

BI-DIRECTIONAL TRIODE THYRISTOR (TRIAC)

TOSHIBA {DISCRETE/OPTO}

39 DE 9097250 0002325 2

Unit in mm

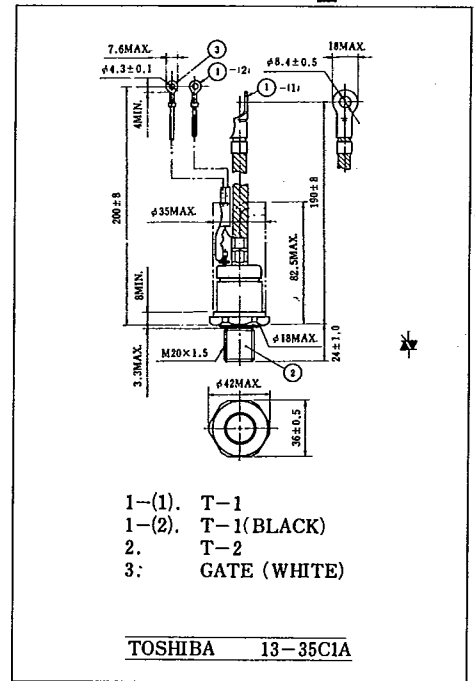
SM150Q13

1200V 150A

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak off-state voltage	SM150G13	400	V
	SM150J 13	600	
	SM150Q13	1200	
R.M.S On-State Current (T _c =75°C)	I _{T(RMS)}	150	A
Peak One-Cycle Surge On-State Current (Non-Repetitive)	I _{TSM}	2000(60Hz)	A
		1800(50Hz)	
Peak One Cycle Surge On-State Current	di/dt	10	A/μs
Peak Gate Power Dissipation	P _{GM}	16	W
Average Gate Power Dissipation	P _{G(AV)}	3	W
Peak Gate Current	I _{GM}	4	A
Peak Gate Voltage	V _{GM}	16	V
Junction Temperature	T _j	-40~125	°C
Storage Temperature Range	T _{stg}	-40~125	°C
Stud Torque		340	kg cm

Note 1: V_D=0.5Rated, T_c=120°C, Gate Supply (V_G=10V, R_G=8Ω, t_r≤1μs)



AC52 is furnished as an accessory.

ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	MAX.	UNIT
Peak Off-State Current	I _{DRM}	V _{DRM} =Rated, T _j =125°C	-	15	mA
Peak On-State Voltage	V _{TM}	I _{TM} =220A, T _c =25°C	-	1.65	V
** Gate Trigger Voltage	(1+)	V _D =12V, T _c =25°C, R _L =20Ω	-	3.0	V
	(1-)		3.0		
	(3-)		3.0		
** Gate Trigger Current	(1+)	V _D =12V, T _c =25°C, R _L =20Ω	-	300	mA
	(1-)		300		
	(3-)		300		
Gate Non-Trigger Voltage	V _{GD}	V _D =0.5Rated, T _c =125°C	0.15	-	V
Gate Non-Trigger Current	I _{GD}	V _D =0.5Rated, T _c =125°C	5	-	mA
Holding Current	I _H	T _c =25°C, R _L =20Ω	-	200	mA
Critical Rate of Rise of Off-State Voltage	dv/dt	V _{DRM} =0.5Rated, T _j =125°C, Gate Open, Exponential rise	100	-	V/μs
Critical Rate of Rise of Commutating Off-State Voltage	dv/dt (c)	V _{DRM} =0.5Rated, -di/dt=1.0A/μs, T _j =125°C, Exponential rise	50	-	V/μs
Thermal Resistance *	R _{th(j-c)}	AC	-	0.25	°C/W

* Junction to Case

** Principal Voltage and current Characteristics as Follows.

