NEC

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

NDL7553P SERIES

FEATURES

- **HIGH OUTPUT POWER:**
  Pf = 145 mW at I_{FP} = 1000 mA[1]
- **LONG WAVELENGTH:**
  λ_C = 1550 nm
- **COAXIAL MODULE WITHOUT THERMOELECTRIC COOLER**
- **SINGLE MODE FIBER PIGTAIL**

Note:

1. Pulse Conditions: Pulse width (PW) = 10 μs, 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 (T_C = 25°C)

PART NUMBER			NDL7553P Series		
SYMBOLS	**PARAMETERS AND CONDITIONS**	**UNITS**	**MIN**	**TYP**	**MAX**
V_{FP}	Forward Voltage, I_{FP} = 1000 mA, PW = 10 μs, Duty = 1%	V		2.5	4.0
P_f	Optical Output Power from Fiber, I_{FP} = 1000 mA, PW = 10 μs, Duty = 1%	mW	95	145	
I_{TH}	Threshold Current	mA		45	75
λ_C	RMS Center Wavelength, I_{FP} = 1000 mA, PW = 10 μs, Duty = 1%	nm	1530	1550	1570
σ	RMS Spectral Width, I_{FP} = 1000 mA, PW = 10 μs, 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 (T_C = 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 μs, Duty = 1%	mW	60		
λ_C	RMS Center Wavelength, I_{FP} = 1000 mA, PW = 10 μs, 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 μs, Duty = 1%	dB			10

ABSOLUTE MAXIMUM RATINGS[1]

(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

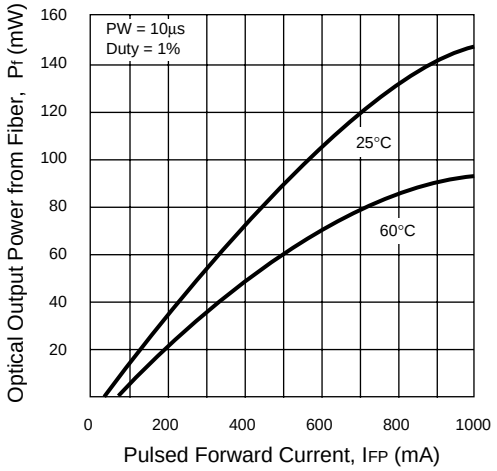
Notes:
1. Operation in excess of any one of these parameters may result in permanent damage.
2. Pulse Condition: Pulse Width (PW) = 10 μs, Duty = 1 %.

ORDERING INFORMATION

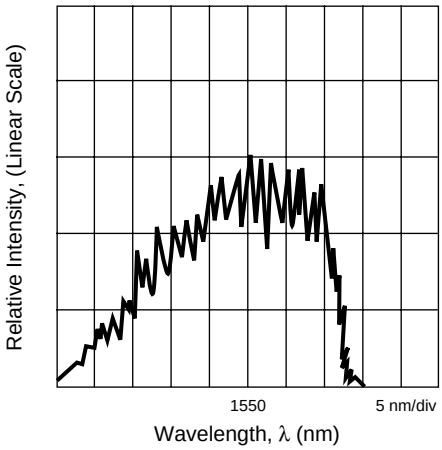
PART NUMBER	DESCRIPTION	FLANGE TYPE
NDL7553P	Without Connector	No Flange
NDL7553PC	With FC-PC Connector	
NDL7553PD	With SC-PC Connector	
NDL7553P1	Without Connector	Flat Mount Flange
NDL7553P1C	With FC-PC Connector	
NDL7553P1D	With SC-PC Connector	

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

OPTICAL OUTPUT POWER FROM FIBER vs. LD PULSE FORWARD CURRENT

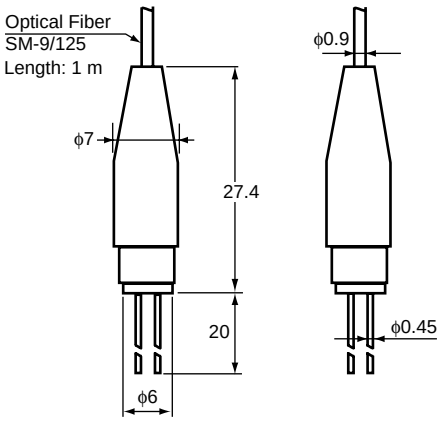


LONGITUDINAL MODE (FROM FIBER)

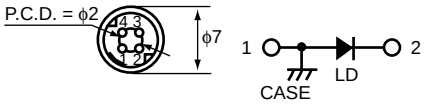


OUTLINE DIMENSIONS (Units in mm)

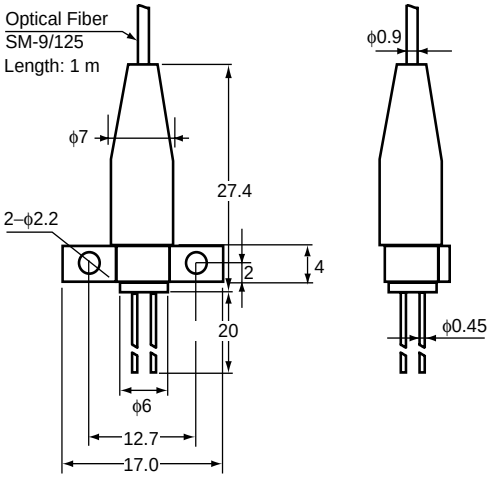
NDL7513P



PIN CONNECTIONS



NDL7513P1



PIN CONNECTIONS

