

TOSHIBA ALLOY-FREE LIGHT TRIGGER THYRISTOR

SL3000GX23

HIGH POWER CONTROL APPLICATIONS

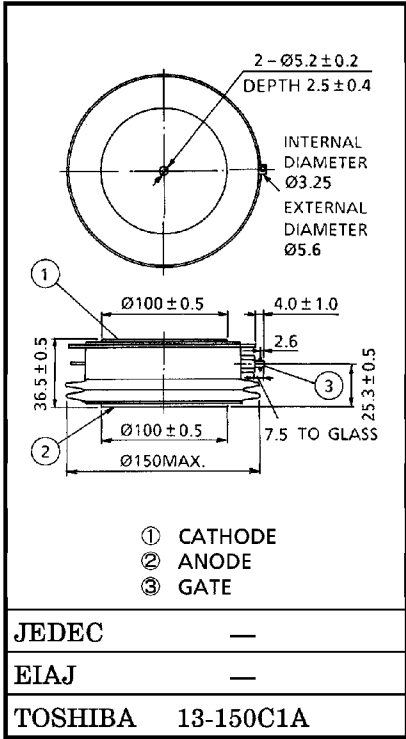
- Repetitive Peak Off-State Voltage : V_{DRM}
- Repetitive Peak Reverse Voltage : V_{RRM}
- Average On-State Current : $I_T(AV)=3000A$
- Light Trigger Power : $P_{LT} : 10mW (Max.)$
- Turn-Off Time : $t_q=400\mu s (Max.)$
- Critical Rate of Rise of On-State Current : $di / dt=300A / \mu s$
- Critical 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	$I_T(RMS)$	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	$A / \mu s$
Junction Temperature	T_j	$40\sim 125$	$^{\circ}C$
Storage Temperature Range	T_{stg}	$40\sim 125$	$^{\circ}C$
Mounting Force		78.4 ± 7.8	kN

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

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	13-150C1A

Weight : 3200g

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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}	$V_{\text{DRM}} = V_{\text{RRM}} = \text{Rated}$ $T_j = 125^\circ\text{C}$	—	250	mA
Peak On-State Voltage	V_{TM}	$I_{\text{TM}} = 10000\text{A}$, $T_j = 25^\circ\text{C}$	—	2.5	V
Light Trigger Power	P_{LT}	$V_{\text{D}} = 12\text{V}$, $R_{\text{L}} = 6\Omega$	$T_j = -40^\circ\text{C}$	—	mW
			$T_j = 25^\circ\text{C}$	10	
Delay Time	t_{d}	$V_{\text{D}} = 1/2 \text{ Rated}$	—	5	μs
Gate Turn-On Time	t_{gt}	$T_j = 25^\circ\text{C}$, $P_{\text{L}} = 20\text{mw}$	—	10	μs
Turn-Off Time	t_{q}	$I_{\text{T}} = 3000\text{A}$, $V_{\text{R}} \geq 200\text{V}$ $dv/dt = 25\text{V}/\mu\text{s}$, $T_j = 125^\circ\text{C}$ $V_{\text{DRM}} = 1/2 \text{ Rated}$	—	400	μs
Holding Current	I_{H}	$T_j = 25^\circ\text{C}$, $R_{\text{L}} = 6\Omega$	—	300	mA
Critical Rate of Rise of Off-State Voltage	dv/dt	$V_{\text{DRM}} = 1/2 \text{ Rated}$, $T_j = 125^\circ\text{C}$ Gate Open, Exponential Rise	1500	—	$\text{V}/\mu\text{s}$
Thermal Resistance (Junction to Case)	$R_{\text{th (j-f)}}$	DC	—	0.0075	$^\circ\text{C}/\text{W}$

