SL1500GX21

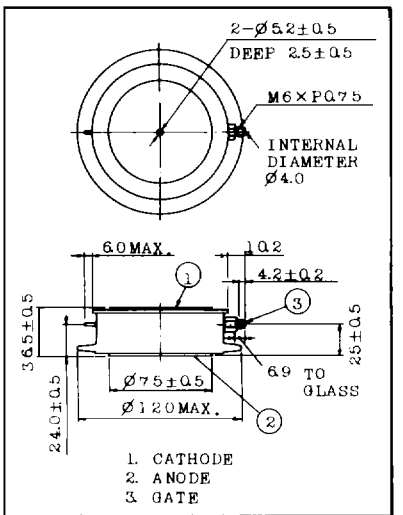
LIGHT TRIGGER THYRISTOR
SILICON DIFFUSED TYPE

HIGH POWER CONTROL APPLICATIONS.

FEATURES:

- Repetitive Peak Off-State Voltage : V_{DRM} } =4000V
  Repetitive Peak Reverse Voltage : V_{RRM}
- Average On-State Current : $I_{T(AV)}$=1500A
- Light Trigger Power : P_{LT}:10mW
- Turn-Off Time : t_q=400μs(Max.)
- Critical Rate of Rise of On-State Current : di/dt=250A/μs
- Critical Rate of Rise of Off-State Voltage : dv/dt=1500A/μs
- Flat Package

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	13-120C1A

Weight : 1700g

MAXIMUM RATINGS

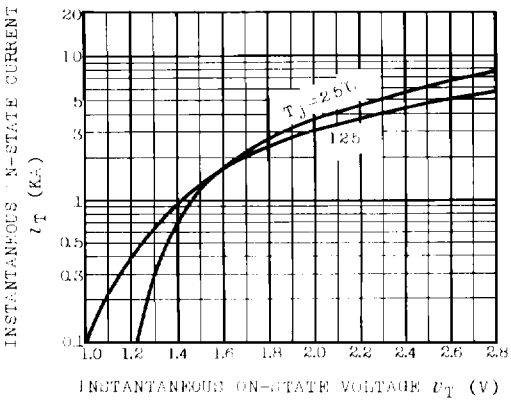
CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage and Repetitive Peak Reverse Voltage	V_{DRM} V_{RRM}	4000	V
Non-Repetitive Peak Reverse Voltage (Non-Repetitive ≤5ms, T_j=0 ~ 125°C)	V_{RSM}	4400	V
R.M.S On-State Current	$I_{T(RMS)}$	2355	A
Average On-State Current	$I_{T(AV)}$	1500	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	30000(50Hz) 33000(60Hz)	A
I^2t Limit Value	I^2t	4500×10^3	A^2s
Critical Rate of Rise of On-State Current (Note)	di/dt	250	A/μs
Junction Temperature	T_j	-40 ~ 125	°C
Storage Temperature Range	T_{stg}	-40 ~ 125	°C
Mounting Force	-	4000	kg

Note : V_D=1/2 Rated, Tc=120°C.

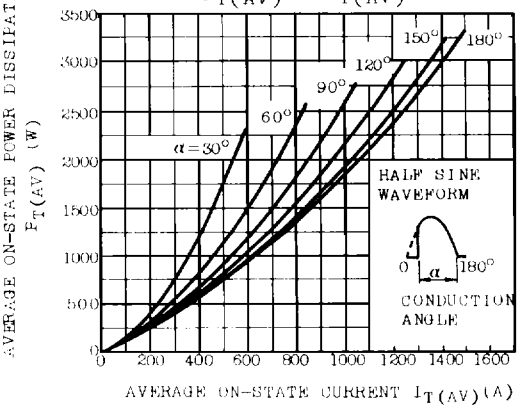
ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	TEST CONDITION		MIN.	MAX.	UNIT
Repetitive Peak Off-State Current and Repetitive Peak Reverse Current	I_{DRM} I_{RRM}	$V_{DRM}=V_{RRM}$=Rated, T_j=125°C		-	120	mA
Peak On-State Voltage	V_{TM}	I_{TM}=5000A, Tc=25°C		-	2.3	V
Light Trigger Power	P_{LT}	V_D=12V, R_L=6Ω	Tc=-40°C	-	30	mW
			Tc=25°C	-	10	
Delay Time	t_d	V_D=0.5 Rated, Tc=25°C		-	4	μs
Gate Turn-On Time	t_{gt}	P_L=20mW		-	6	μs
Turn-Off Time	t_q	I_T=1200A, $V_R \geqq$ 200V dv/dt=25V/μs, Tc=115°C V_{DRM}=1/2 Rated		-	400	μs
Holding Current	I_H	Tc=25°C, R_L=6Ω		-	300	mA
Critical Rate of Rise of Off-State Voltage	dv/dt	V_{DRM}=1/2 Rate, T_j=125°C Exponential Rise		1500	-	V/μs
Thermal Resistance	$R_{th(j-f)}$	Junction to Fin		-	0.02	°C/W

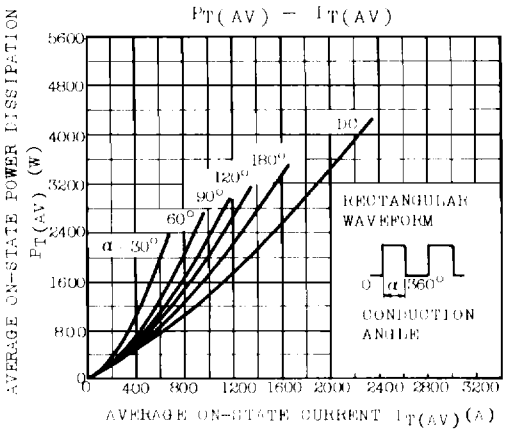
$i_T - v_T$



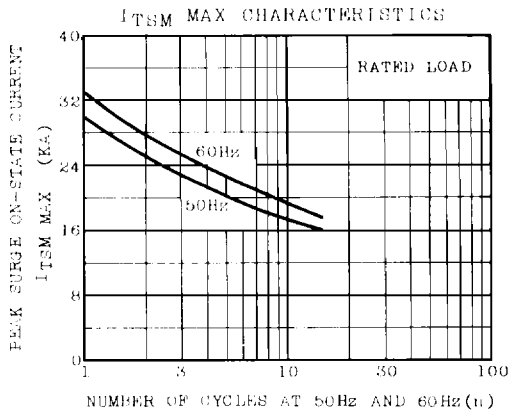
$P_{T(AV)} - I_{T(AV)}$



$P_{T(AV)} - I_{T(AV)}$



I_{TSM} MAX CHARACTERISTICS



TRANSIENT THERMAL IMPEDANCE (JUNCTION TO FIN)