

BI-DIRECTIONAL TRIODE THYRISTOR (TRIAC)

TOSHIBA (DISCRETE/OPTO)

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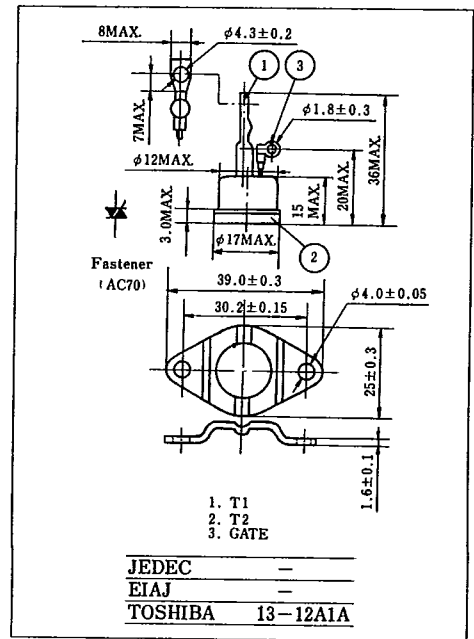
Unit in mm

SM30G12

450V 30A

MAXIMUM RATINGS

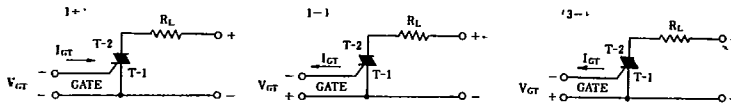
CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage	SM30D12 SM30G12 V_{DRM}	200 450	V
R.M.S. On-State Current	$I_{T(RMS)}$	30	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	240(50Hz)	A
Peak Gate Power Dissipation	P_{GM}	5	W
Average Gate Power Dissipation	$P_{G(AV)}$	0.5	W
Junction Temperature	T_j	-25~100	°C
Storage Temperature Range	T_{stg}	-25~100	°C

**ELECTRICAL CHARACTERISTICS**

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	MAX.	UNIT
Repetitive Peak Off-State Current	I_{DRM}	V_{DRM} =Rated, $T_j=100^\circ\text{C}$	—	5	mA
** Gate Trigger Voltage	(1+)	$V_D=12\text{V}$	—	3	V
	(1-)	$R_L=20\Omega$	—	3	
	(3-)	$T_C=25^\circ\text{C}$	—	3	
	(1+)	$V_D=12\text{V}$	—	4	
	(1-)	$R_L=20\Omega$	—	4	
	(3-)	$T_C=-25^\circ\text{C}$	—	4	
** Gate Trigger Current	(1+)	$V_D=12\text{V}$	—	50	mA
	(1-)	$R_L=20\Omega$	—	75	
	(3-)	$T_C=25^\circ\text{C}$	—	75	
	(1+)	$V_D=12\text{V}$	—	80	
	(1-)	$R_L=20\Omega$	—	120	
	(3-)	$T_C=-25^\circ\text{C}$	—	120	
Gate Non-Trigger Voltage	V_{GD}	$V_D=V_{DRM}$, $R_L=1\text{K}\Omega$, $T_C=100^\circ\text{C}$	0.2	—	V
Peak On-State Voltage	V_{TM}	$I_{TM}=50\text{A}$, $T_C=25^\circ\text{C}$	—	1.45	V
Critical Rate of Rise of Off-State Voltage	dv/dt	V_{DRM} =Rated, $T_C=100^\circ\text{C}$	3.0	—	V/ μs
Holding Current	I_H	$R_L=100\Omega$, $T_C=25^\circ\text{C}$	—	80	mA
Thermal Resistance *	$R_{th(j-c)}$	AC	—	1.0	°C/W

* Junction to Case

** Principal Voltage-Current Characteristics as Follows.

**GATE TRIGGERING CHARACTERISTICS**