

InGaAsP STRAINED MQW DC-PBH PULSED LASER DIODE MODULE FOR 1550 nm OTDR APPLICATION

NDL7553P SERIES

FEATURES

- **HIGH OUTPUT POWER:**
Pf = 145 mW at Ifp = 1000 mA¹
- **LONG WAVELENGTH:**
 λ_c = 1550 nm
- **COAXIAL MODULE WITHOUT THERMOELECTRIC COOLER**
- **SINGLE MODE FIBER PIGTAIL**

Note:

1. Pulse Conditions: Pulse width (PW) = 10 μ s, Duty = 1%.

DESCRIPTION

The NDL7553P Series is a 1550 nm newly developed Strained Multiple Quantum Well (st-MQW) structure pulsed laser diode coaxial module with single mode fiber. It is designed for a light source of optical measurement equipment (OTDR).

ELECTRO-OPTICAL CHARACTERISTICS (Tc = 25°C)

PART NUMBER			NDL7553P Series		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
V _{FP}	Forward Voltage, I _{FP} = 1000 mA, PW = 10 μ s, Duty = 1%	V		2.5	4.0
P _f	Optical Output Power from Fiber, I _{FP} = 1000 mA, PW = 10 μ s, Duty = 1%	mW	95	145	
I _{TH}	Threshold Current	mA		45	75
λ_c	RMS Center Wavelength, I _{FP} = 1000 mA, PW = 10 μ s, Duty = 1%	nm	1530	1550	1570
σ	RMS Spectral Width, I _{FP} = 1000 mA, PW = 10 μ s, Duty = 1%	nm		7.5	10.0
t _r	Rise Time, 10-90%	ns			2.0
t _f	Fall Time, 90-10%	ns			2.0

ELECTRO-OPTICAL CHARACTERISTICS (Tc = 0 to +60°C)

PART NUMBER			NDL7553P Series		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
I _{th}	Threshold Current	mA			100
P _f	Optical Output Power from Fiber, I _{FP} = 1000 mA, PW = 10 μ s, Duty = 1%	mW	60		
λ_c	RMS Center Wavelength, I _{FP} = 1000 mA, PW = 10 μ s, Duty = 1%	nm	1520		1585
$\Delta\lambda/\Delta T$	Temperature Dependency of Center Wavelength	nm/°C		0.35	
σ	RMS Spectral Width, I _{FP} = 1000 mA, PW = 10 μ s, Duty = 1%	dB			10

NDL7553P SERIES

ABSOLUTE MAXIMUM RATINGS¹

(T_c = 25°C, unless otherwise specified)

SYMBOLS	PARAMETERS	UNITS	RATINGS
I _{FP}	Pulsed Forward Current ²	A	1.2
V _R	Reverse Voltage	V	2.0
T _c	Operating Case Temperature	°C	-20 to +60
T _{STG}	Storage Temperature	°C	-40 to +85
T _{SLD}	Lead Soldering Temperature (10 sec)	°C	260

Notes:

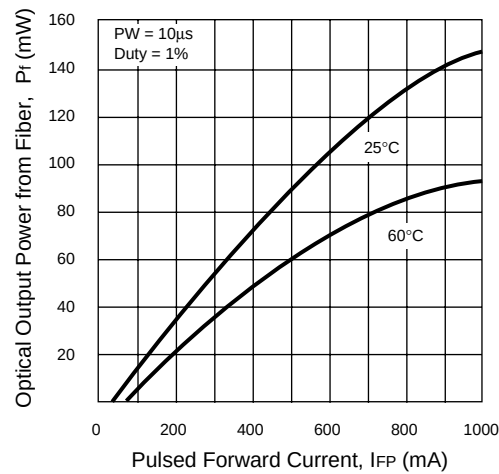
- 1. Operation in excess of any one of these parameters may result in permanent damage.
- 2. Pulse Condition: Pulse Width (PW) = 10 μs, Duty = 1 %.

ORDERING INFORMATION

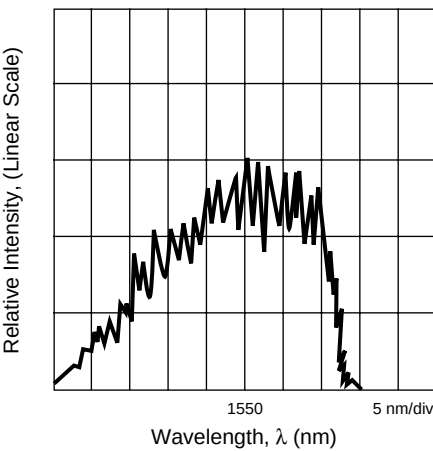
PART NUMBER	DESCRIPTION	FLANGE TYPE
NDL7553P	Without Connector	No Flange
NDL7553PC	With FC-PC Connector	
NDL7553PD	With SC-PC Connector	
NDL7553P1	Without Connector	Flat Mount Flange
NDL7553P1C	With FC-PC Connector	
NDL7553P1D	With SC-PC Connector	

TYPICAL PERFORMANCE CURVES (T_c = 25°C, unless otherwise specified)

OPTICAL OUTPUT POWER FROM FIBER vs. LD PULSE FORWARD CURRENT

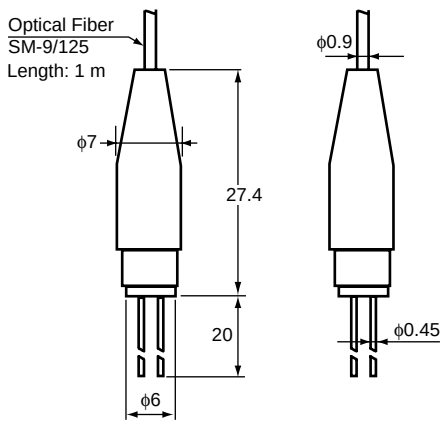


LONGITUDINAL MODE (FROM FIBER)

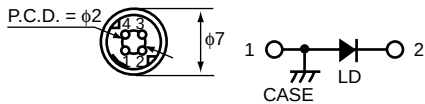


OUTLINE DIMENSIONS (Units in mm)

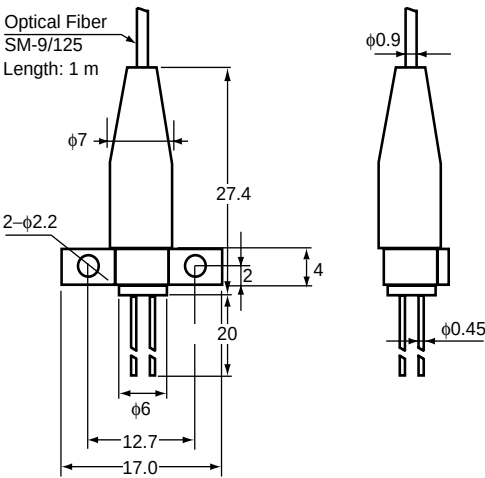
NDL7513P



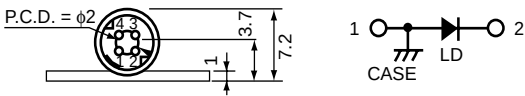
PIN CONNECTIONS



NDL7513P1



PIN CONNECTIONS



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