



iC-NZ EVAL NZ1D

3.5V to 5.5V Laser Diode Evaluation Board

iC-NZ EVAL NZ1D

3.5V to 5.5V LASER DIODE EVALUATION BOARD

BOARD NZ1D

(size 100 mm x 80 mm)

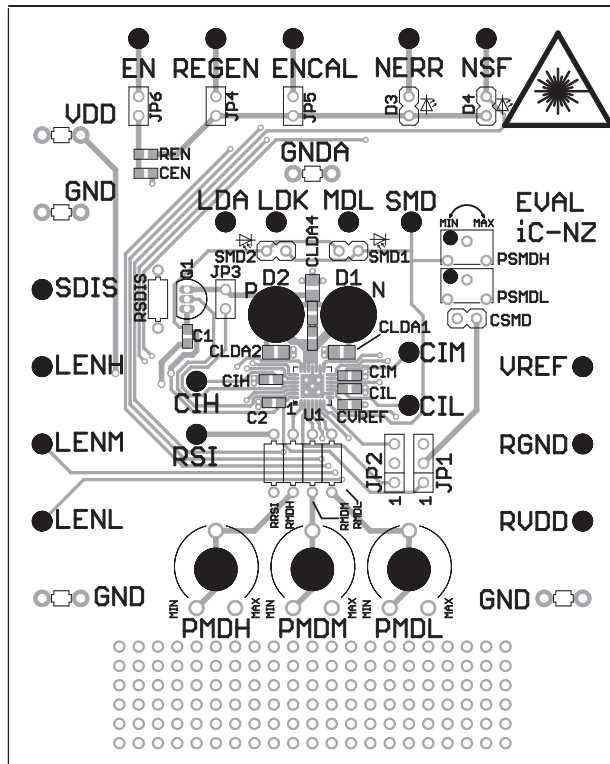


Figure 1: Component side

TERMINAL DESCRIPTION

VDD	+5 V Supply Voltage
GND	Ground
SDIS	External Current Limitation
LENH	Enable Laser Channel Hi
LENM	Enable Laser Channel Mid
LENL	Enable Laser Channel Lo
RVDD	Reference (P-type laser diodes)
RGND	Internal Ground
VREF	Reference Voltage
NSF	No-Safety Signal
NERR	Error Output (low active)
ENCAL	Enable Calibration
REGEN	Regulator Enable
EN	Enable Input
GNDA	Analog Ground
LDA	Anode Laser Diode
LDK	Cathode Laser Diode
MDL	APC Setup, Monitor Input Lo
SMD	Safety Monitor Diode
RSI	Current Monitor Setup

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SCHEMATIC

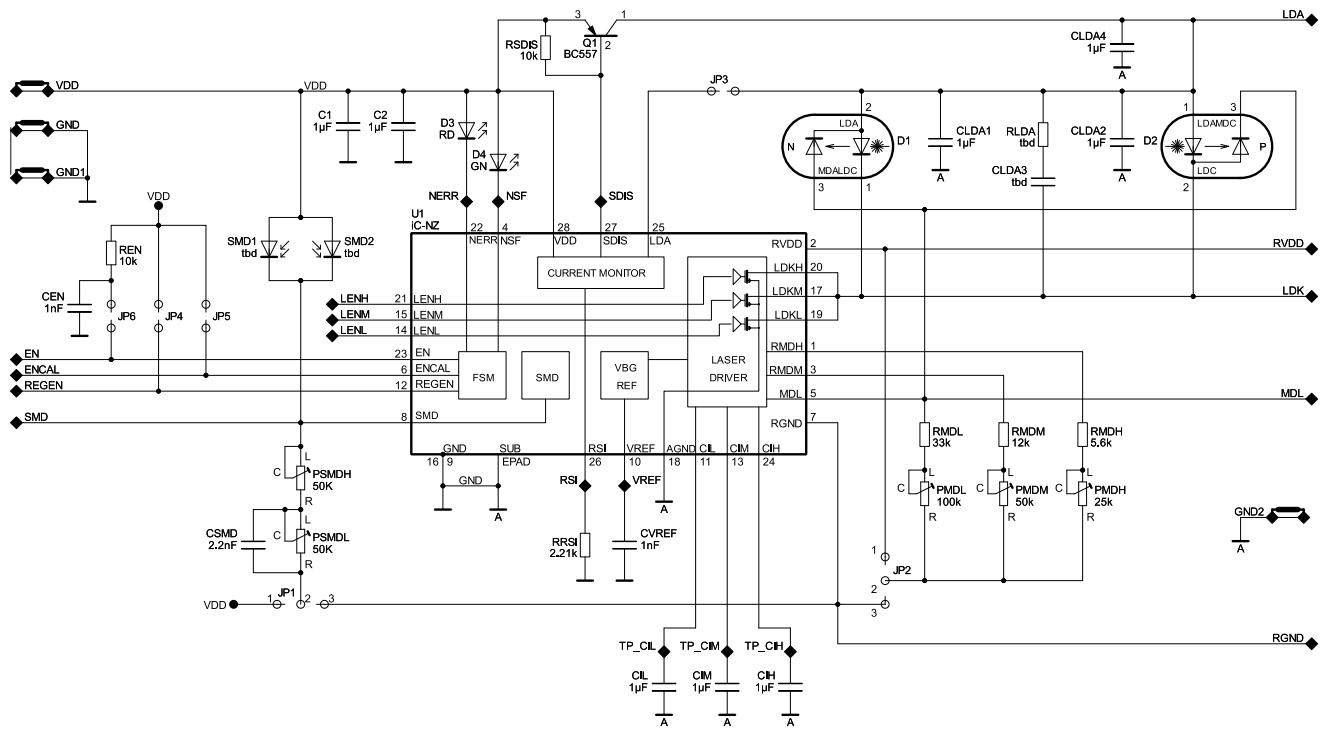


Figure 2: Circuit diagram including optional components

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JUMPER DESCRIPTION

Jumper	Jumper Configuration	Comments
JP1, JP2	1-2 (JP1) & 1-2 (JP2)	No-Safety mode for P-type laser diode (ENCAL level: HIGH)
	1-2 (JP1) & 2-3 (JP2)	No-Safety mode for N-type laser diode (ENCAL level: HIGH)
	2-3 (JP1) & 1-2 (JP2)	Safety mode for P-type laser diode (ENCAL level: LOW)
	2-3 (JP1) & 2-3 (JP2)	Safety mode for N-type laser diode (ENCAL level: LOW)
JP3	bridged	Laser supply
JP4	bridged	Enable Regulator
JP5	bridged	Enable No-Safety mode
JP6	bridged	Enable iC-NZ

Note: Highlighted jumper configurations indicate shipment setup.

ASSEMBLY PART LIST

Device	Value (typical)	Comment
U1	iC-NZ	Fail-Safe Laser Diode Driver IC
C1	1 uF	Blocking capacitor (ceramic)
C2	1 uF	Optional: Blocking capacitor (ceramic)
CIL	1 uF	Low channel control capacitor (SMT 0603, ceramic)
CIM	1 uF	Medium channel control capacitor (SMT 0603, ceramic)
CIH	1 uF	High channel control capacitor (SMT 0603, ceramic)
CLDA	1 uF	LDA backup capacitor (SMT 0603, ceramic)
CSMD	2.2 uF	Capacitor for peak power monitoring (ceramic)
CVREF	1 uF	Reference voltage capacitor (Ceramic)
CEN	1 nF	
JP7, JP8	0 Ω	Ground connect
REN	10 k Ω	
D1		N-type laser diode
D2		P-type laser diode
SMD1		Optional: Safety monitor photo diode N
SMD2		Optional: Safety monitor photo diode P
JP1, JP2		See jumper configuration
JP3 - JP6		See jumper configuration
D3	LED	Error indicator LED; on = error
D4	LED	No-Safety indicator LED; on = safety mode

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Device	Value (typical)	Comment
PMDH	25 k Ω	High channel power setup
PMDM	50 k Ω	Medium channel power setup
PMDL	100 k Ω	Low channel power setup
PSMDH	50 k Ω	Peak power monitor level adjustment (SMD multi-turn potentiometer)
PSMDL	50 k Ω	Average power monitor level adjustment (SMD multi-turn potentiometer)
RMDH	5.6 k Ω	High channel level limiting resistor
RMDM	12 k Ω	Medium channel limiting resistor
RMDL	33 k Ω	Low channel limiting resistor
RRSI	2.21 k Ω	Current adjustment resistor
Q1	BC557	Optional: External laser current control from SDIS (PNP transistor)
RSDIS	10 k Ω	Optional: Q1 emitter-base resistor

Please note: Global Laser reserve the right to change descriptions and specifications without notice.



For further information about any of our products please contact your local distributor or you can contact Global Laser in the UK. Your Local Distributor is:

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