

TOSHIBA ALLOY-FREE LIGHT TRIGGER THYRISTOR

SL1500GX23

HIGH POWER CONTROL APPLICATIONS

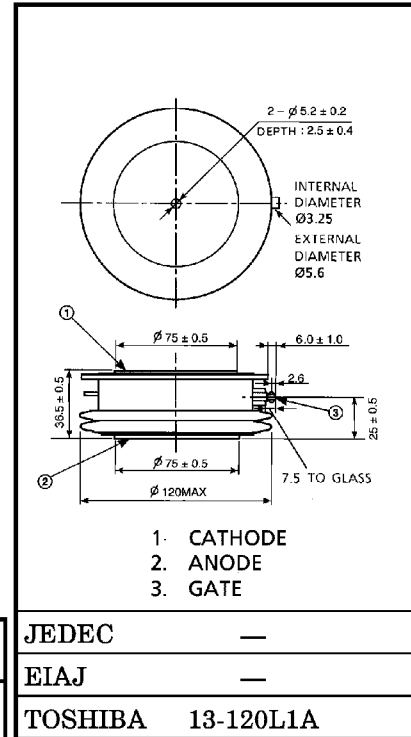
- Repetitive Peak Off-State Voltage : V_{DRM}
- Repetitive Peak Reverse Voltage : V_{RRM}
- Average On-State Current : $I_T(AV) = 1500A$
- Light Trigger Power : $P_{LT} : 10mW (Max.)$
- Turn-Off Time : $t_q = 400\mu s (Max.)$
- Critical Rate of Rise of On-State Current : $di / dt = 250A / \mu s$
- Critical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

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 $\leq 5ms, T_j = 0 \sim 125^\circ C$)	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	$A / \mu s$
Junction Temperature	T_j	$-40 \sim 125$	$^\circ C$
Storage Temperature Range	T_{stg}	$-40 \sim 125$	$^\circ C$
Mounting Force	—	39.2 ± 3.9	kN

Note : $V_D = 1/2$ Rated, $T_j = 120^\circ C$

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	13-120L1A

Weight : 1700g

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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}	$V_{DRM} = V_{RRM} = \text{Rated}$ $T_j = 125^\circ\text{C}$	—	120	mA
Peak On-State Voltage	V_{TM}	$I_{TM} = 5000\text{A}$, $T_j = 25^\circ\text{C}$	—	2.3	V
Light Trigger Power	P_{LT}	$V_D = 12\text{V}$, $R_L = 6\Omega$	$T_j = -40^\circ\text{C}$	—	mW
			$T_j = 25^\circ\text{C}$	—	
Delay Time	t_d	$V_D = 1/2 \text{ Rated}$, $T_j = 25^\circ\text{C}$	—	4	μs
Gate Turn-On Time	t_{gt}	$P_L = 20\text{mW}$	—	6	μs
Turn-Off Time	t_q	$I_T = 1200\text{A}$, $V_R \geq 200\text{V}$ $dv/dt = 25\text{V}/\mu\text{s}$, $T_j = 115^\circ\text{C}$ $V_{DRM} = 1/2 \text{ Rated}$	—	400	μs
Holding Current	I_H	$T_j = 25^\circ\text{C}$, $R_L = 6\Omega$	—	300	mA
Critical Rate of Rise of Off-State Voltage	dv/dt	$V_{DRM} = 1/2 \text{ Rated}$, $T_j = 125^\circ\text{C}$ Gate Open, Exponential Rise	1500	—	$\text{V}/\mu\text{s}$
Thermal Resistance (Junction to Case)	$R_{th(j-f)}$	DC	—	0.02	$^\circ\text{C}/\text{W}$

