

BI-DIRECTIONAL TRIODE THYRISTOR
SILICON PLANAR TYPE

SM25(D, G, J)Z41

AC POWER CONTROL APPLICATIONS.

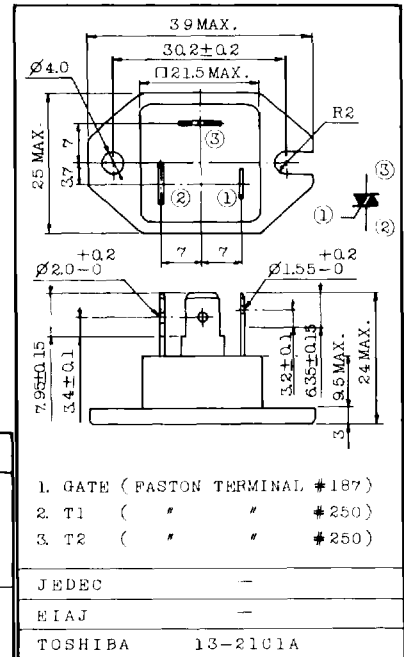
FEATURES:

- . Repetitive Peak Off-State Voltage : $V_{DRM}=200 \sim 600V$
- . R.M.S On-State Current : $I_{T(RMS)}=25A$
- . Surge Isolation Voltage : $V_{ISOL}=2000V$ AC
- . Suitable for Heating Controls, Motor Controls,
Dimmers and Power Switching System.

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage	SM25DZ41	200	V
	SM25GZ41	400	
	SM25JZ41	600	
R.M.S On-State Current (Full Sine Waveform $T_c=73^\circ C$)	$I_{T(RMS)}$	25	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	230(50Hz)	A
		253(60Hz)	
I^2t Limit Value ($t=1 \sim 10ms$)	I^2t	260	A^2s
Peak Gate Power Dissipation	P_{GM}	5	W
Average Gate Power Dissipation	$P_{G(AV)}$	0.5	W
Peak Gate Voltage	V_{GM}	10	V
Peak Gate Current	I_{GM}	2	A
Junction Temperature	T_j	-40 ~ 125	$^\circ C$
Storage Temperature Range	T_{stg}	-40 ~ 125	$^\circ C$
Isolation Voltage AC $t=1min.$	V_{ISOL}	2000	V

Unit in mm



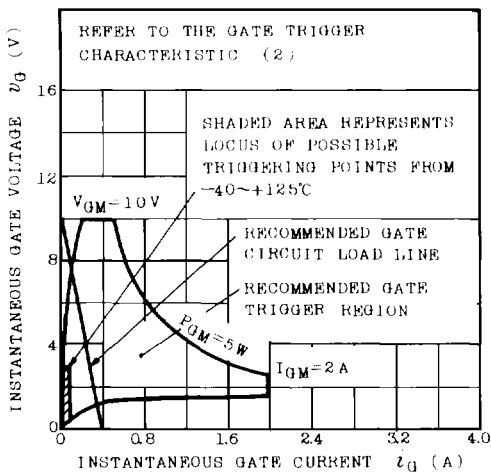
Weight : 28g

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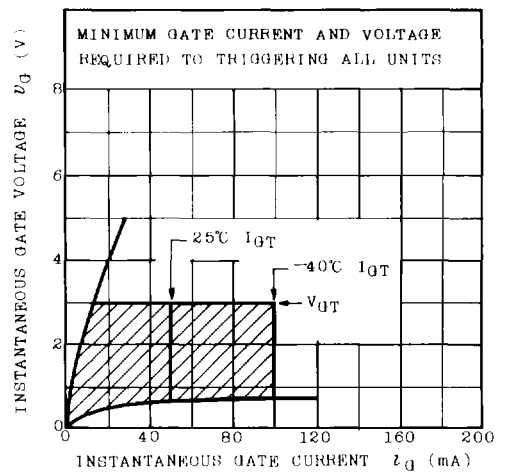
ELECTRICAL CHARACTERISTICS (Ta=25°C)

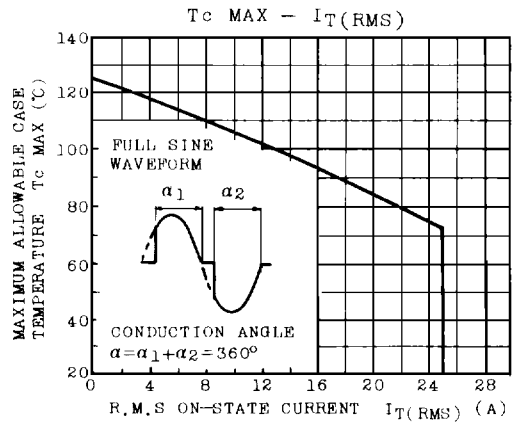
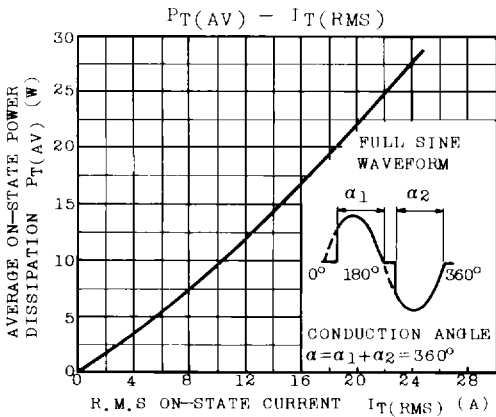
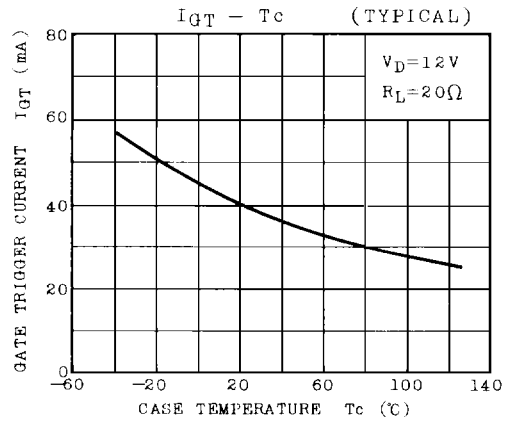
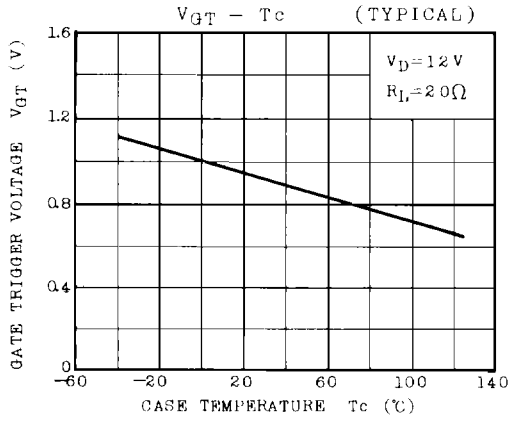
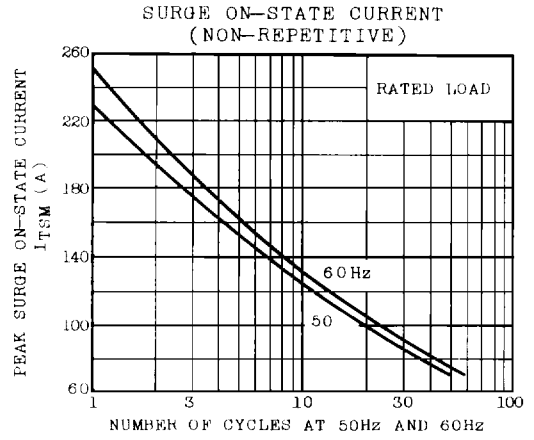
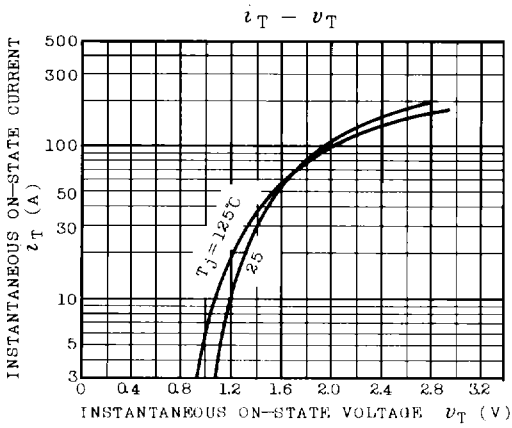
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	MAX.	UNIT	
Repetitive Peak Off-State Current		I_{DRM}	$V_{DRM} = \text{Rated}, T_j = 125^\circ\text{C}$	-	3	mA	
Gate Trigger Voltage	I	V_{GT}	$V_D = 12\text{V}, R_L = 20\Omega$	T2(+), Gate(+)	-	3	V
	II			T2(+), Gate(-)	-	3	
	III			T2(-), Gate(-)	-	3	
Gate Trigger Current	I	I_{GT}		T2(+), Gate(+)	-	50	mA
	II			T2(+), Gate(-)	-	50	
	III			T2(-), Gate(-)	-	50	
Peak On-State Voltage		V_{TM}	$I_{TM} = 40\text{A}$	-	1.5	V	
Gate Non-Trigger Voltage		V_{GD}	$V_D = 0.5 \times \text{Rated}, T_c = 125^\circ\text{C}$	0.2	-	V	
Holding Current		I_H	$R_L = 100\Omega$	-	70	mA	
Thermal Resistance		$R_{th(j-c)}$	Junction to Case, AC	-	1.5	$^\circ\text{C/W}$	
Commutation (dv/dt)		$(dv/dt)_c$	$V_D = 200\text{V}$ (SM25DZ41) $V_D = 400\text{V}$ (SM25GZ41, SM25JZ41) $-di/dt = 15\text{A/ms}, T_c = 125^\circ\text{C}$	10	-	$\text{V}/\mu\text{s}$	

GATE TRIGGER CHARACTERISTIC (1)



GATE TRIGGER CHARACTERISTIC (2)





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