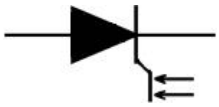
ChunZheng

高端电力电子器件和装置制造商

TL193-2500

光 控 晶 闸 管

- V_{DRM} = **6200- 6400 V**
- V_{RRM} = **6200- 6400 V**
- $I_{T(AV)}$ = **2005A** (T_C = 85 °C)
- $I_{T(AV)}$ = **2520A** (T_C = 70 °C)
- I_{TSM} = **55 kA** (T_j = 120 °C)
- P_{LM} = **40 mW**



- 光触发
- 低通态和开关损耗
- 叉指型放大门电路

最大额定数值

参数及测试条件	符号	数值	单位
Repetitive peak off-state voltage	V_{DRM}	6000, 6200, 6400	V
Repetitive peak reverse voltages	V_{RRM}	6000, 6200, 6400	
Repetitive peak off-state current / Repetitive peak reverse current T_j=120 °C, V_D / V_R = V_{DRM} / V_{RRM}	I_{DRM} / I_{RRM}	max.500	mA
Maximum average on-state current f = 50 Hz, double side cooling T_C=85 °C T_C=70 °C	$I_{T(AV)}$	 2005 2520	A
RMS on-state current, f=50 Hz, T_C=70 °C	I_{TRMS}	3956	
Surge current, V_R=0, T_j = 120 °C, t_p=10 mc	I_{TSM}	55	kA
Safety current, T_j=120 °C, t_p=10 mc	I^2t	15125	kA^2s
Critical rate of rise of on-state current, V=0.67V_{DRM} , I_T=5000 A, P_{LM}=40 mW, t_L=10 μs, t_{rise}=0.5 μs, f=50 Hz, T_j=120 °C	$(di_T/dt)_{crit}$	300	A/μs
Critical rate of rise of off-state voltage, V_D = 0.67V_{DRM}, T_j = 120 °C	$(dV_D/dt)_{crit}$	1000, 1600, 2000	V/μs
Minimum gate trigger light power, T_j = 25 °C, V_D = 12 V	P_{LM}	max. 40	mW
Operating temperature	T_j	-40… +120	˚C
Storage temperature	T_{stg}	-40… +50	

电学特性			
Maximum peak on-state voltage, I_T = 7850 A, T_j = 25 °C	V_{TM}	max. 2.75	V
On-state threshold voltage, T_j = 120 °C, I_T = 4000 - 12000 A	$V_{(TO)}$	max. 1.22	
On-state slope resistance, T_j = 120 °C, I_T = 4000 - 12000 A	r_T	max. 0.28	mΩ
Gate controlled delay time, V = 1000 V , I_T = 2500 A, P_{LM} = 40 mV, t_L = 10 μs, t_{rise} = 0.5 μs, T_j = 25 °C	t_d	max. 5.0	μs
Circuit-commutated turn-off time, I_T = 2500 A, di_T/dt = - 5 A/μs, V_R ≥ 100 V, V_D = 0.67V_{DRM}, (dV_D/dt) = 50 B/μs, T_j = 120 °C	t_q	typ. 630	
Recovery charge, di_T/dt = - 5 A/μs, T_j = 120 °C, I_T = 2500 A, V_R ≥ 100 V	Q_{rr}	max. 6000	μAs
Holding current, V_D =12 V, T_j = 25 °C	I_H	300	mA
Latching current, V_D = 12 V, T_j = 25 °C, P_{LM} = 40 mW, t_L = 10 μs, t_{rise} = 0.5 μs	I_L	1000	
热学参数			
Thermal resistance junction to case, sin 180°: double side cooled DC: double side cooled	R_{thjc} R_{thjc}	0.0067 0.0064	°C/W
Thermal resistance case to heatsink, double side cooled single side cooled	R_{thch}	0.0015 0.003	
力学参数			
Weight	w	typ. 3.0	kg
Clamping force	F	70 – 90	kN
Vibration resistance	a	50	m/s^2
Creepage distance	D_s	62	mm
Air strike distance	D_a	25.7	mm

TL193-2500--- 外形尺寸

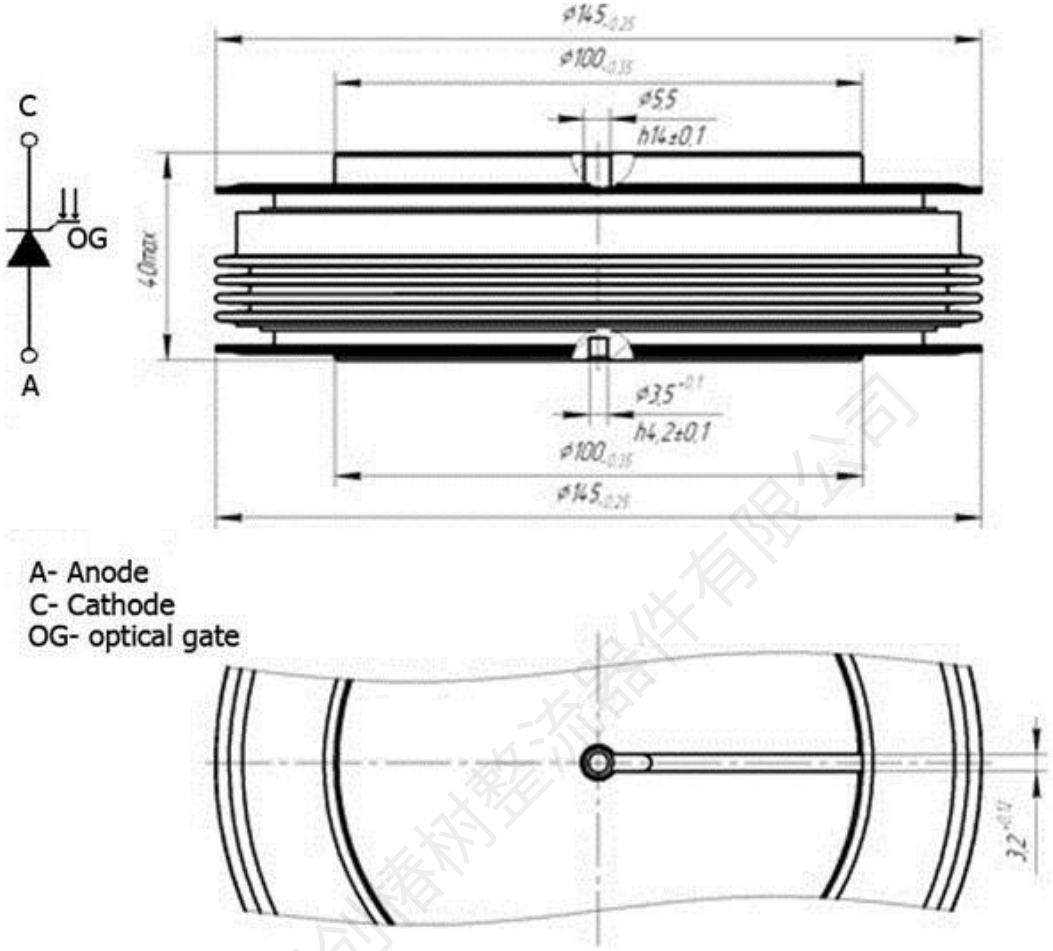


Fig. 1. Device Outline Drawing

(dimensions in mm)

