

TOSHIBA THYRISTOR SILICON PLANAR TYPE

# SF0R5G43, SF0R5J43

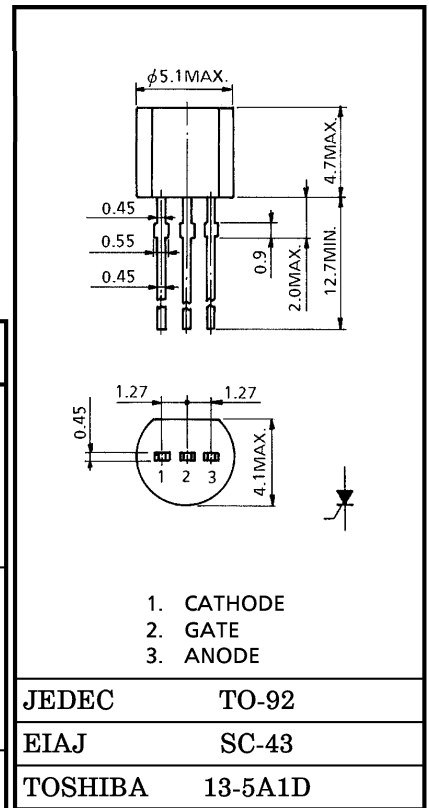
LOW POWER SWITCHING AND CONTROL APPLICATIONS

Unit in mm

- Repetitive Peak Off-State Voltage :  $V_{DRM}$  } = 400, 600V  
 Repetitive Peak Reverse Voltage :  $V_{RRM}$  }
- Average On-State Current :  $I_T(AV) = 500mA$
- Plastic Mold Type.

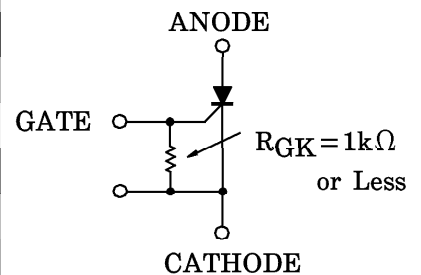
**MAXIMUM RATINGS**

CHARACTERISTIC		SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage ( $R_{GK} = 1k\Omega$ )	SF0R5G43	$V_{DRM}$ $V_{RRM}$	400	V
	SF0R5J43		600	
Non-Repetitive Peak Reverse Voltage (Non-Repetitive < 5ms, $R_{GK} = 1k\Omega$ , $T_j = 0 \sim 110^\circ C$ )	SF0R5G43	$V_{RSM}$	500	V
	SF0R5J43		720	
Average On-State Current (Half Sine Waveform $T_c = 30^\circ C$ )		$I_T(AV)$	500	mA
R.M.S On-State Current		$I_T(RMS)$	800	mA
Peak One Cycle Surge On-State Current (Non-Repetitive)		$I_{TSM}$	7 (50Hz)	A
			8 (60Hz)	
$I^2t$ Limit Value		$I^2t$	0.25	$A^2s$
Peak Gate Power Dissipation		$P_{GM}$	1	W
Average Gate Power Dissipation		$P_G(AV)$	0.01	W
Peak Forward Gate Voltage		$V_{FGM}$	8	V
Peak Reverse Gate Voltage		$V_{RGM}$	-5	V
Peak Forward Gate Current		$I_{GM}$	500	mA
Junction Temperature		$T_j$	-65~125	$^\circ C$
Storage Temperature Range		$T_{stg}$	-65~150	$^\circ C$



Weight : 0.2g

Note : Should be used with gate resistance as follows.



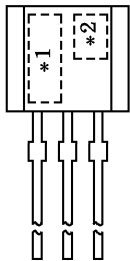
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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

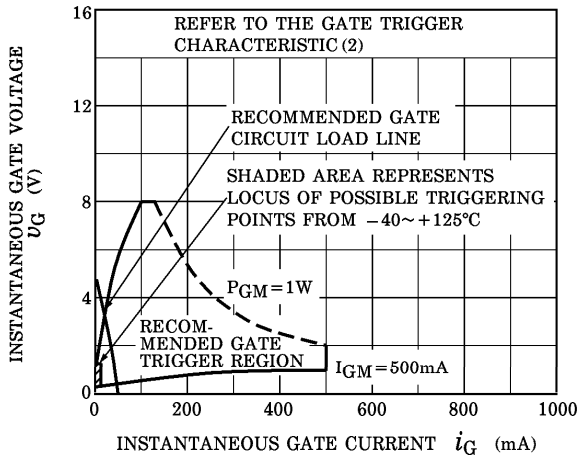
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	$I_{DRM}$ $I_{RRM}$	$V_{DRM} = V_{RRM} = \text{Rated}$ , $R_{GK} = 1k\Omega$ , $T_j = 125^\circ\text{C}$	—	—	50	$\mu\text{A}$
Peak On-State Voltage	$V_{TM}$	$I_{TM} = 1\text{A}$	—	—	1.5	V
Gate Trigger Voltage	$V_{GT}$	$V_D = 6\text{V}$ , $R_L = 100\Omega$ , $R_{GK} = 1k\Omega$	—	—	0.8	V
Gate Trigger Current	$I_{GT}$		—	—	200	$\mu\text{A}$
Gate Non-Trigger Voltage	$V_{GD}$	$V_D = 6\text{V}$ , $R_{GK} = 1k\Omega$ , $T_a = 125^\circ\text{C}$	0.2	—	—	V
Holding Current	$I_H$	$R_L = 100\Omega$ , $R_{GK} = 1k\Omega$	—	—	5	mA
Thermal Resistance	$R_{th(j-c)}$	Junction to Case	—	—	125	$^\circ\text{C/W}$
	$R_{th(j-a)}$	Junction to Ambient	—	—	230	

MARKING

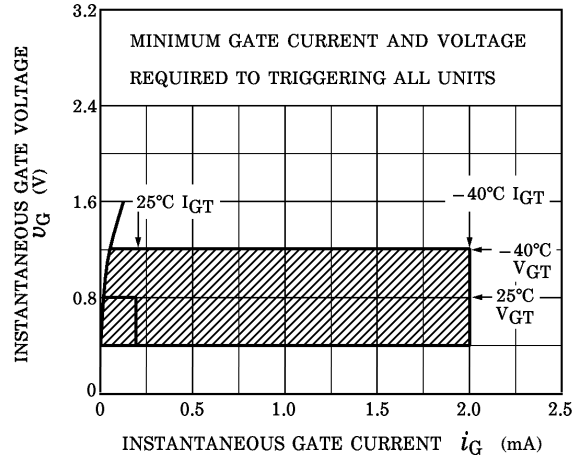


NUMBER	SYMBOL		MARK
*1	TYPE	SF0R5G43	F0R5G
		SF0R5J43	F0R5J
*2	Lot Number Month (Starting from Alphabet A) Year (Last Decimal Digit of the Current Year)		Example 8A : January 1998 8B : February 1998 8L : December 1998

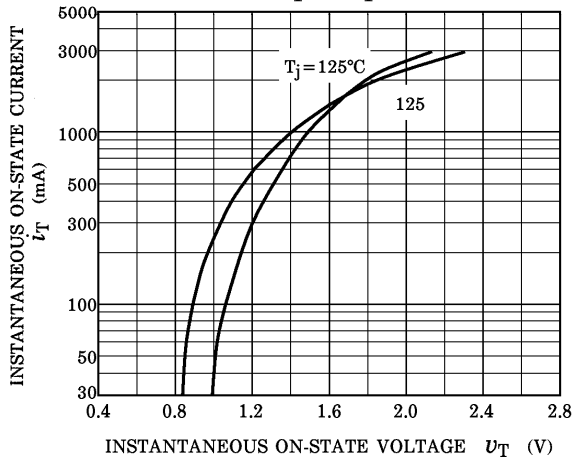
GATE TRIGGER CHARACTERISTIC (1)



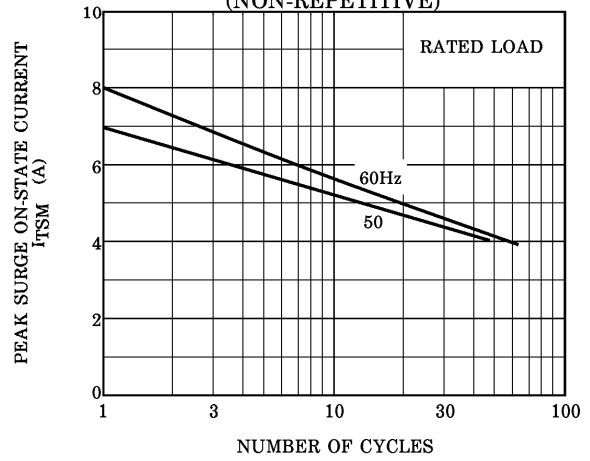
GATE TRIGGER CHARACTERISTIC (2)



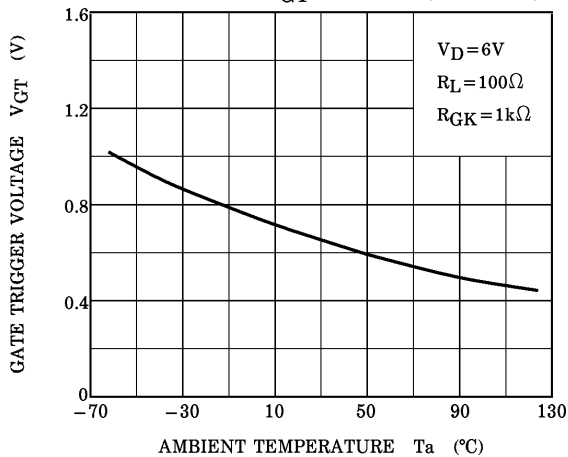
$i_T - v_T$



SURGE ON-STATE CURRENT (NON-REPETITIVE)



$V_{GT} - T_a$  (TYPICAL)



$I_{GT} - T_a$  (TYPICAL)

