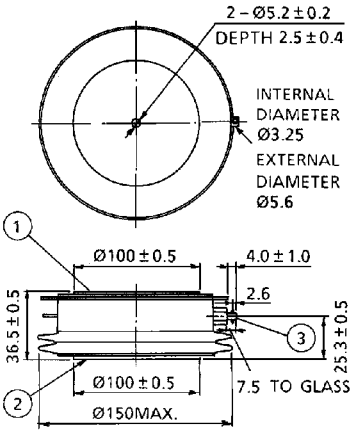
TOSHIBA ALLOY-FREE LIGHT TRIGGER THYRISTOR

SL3000GX23

HIGH POWER CONTROL APPLICATIONS

- Repetitive Peak Off-State Voltage : V_{DRM} } =4000V
- Repetitive Peak Reverse Voltage : V_{RRM} }
- Average On-State Current : $I_{T(AV)}$=3000A
- Light Trigger Power : P_{LT} : 10mW (Max.)
- Turn-Off Time : t_q=400μs (Max.)
- Critical Rate of Rise of On-State Current : di / dt=300A / μs
- Critical Rate of Rise of Off-State Voltage : dv / dt=1500V / μs
- Flat Package

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	13-150C1A

Weight : 3200g

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	$I_{T(RMS)}$	4710	A
Average On-State Current	$I_{T(AV)}$	3000	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	60000 (50Hz) 66000 (60Hz)	A
I^2t Limit Value	I^2t	180×10^5	A^2s
Critical Rate of Rise of On-State Current (Note)	di / dt	300	A / μs
Junction Temperature	T_j	40~125	°C
Storage Temperature Range	T_{stg}	40~125	°C
Mounting Force		78.4±7.8	kN

Note : V_D=1 / 2 Rated, T_j=120°C

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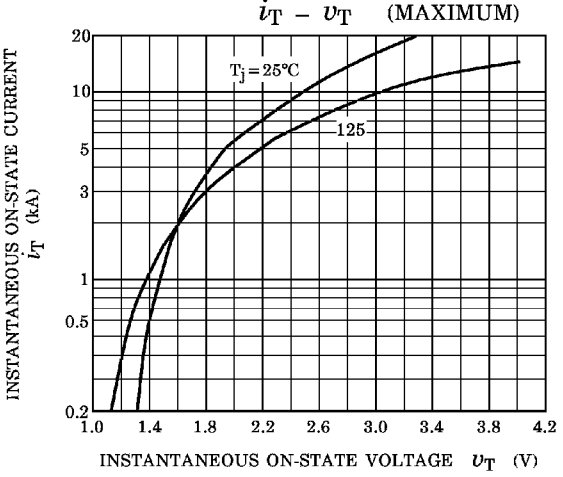
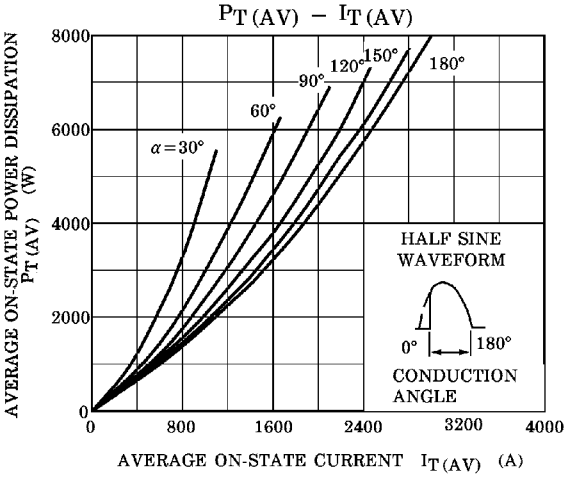
ELECTRICAL CHARACTERISTICS

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 $T_j=125°C$		—	250	mA
Peak On-State Voltage	V_{TM}	$I_{TM}=10000A$, $T_j=25°C$		—	2.5	V
Light Trigger Power	P_{LT}	$V_D=12V$, $R_L=6\Omega$	$T_j=-40°C$	—	—	mW
			$T_j=25°C$	—	10	
Delay Time	t_d	$V_D=1/2$ Rated $T_j=25°C$, $P_L=20mw$		—	5	μs
Gate Turn-On Time	t_{gt}			—	10	μs
Turn-Off Time	t_q	$I_T=3000A$, $V_R \geqq 200V$ $dv/dt=25V/\mu s$, $T_j=125°C$ $V_{DRM}=1/2$ Rated		—	400	μs
Holding Current	I_H	$T_j=25°C$, $R_L=6\Omega$		—	300	mA
Critical Rate of Rise of Off-State Voltage	dv/dt	$V_{DRM}=1/2$ Rated, $T_j=125°C$ Gate Open, Exponential Rise		1500	—	$V/\mu s$
Thermal Resistance (Junction to Case)	$R_{th\,(j-f)}$	DC		—	0.0075	°C/W

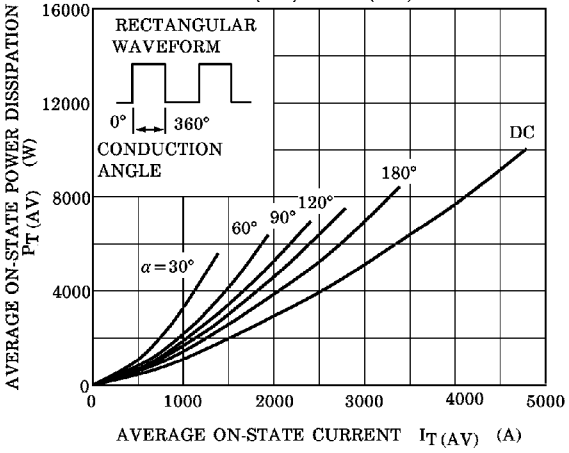
$i_T - v_T$ (MAXIMUM)



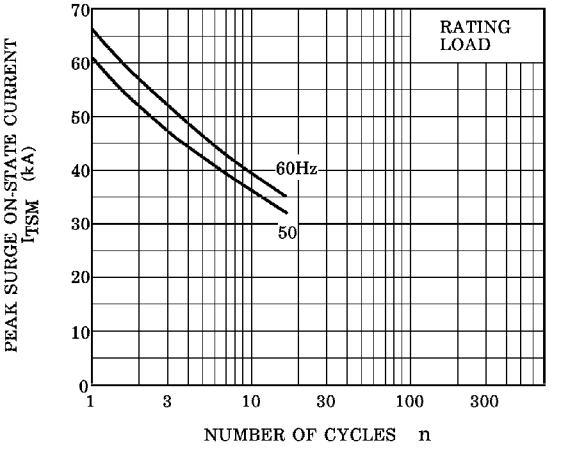
$P_{T(AV)} - I_{T(AV)}$



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



SURGE ON-STATE CURRENT



$r_{th\,(j\text{-}f)} - t$ (MAXIMUM)