



高端电力电子器件和装置制造商

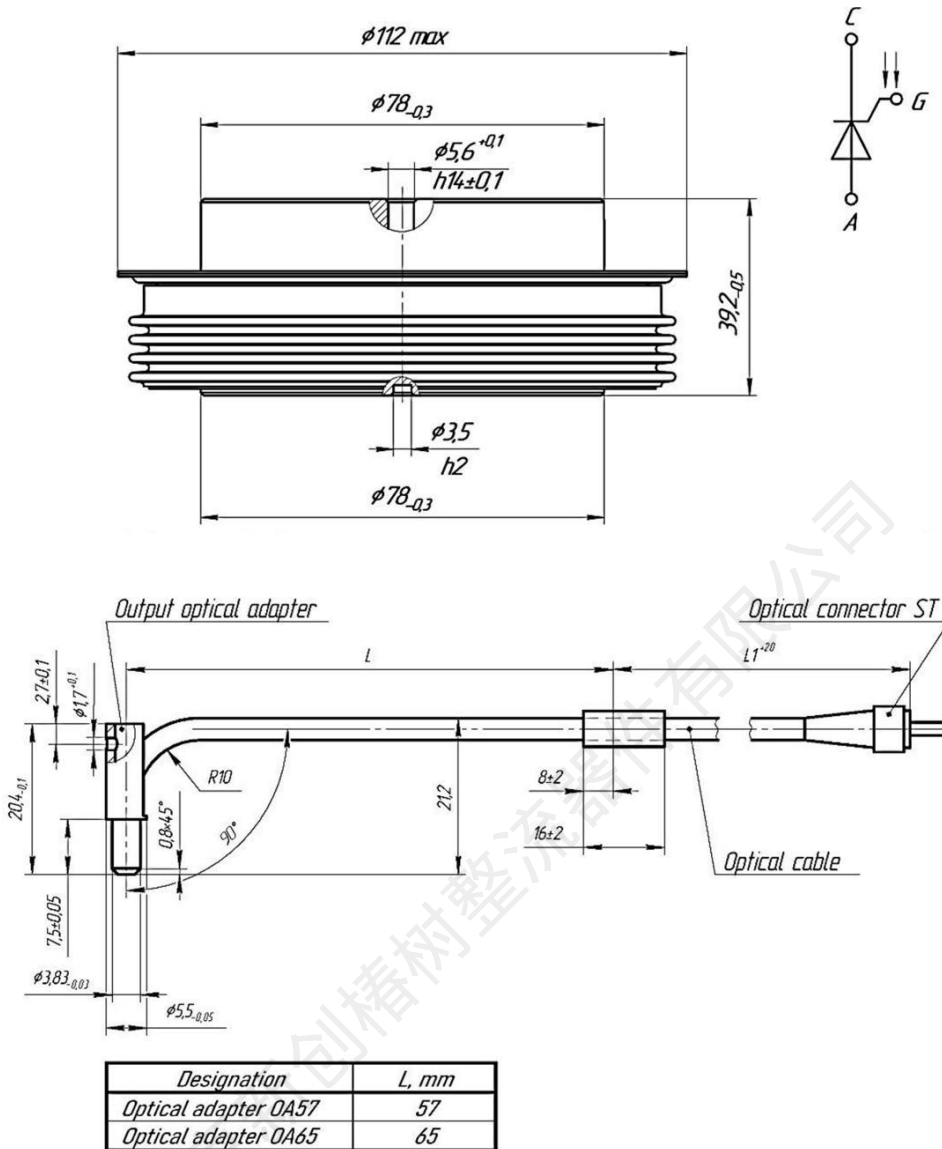
# TL273-1000

光控晶闸管

<ul style="list-style-type: none"> <li>◆ <math>V_{DRM} = \underline{6000 - 6400 V}</math></li> <li>◆ <math>V_{RRM} = \underline{6000 - 6400 V}</math></li> <li>◆ <math>I_{T(AV)} = \underline{1360 A}</math> (<math>T_C = 70\text{ }^\circ\text{C}</math>)</li> <li>◆ <math>I_{T(AV)} = \underline{1090 A}</math> (<math>T_C = 85\text{ }^\circ\text{C}</math>)</li> <li>◆ <math>I_{TSM} = \underline{24 kA}</math> (<math>T_j = 120\text{ }^\circ\text{C}</math>)</li> <li>◆ <math>P_{LM} = \underline{40 mW}</math></li> </ul>			
<ul style="list-style-type: none"> <li>◆ 光触发</li> <li>◆ 低通态和开关损耗</li> </ul>			
最大额定数值			
参数及测试条件	符号	数值	单位
Repetitive peak off-state voltage, $T_j = -40 \dots +120\text{ }^\circ\text{C}$	$V_{DRM}$	6000 - 6400	V
Repetitive peak reverse voltage, $T_j = -40 \dots +120\text{ }^\circ\text{C}$	$V_{RRM}$	6000 - 6400	
Non-repetitive peak off-state voltage, $T_j = -40 \dots +120\text{ }^\circ\text{C}$	$V_{DSM}$	6100 - 6500	
Non-repetitive peak reverse voltage, $T_j = -40 \dots +120\text{ }^\circ\text{C}$	$V_{RSM}$	6100 - 6500	
Repetitive peak off-state current/ Repetitive peak reverse current, $T_j = 120\text{ }^\circ\text{C}$ , $V_D / V_R = V_{DRM} / V_{RRM}$	$I_{DRM} / I_{RRM}$	200	mA
Average on-state current, $f = 50\text{ Hz}$ , double side cooling  $T_C = 85\text{ }^\circ\text{C}$ $T_C = 70\text{ }^\circ\text{C}$	$I_{T(AV)}$	1090 1360	A
RMS on-state current, $T_C = 70\text{ }^\circ\text{C}$ , $f = 50\text{ Hz}$	$I_{TRMS}$	2143	A
Surge non-repetitive on-state current, $T_j = 120\text{ }^\circ\text{C}$ , $V_R = 0$ , $t_p = 10\text{ ms}$	$I_{TSM}$	24	kA
Safety factor	$I^2t$	$2.9 \cdot 10^6$	$A^2s$
Critical rate of rise of on-state current, $T_j = 120\text{ }^\circ\text{C}$ , $V_D = 0.67V_{DRM}$ , $I_T = 2000\text{ A}$ , $P_{LM} = 40\text{ mW}$ , $t_L = 10\text{ }\mu\text{s}$ , $f = 50\text{ Hz}$	$(di_T/dt)_{crit}$	300	$A/\mu\text{s}$
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 - 2000	$V/\mu\text{s}$
Minimum gate trigger light power, $T_j = 25\text{ }^\circ\text{C}$ , $V_D = 12\text{ V}$	$P_{LM}$	40	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, $T_j = 25\text{ }^\circ\text{C}$ , $I_T = 3140\text{ A}$	$V_{TM}$	-	-	2.62	V
On-state threshold voltage, $T_j = 120\text{ }^\circ\text{C}$ , $I_T = 1500 - 5000\text{ A}$	$V_{T(TO)}$	-	-	1.20	
On-state slope resistance, $T_j = 120\text{ }^\circ\text{C}$ , $I_T = 1500 - 5000\text{ A}$	$r_T$	-	-	0.55	mΩ
Delay time, $T_j = 25\text{ }^\circ\text{C}$ , $V_D = 1000\text{ V}$ , $I_T = 1000\text{ A}$ , $P_{LM} = 40\text{ mW}$ , $t_L = 10\text{ }\mu\text{s}$ , $t_r = 0.5\text{ }\mu\text{s}$	$t_d$	-	-	5.0	$\mu\text{s}$
Turn off-time, $T_j = 120\text{ }^\circ\text{C}$ , $I_T = 1000\text{ A}$ , $di_T/dt = -5\text{ A}/\mu\text{s}$ , $V_R \geq 100\text{ V}$ , $V_D = 0.67V_{DRM}$ , $dV_D/dt = 50\text{ V}/\mu\text{s}$	$t_q$	-	630	-	
Reverse recovery charge, $T_j = 120\text{ }^\circ\text{C}$ , $I_T = 1000\text{ A}$ , $di_T/dt = -5\text{ A}/\mu\text{s}$ , $V_R \geq 100\text{ V}$	$Q_{RR}$	-	-	4000	$\mu\text{As}$
Holding current, $T_j = 25\text{ }^\circ\text{C}$ , $V_D = 12\text{ V}$	$I_H$	-	-	100	mA
Latching current, $T_j = 25\text{ }^\circ\text{C}$ , $V_D = 12\text{ V}$ , $P_{LM} = 40\text{ mW}$ , $t_L = 10\text{ }\mu\text{s}$ , $t_r = 0.5\text{ }\mu\text{s}$	$I_L$	-	-	1000	
热学参数					
Thermal junction to case resistance, sin 180°: double side cooled DC: double side cooled	$R_{th(j-c)}$ $R_{th(j-c)}$	-	-	0.0120 0.0112	$^\circ\text{C}/\text{W}$
Thermal resistance case to heatsink, double side cooled single side cooled	$R_{th(c-h)}$	-	-	0.003 0.006	
电学参数					
Weight	w	-	1.65	-	kg
Clamping force	F	40	-	48	kN
Maximum acceleration (at nominal mounting force)	a	-	-	50	$\text{m}/\text{s}^2$
Minimal cathode-anode distance on insulator surface	$D_s$	-	41	-	mm
Air strike distance	$D_a$	-	21.8	-	mm

# TL273-1000--- 外形尺寸



C – Cathode, A – Anode, G – Gate **Device**

**Outline Drawing** (dimensions in mm)

**Recommended optical interface cable – OA65.**