

**NEC**

# InGaAsP STRAINED MQW DC-PBH PULSED LASER DIODE MODULE FOR 1310 nm OTDR APPLICATION

**NX7361JB****FEATURES**

- **HIGH OUTPUT POWER:**  
 $P_f = 150 \text{ mW}$  at  $I_{FP} = 1000 \text{ mA}$   
 $PW = 10 \text{ ms}$ , Duty = 1%
- **LONG WAVELENGTH:**  
 $\lambda_c = 1310 \text{ nm}$
- **INTERNAL THERMOELECTRIC COOLER, THERMISTOR**
- **HERMETICALLY SEALED 14 PIN DUAL-IN-LINE PACKAGE**
- **SINGLE MODE FIBER PIGTAIL**

**DESCRIPTION**

The NX7361JB is a 1310 nm developed strained Multiple Quantum Well (st-MQW) structured pulsed laser diode DIP module with single mode fiber and internal thermoelectric cooler. It is designed for light sources of optical measurement equipment (OTDR).

**ELECTRO-OPTICAL CHARACTERISTICS** ( $T_{LD} = 25^\circ\text{C}$ ,  $T_c = -20$  to  $+65^\circ\text{C}$ , unless otherwise specified)

PART NUMBER			NX7361JB		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
$V_{FP}$	Forward Voltage, $I_F = 30 \text{ mA}$	V		2.5	4.0
$I_{TH}$	Threshold Current	mA		35	65
$P_f$	Optical Output Power from Fiber, $I_{FP} = 1000 \text{ mA}^1$ $I_{FP} = 600 \text{ mA}^1$ $I_{FP} = 400 \text{ mA}^1$	mW	150 90 40		
$\lambda_c$	Center Wavelength, RMS, $I_{FP} = 400, 600, 1000 \text{ mA}^1$	nm	1290	1310	1330
$\sigma$	Spectral Width, RMS, $I_{FP} = 400, 600, 1000 \text{ mA}^1$	nm		3.0	7.0
$t_r$	Rise Time, 10-90%	ns		1.0	2.0
$t_f$	Fall Time, 90-10%	ns		1.4	2.0

Note:

1.  $PW = 10 \mu\text{s}$ , Duty = 1%.**ELECTRO-OPTICAL CHARACTERISTICS****APPLICABLE TO THERMISTOR AND TEC:** ( $T_{LD} = 25^\circ\text{C}$ ,  $T_c = -20$  to  $+65^\circ\text{C}$ , unless otherwise specified)

PART NUMBER			NX7361JB		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
R	Thermistor Resistance, $T_{LD} = 25^\circ\text{C}$	R	9.5	10.0	10.5
B	B Constant	K	3300	3400	3500
$I_c$	Cooler Current, $\Delta T = 40 \text{ K}$	A		0.6	1.0
$V_c$	Cooler Voltage, $\Delta T = 40 \text{ K}$	V		1.1	1.5
$\Delta T^1$	Cooling Capacity, $I_c = 0.8 \text{ A}$	K	40		

Notes:

1.  $\Delta T = |T_c - T_{LD}|$ .

# ABSOLUTE MAXIMUM RATINGS<sup>1</sup>

(T<sub>c</sub> = 25°C, unless otherwise specified)

SYMBOLS	PARAMETERS	UNITS	RATINGS
IFP	Pulsed Forward Current <sup>2</sup>	A	1.2
V <sub>R</sub>	Reverse Voltage	V	2.0
I <sub>c</sub>	Cooler Current	A	1.0
V <sub>c</sub>	Cooler Voltage	V	2.0
I <sub>t</sub>	Thermistor Current	mA	0.5
V <sub>t</sub>	Thermistor Voltage	V	12.0
T <sub>c</sub>	Operating Case Temperature	°C	-20 to +65
T <sub>STG</sub>	Storage Temperature	°C	-40 to +70
T <sub>SLD</sub>	Lead Soldering Temperature (10 sec)	°C	260

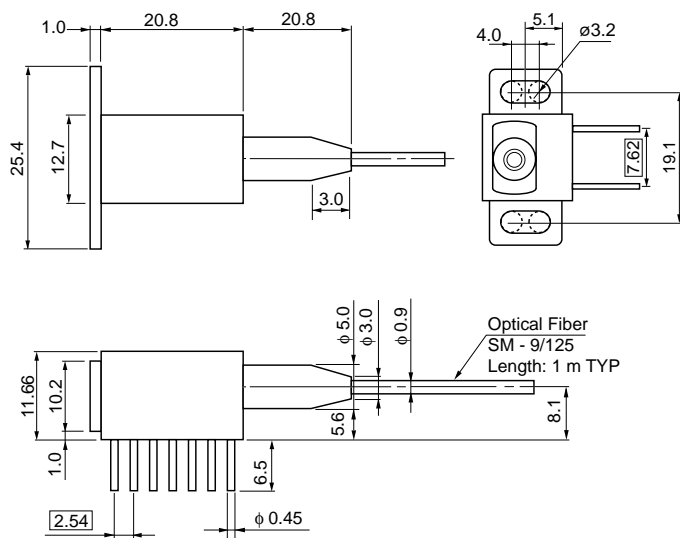
Notes:

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 %.

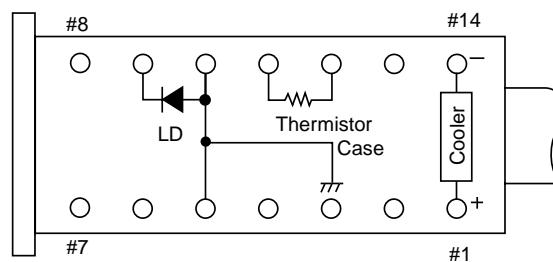
# ORDERING INFORMATION

PART NUMBER	AVAILABLE CONNECTOR
NX7361JB	Without Connector
NX7361JB-BA	With FC-PCConnector

# OUTLINE DIMENSIONS (Units in mm)



**BOTTOM VIEW**



**PIN CONNECTIONS**

PIN No.	FUNCTION	PIN No.	FUNCTION
1	COOLER ANODE	8	NC
2	NC	9	LASER CATHODE
3	NC	10	LASER ANODE, CASE GROUND
4	NC	11	THERMISTOR
5	LASER ANODE, CASE GROUND	12	THERMISTOR
6	NC	13	NC
7	NC	14	COOLER CATHODE

## Life Support Applications

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