



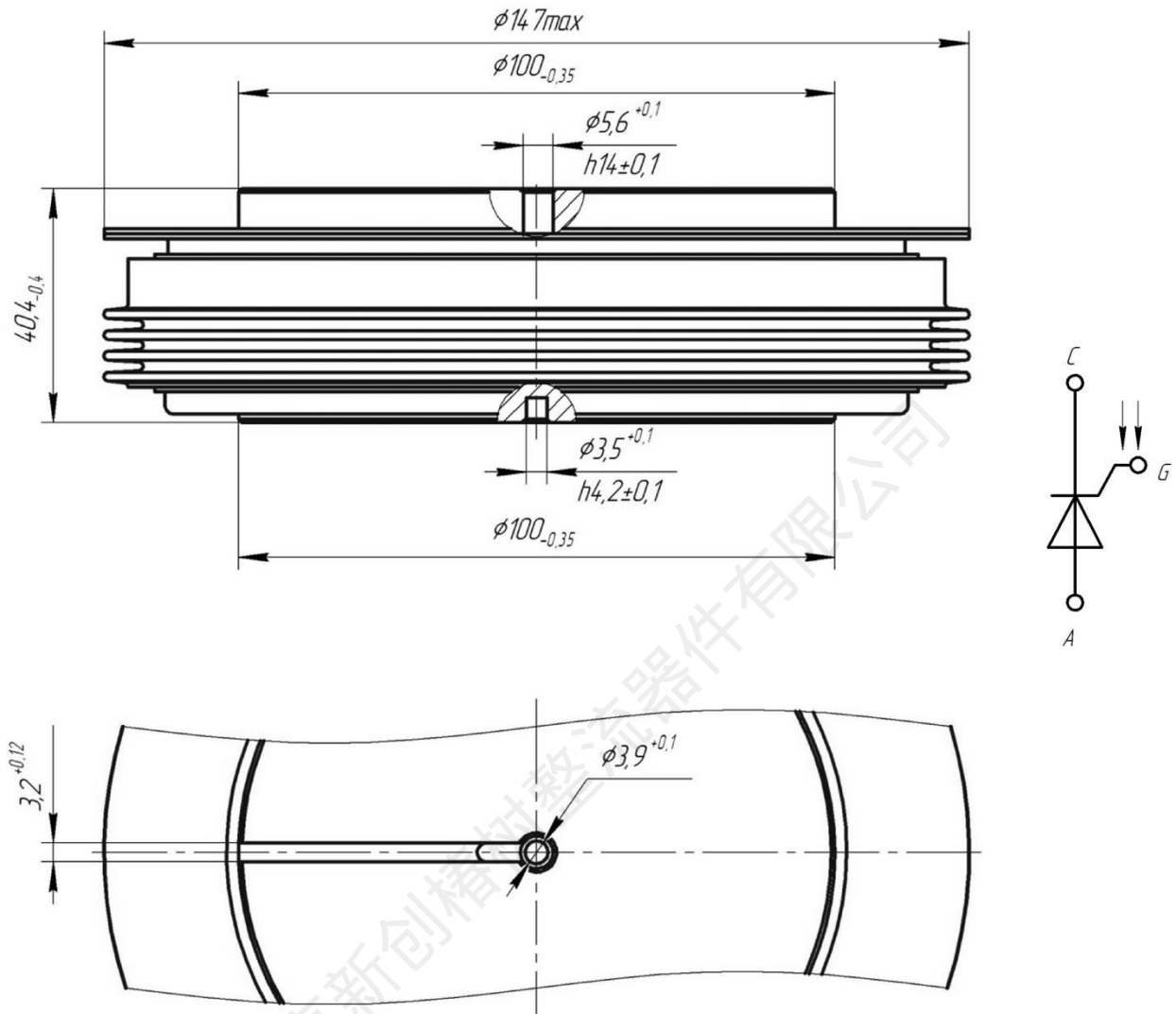
高端电力电子器件和装置制造商

TLI193-2000

脉冲光控晶闸管

<ul style="list-style-type: none"> ◆ $V_{DRM} = \underline{7000-7200\text{ V}}$ ◆ $V_{RRM} = \underline{7000-7200\text{ V}}$ ◆ $I_{TRM} = \underline{80\text{ kA}}$ ($t_p = 700\ \mu\text{s}$) ◆ $I_{T(AV)} = \underline{2083\text{ A}}$ ($T_C = 70\text{ }^\circ\text{C}$) ◆ $I_{TSM} = \underline{45\text{ kA}}$ ($T_j = 120\text{ }^\circ\text{C}$) ◆ $P_{LM} = \underline{25\text{ mW}}$ 			
<ul style="list-style-type: none"> ◆ 光触发 ◆ 低通态和开关损耗 ◆ 高通态电流临界上升率 			
最大额定数值			
参数及测试条件	符号	数值	单位
Repetitive peak off-state voltage, $T_j = -60 \dots +120\text{ }^\circ\text{C}$	V_{DRM}	7000-7200	V
Repetitive peak reverse voltage, $T_j = -60 \dots +120\text{ }^\circ\text{C}$	V_{RRM}	7000-7200	
Direct off-state voltage, $T_j = -60 \dots +120\text{ }^\circ\text{C}$	V_D	5000	
Direct reverse voltage, $T_j = -60 \dots +120\text{ }^\circ\text{C}$	V_R	5000	
Repetitive peak off-state current/ Repetitive peak reverse current, $T_j = 120\text{ }^\circ\text{C}$, $V_D / V_R = V_{DRM} / V_{RRM}$	I_{DRM} / I_{RRM}	300	mA
Average on-state current, $f = 50\text{ Hz}$, double side cooling $T_C = 85\text{ }^\circ\text{C}$ $T_C = 70\text{ }^\circ\text{C}$	$I_{T(AV)}$	1671 2083	A
Repetitive peak on-state current, $T_j = 25\text{ }^\circ\text{C}$, $V_D = V_{DRM}$, $t_p = 700\ \mu\text{s}$ (single pulse) $t_p = 10\text{ ms}$ (single pulse)	I_{TRM}	80 25	kA
Surge non-repetitive on-state current, $T_j = 120\text{ }^\circ\text{C}$, $V_R = 0$, $t_p = 10\text{ ms}$	I_{TSM}	45	kA
Critical rate of rise of on-state current, $T_j = 120\text{ }^\circ\text{C}$, $V_D = 0,67V_{DRM}$, $I_T = 5000\text{ A}$, $P_{LM} = 25\text{ mW}$, $t_L = 10\ \mu\text{s}$, $f = 1\text{ Hz}$ $f = 50\text{ Hz}$	$(di_T/dt)_{crit}$	5000 1000	A/ μs
Critical rate of rise of off-state voltage, $T_j = 120\text{ }^\circ\text{C}$, $V_D = 0,67V_{DRM}$	$(dv_D/dt)_{crit}$	1000	V/ μs
Minimum gate trigger light power, $T_j = 25\text{ }^\circ\text{C}$, $V_D = 12\text{ V}$	P_{LM}	25	mW
Operation junction temperature range	T_j	-40 ... +120	$^\circ\text{C}$
Storage temperature range	T_{stg}	-40 ... +50	$^\circ\text{C}$

电学特性					
参数及测试条件	符号	数值			单位
		min	typ.	max	
Peak on-state voltage, $T_j = 25\text{ }^\circ\text{C}$, $I_T = 7850\text{ A}$	V_{TM}	-	-	3,0	V
On-state threshold voltage, $T_j = 120\text{ }^\circ\text{C}$, $I_T = 4000 - 12000\text{ A}$	$V_{T(TO)}$	-	-	1,27	
On-state slope resistance, $T_j = 120\text{ }^\circ\text{C}$, $I_T = 4000 - 12000\text{ A}$	r_T	-	-	0,45	m Ω
Delay time, $T_j = 25\text{ }^\circ\text{C}$, $V_D = 1000\text{ V}$, $I_T = 2500\text{ A}$, $P_{LM} = 25\text{ mW}$, $t_L = 10\text{ }\mu\text{s}$, $t_{rise} = 0,5\text{ }\mu\text{s}$	t_d	-	-	5,0	μs
Turn off-time, $T_j = 120\text{ }^\circ\text{C}$, $I_T = 2500\text{ A}$, $di_T/dt = -5\text{ A}/\mu\text{s}$, $V_R \geq 100\text{ V}$, $V_D = 0,67V_{DRM}$, $dV_D/dt = 50\text{ V}/\mu\text{s}$	t_q	-	800	-	
Reverse recovery charge, $T_j = 120\text{ }^\circ\text{C}$, $I_T = 2500\text{ A}$, $di_T/dt = -5\text{ A}/\mu\text{s}$, $V_R \geq 100\text{ V}$	Q_{RR}	-	-	6000	μAs
Holding current, $T_j = 25\text{ }^\circ\text{C}$, $V_D = 12\text{ V}$	I_H	-	-	300	mA
Latching current, $T_j = 25\text{ }^\circ\text{C}$, $V_D = 12\text{ V}$, $P_{LM} = 25\text{ mW}$, $t_L = 10\text{ }\mu\text{s}$, $t_{rise} = 0,5\text{ }\mu\text{s}$	I_L	-	-	1000	
热学特性					
Thermal junction to case resistance, sin 180°: double side cooled DC: double side cooled	$R_{th(j-c)}$ $R_{th(j-c)}$	-	-	0,0067 0,0064	$^\circ\text{C}/\text{W}$
Thermal resistance case to heatsink, double side cooled single side cooled	$R_{th(c-h)}$	-	-	0,0015 0,0030	
力学特性					
Weight	w	-	3,0	-	kg
Clamping force	F	70	-	90	kN
Maximum acceleration (at nominal mounting force)	a	-	-	50	m/s ²
Minimal cathode-anode distance on insulator surface	D_s	-	62	-	mm
Air strike distance	D_a	-	27	-	mm



C – Cathode, A – Anode, G –Gate

Fig. 1. Device Outline Drawing (dimensions in mm)

Recommended optical interface cable – OA65.