

SM8(D, G, J)41

BI-DIRECTIONAL TRIODE THYRISTOR SILICON PLANAR TYPE

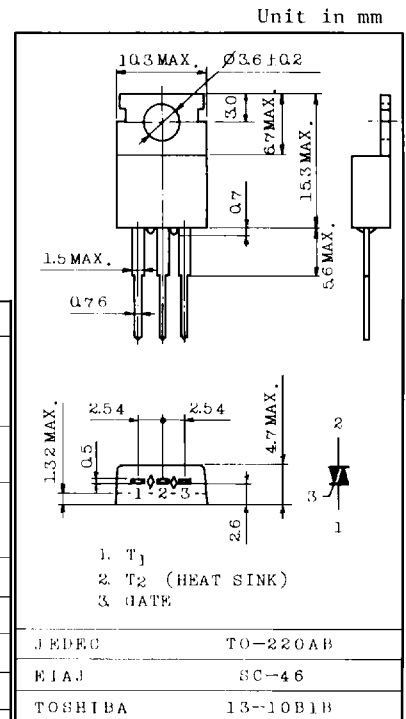
AC POWER CONTROL APPLICATIONS.

FEATURES:

- Repetitive Peak Off-State Voltage : $V_{DRM}=200 \sim 600V$
- R.M.S On-State Current : $I_{T(RMS)}=8A$
- Suitable for Heating Controls, Motor Controls, Dimmers and Power Switching System.

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage	SM8D41	200	V
	SM8G41	400	
	SM8J41	600	
R.M.S On-State Current (Full Sine Waveform $T_c=90^\circ C$)	$I_{T(RMS)}$	8	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	70 (50Hz)	A
		77 (60Hz)	
$12t$ Limit Value ($t=1 \sim 10ms$)	$12t$	24.5	A^2s
Peak Gate Power Dissipation	PGM	5	W
Average Gate Power Dissipation	$P_{G(AV)}$	0.5	W
Peak Gate Voltage	VGM	10	V
Peak Gate Current	IGM	2	A
Junction Temperature	T_j	$-40 \sim 125$	$^\circ C$
Storage Temperature Range	T_{stg}	$-40 \sim 125$	$^\circ C$

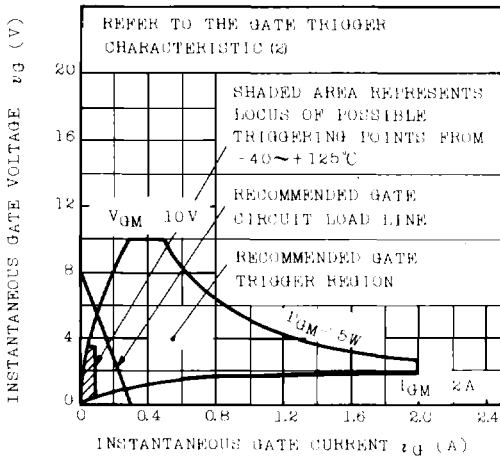


Weight : 2g

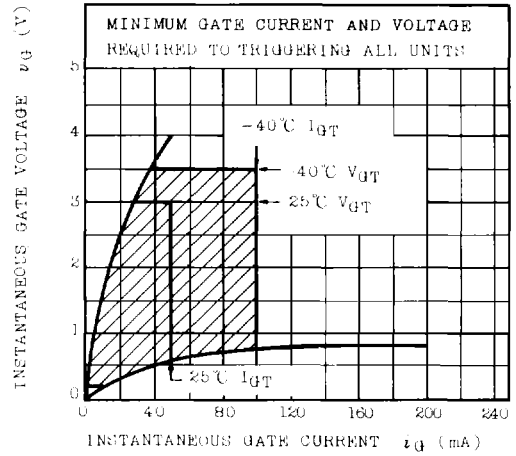
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	MAX.	UNIT	
Repetitive Peak Off-State Current	I_{DRM}	$V_{DRM}=\text{Rated}, T_j=125^\circ C$	-	2	mA	
Gate Trigger Voltage	V _{GT}	$V_D=12V, R_L=20\Omega$	T2(+), Gate(+)	-	3	V
			T2(+), Gate(-)	-	3	
			T2(-), Gate(-)	-	3	
Gate Trigger Current	I _{GT}	$V_D=12V, R_L=20\Omega$	T2(+), Gate(+)	-	50	mA
			T2(+), Gate(-)	-	50	
			T2(-), Gate(-)	-	50	
Peak On-State Voltage	V _{TM}	$I_{TM}=12A$	-	1.7	V	
Gate Non-Trigger Voltage	V _{GD}	$V_D=\text{Rated} \times 1/2, T_c=125^\circ C$	0.2	-	V	
Holding Current	I_H	$R_L=100\Omega$	-	50	mA	
Thermal Resistance	$R_{th(j-c)}$	Junction to Case, AC	-	3	$^\circ C/W$	

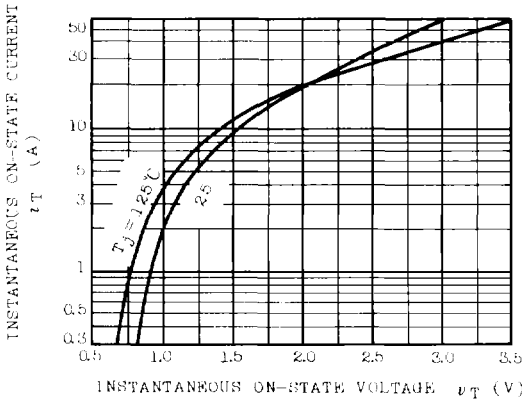
GATE TRIGGER CHARACTERISTIC (1)



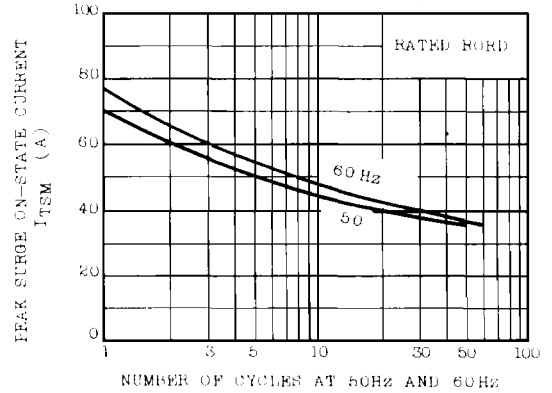
GATE TRIGGER CHARACTERISTIC (2)



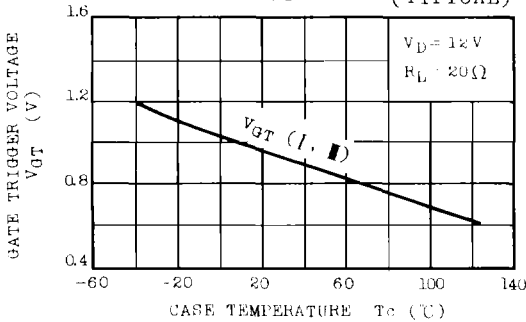
$i_T - v_T$



SURGE ON-STATE CURRENT (NON-REPETITIVE)



$V_{GT} - T_c$ (TYPICAL)



$I_{GT} - T_c$ (TYPICAL)

