

NEC

InGaAsP STRAINED MQW DC-PBH PULSED LASER DIODE MODULE FOR 1625 nm OTDR APPLICATION

NX7661JB**FEATURES**

- **HIGH OUTPUT POWER:**
 $P_f = 120$ mW MIN at $I_{FP} = 1000$ mA,
Pulse width (PW) = 10 ms, Duty = 1 %
- **LONG WAVELENGTH:**
 $\lambda_c = 1625$ nm
- **INTERNAL THERMOELECTRIC COOLER, THERMISTOR**
- **HERMETICALLY SEALED 14 PIN DUAL-IN-LINE PACKAGE**
- **SINGLE MODE FIBER PIGTAIL**

DESCRIPTION

The NX7661JB is a 1625 nm developed strained Multiple Quantum Well (st-MQW) structure pulse 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			NX7661JB		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
V_{FP}	Forward Voltage, CW, $I_F = 30$ mA	V			4.0
I_{TH}	Threshold Current, CW	mA		30	70
P_f	Optical Output Power from Fiber, $I_{FP} = 1000$ mA, PW = 10 μs , Duty = 1 %	mW	120		
λ_c	Center Wavelength, RMS, $I_{FP} = 1000$ mA, PW = 10 μs , Duty = 1 %	nm	1615	1625	1635
σ	Spectral Width, RMS, $I_{FP} = 1000$ mA, PW = 10 μs , Duty = 1 %	nm		7.0	15.0
t_r	Rise Time, 10-90%	ns			2.0
t_f	Fall Time, 90-10%	ns			2.0

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			NX7561JB		
SYMBOLS	PARAMETERS AND CONDITIONS	UNITS	MIN	TYP	MAX
R	Thermistor Resistance, $T_{LD} = 25^\circ\text{C}$	k Ω	9.5	10.0	10.5
B	B Constant	K	3300	3400	3500
I_c	Cooler Current, $\Delta T = 40$ K	A		0.6	0.8
V_c	Cooler Voltage, $\Delta T = 40$ K	V		1.1	1.5
ΔT^1	Cooling Capacity, $I_c = 0.8$ A	K	40		

Note:

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

ABSOLUTE MAXIMUM RATINGS¹

(Tc = 25°C, unless otherwise specified)

SYMBOLS	PARAMETERS	UNITS	RATINGS
IFP	Pulsed Forward Current ²	A	1.2
VR	Reverse Voltage	V	2.0
Ic	Cooler Current	A	1.0
Vc	Cooler Voltage	V	2.0
It	Thermistor Current	mA	0.5
Vt	Thermistor Voltage	V	12.0
Tc	Operating Case Temperature	°C	-20 to +65
TSTG	Storage Temperature	°C	-40 to +70
TSLD	Lead Soldering Temperature (10 sec)	°C	260

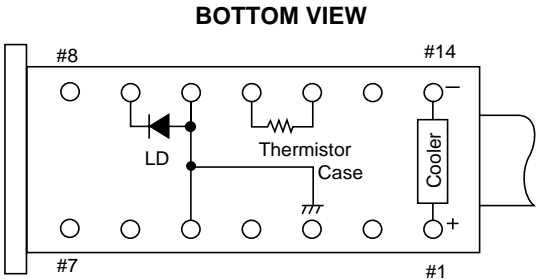
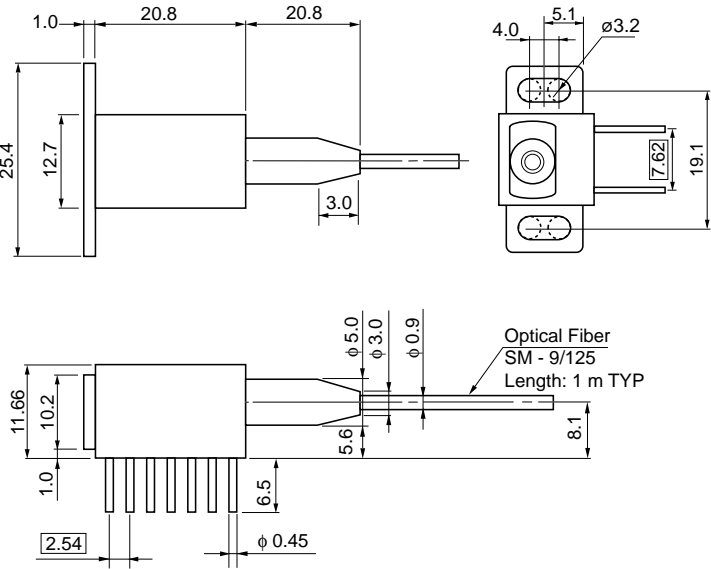
Notes:

- 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
NX7661JB	Without Connector
NX7661JB-BA	With FC-PC Connector

OUTLINE DIMENSIONS (Units in mm)



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

These NEC products are not intended for use in life support devices, appliances, or systems where the malfunction of these products can reasonably be expected to result in personal injury. The customers of CEL using or selling these products for use in such applications do so at their own risk and agree to fully indemnify CEL for all damages resulting from such improper use or sale.

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