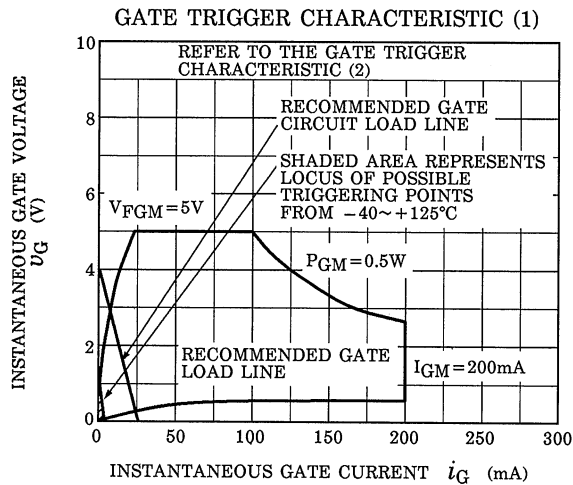
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

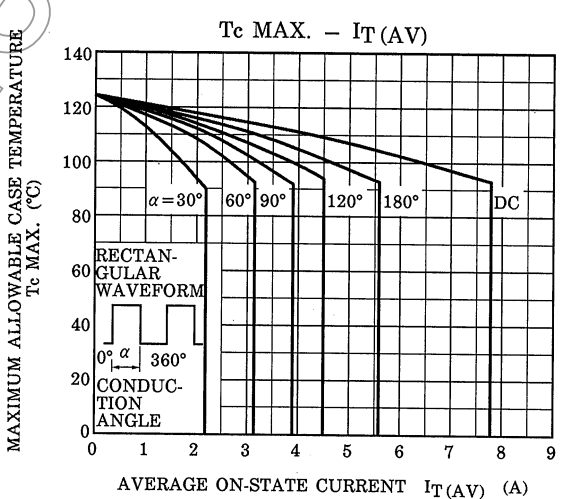
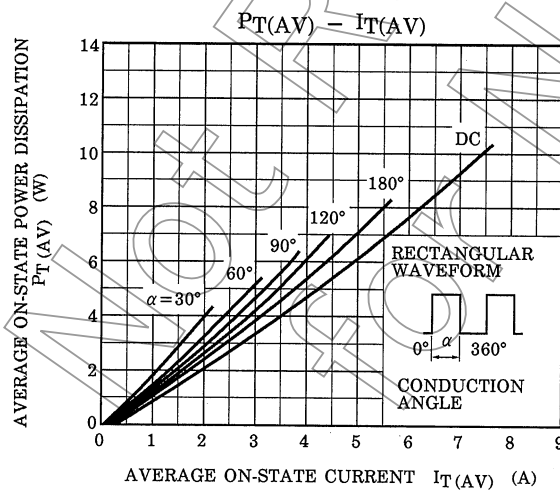
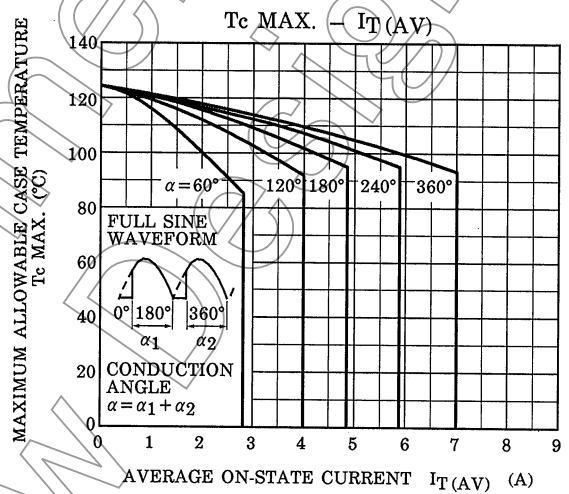
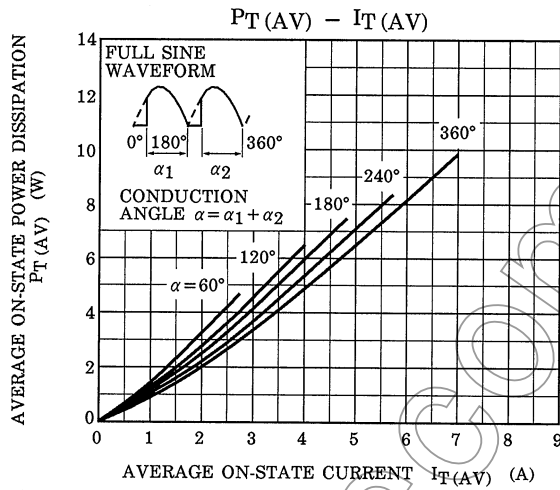
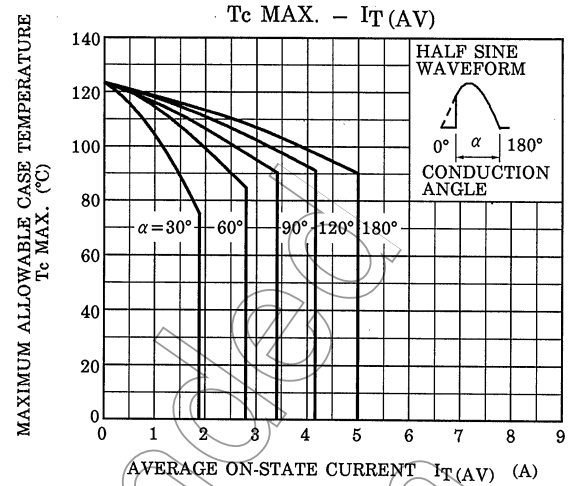
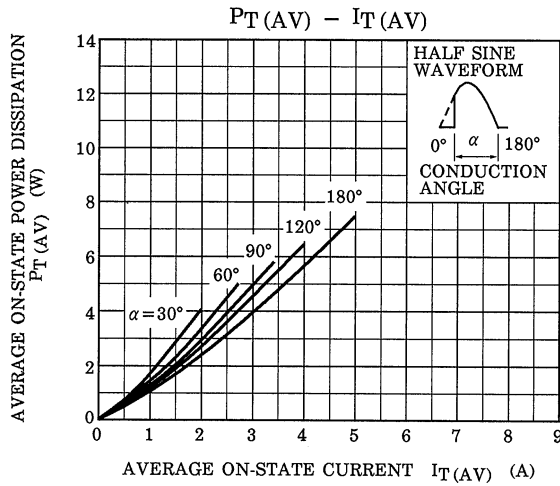
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM} = V_{RRM} = \text{Rated}$ $T_j = 125^\circ\text{C}$, $R_{GK} = 330\Omega$	—	—	2	mA
Peak On-State Voltage	V_{TM}	$I_{TM} = 15\text{A}$	—	—	1.6	V
Gate Trigger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

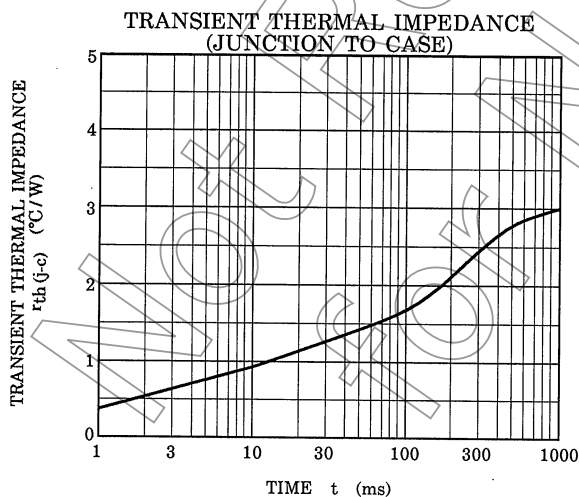
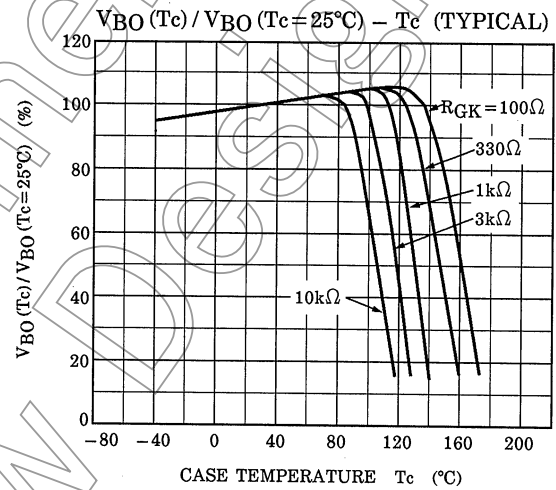
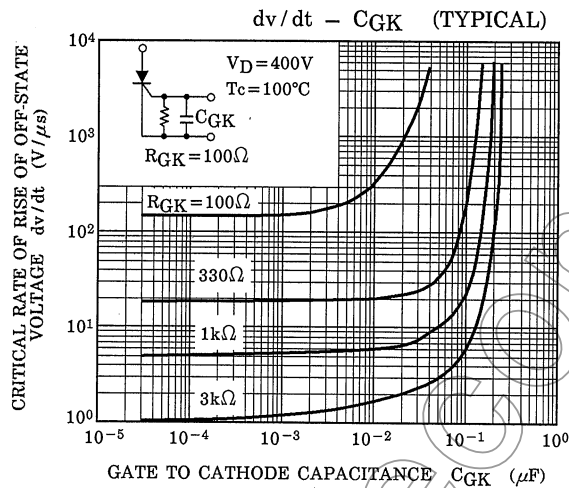
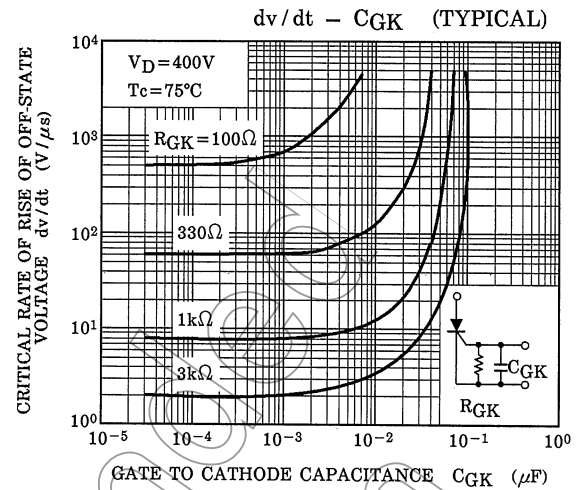
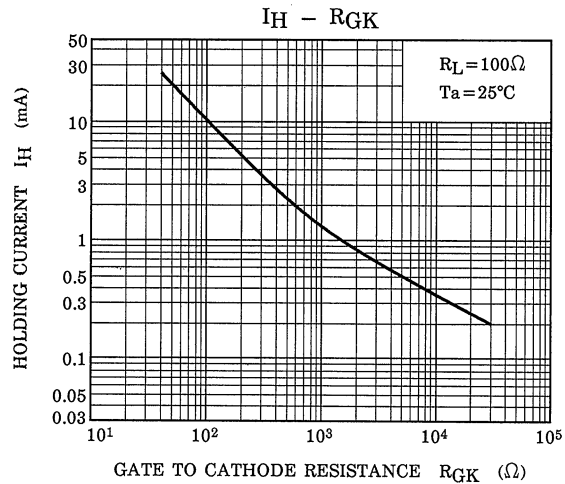
MARKING



	Part No. (or abbreviation code)	Part No.
*1	F5G42	SF5G42
	F5J42	SF5J42







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