

BI-DIRECTIONAL TRIODE THYRISTOR
SILICON PLANAR TYPE

SM16(D, G, J)Z41

AC POWER CONTROL APPLICATIONS.

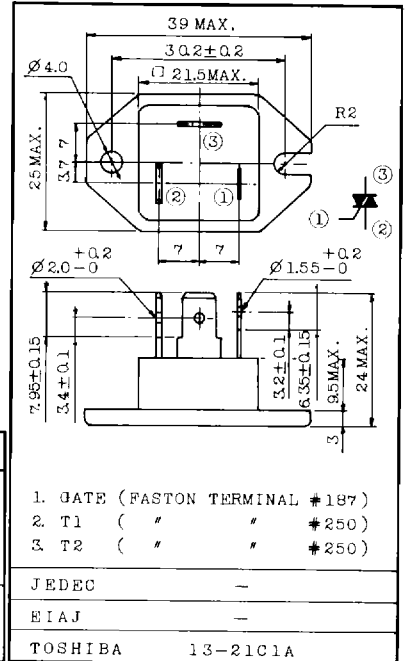
Unit in mm

FEATURES:

- . Repetitive Peak Off-State Voltage : $V_{DRM}=200 \sim 600V$
- . R.M.S On-State Current : $I_T(RMS)=16A$
- . 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	SM16DZ41	V_{DRM}	200	V
	SM16GZ41		400	
	SM16JZ41		600	
R.M.S On-State Current (Full Sine Waveform $T_c=78^\circ C$)		$I_T(RMS)$	16	A
Peak One Cycle Surge On-State Current (Non-Repetitive)		I_{TSM}	150(50Hz)	A
			165(60Hz)	
I^2t Limit Value ($t=1 \sim 10ms$)		I^2t	110	A^2s
Peak Gate Power Dissipation		PGM	5	W
Average Gate Power Dissipation		$PG(AV)$	0.5	W
Peak Gate Voltage		V_{GM}	10	V
Peak Gate Current		I_{GM}	2	A
Junction Temperature		T_j	$-40 \sim 125$	$^\circ C$
Storage Temperature Range		T_{stg}	$-40 \sim 125$	$^\circ C$
Isolation Voltage AC $t=1min.$		V_{ISOL}	2000	V



1. GATE (FASTON TERMINAL # 187)
2. T1 (" " # 250)
3. T2 (" " # 250)

JEDEC -
EIAJ -
TOSHIBA 13-21C1A

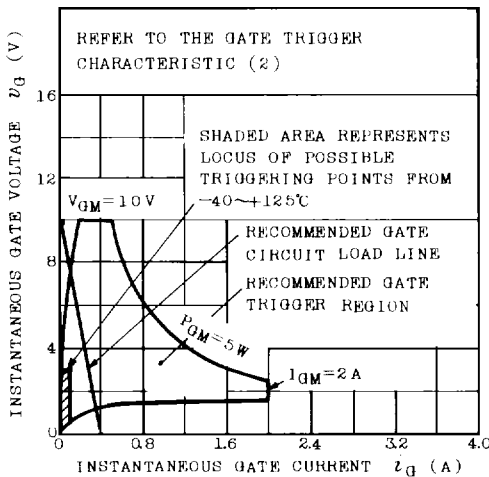
Weight : 28g

SM16(D,G,J)Z41

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}	$I_{TM} = 25\text{A}$	-	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	$R_L = 100\Omega$	-	50	mA	
Thermal Resistance		$R_{th(j-c)}$	Junction to Case, AC	-	2.0	$^\circ\text{C/W}$	
Commutation (dv/dt)		(dv/dt) _c	$V_D = 200\text{V (SM16DZ41)}$ $V_D = 400\text{V (SM16GZ41, SM16JZ41)}$ $-di/dt = 9\text{A/ms}, T_c = 125^\circ\text{C}$	10	-	$\text{V}/\mu\text{s}$	

GATE TRIGGER CHARACTERISTIC (1)



GATE TRIGGER CHARACTERISTIC (2)

