



**7830-0000-CD 780nm 3 mW Laser Diodes**

Specifications

Device Laser Diode  
 Package Type TO-18( 5.6mm)

●Absolute maximum ratings (Tc = 25°C)

Parameter	Symbol	Limits	Unit	
Output	Po	5	mW	
Reverse voltage	Laser	VR	2	V
	PIN photodiode	VR (PIN)	30	V
Operating temperature	Topr	-10~+60	°C	
Storage temperature	Tstg	-40~+85	°C	

●Electrical and optical characteristics (Tc = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Threshold current	I <sub>th</sub>	—	35	60	mA	—
Operating current	I <sub>op</sub>	—	45	70	mA	Po=3mW
Operating voltage	V <sub>op</sub>	—	1.9	2.3	V	Po=3mW
Differential efficiency	$\eta$	0.1	0.25	0.6	mW/mA	$\frac{2mW}{I(3mW)-I(1mW)}$
Monitor current	I <sub>m</sub>	0.1	0.2	0.6	mA	Po=3mW, VR(PIN)=15V
Parallel divergence angle	$\theta_{\parallel}^*$	8	11	15	deg	Po=3mW
Perpendicular divergence angle	$\theta_{\perp}^*$	20	37	45	deg	
Parallel deviation angle	$\Delta\theta_{\parallel}$	—	—	±2	deg	
Perpendicular deviation angle	$\Delta\theta_{\perp}$	—	—	±3	deg	
Emission point accuracy	$\Delta X$ $\Delta Y$ $\Delta Z$	—	—	±80	μm	—
Peak emission wavelength	$\lambda$	770	785	810	nm	Po=3mW
Signal-to-noise ratio	S / N	60	—	—	dB	f=720kHz, Δf=10kHz

\*  $\theta_{\parallel}$  and  $\theta_{\perp}$  are defined as the angle within which the intensity is 50% of the peak value.