Poke-home Connector MCPCB
with thermistor for LZP emitter family

LZP-H0xxT1

4x6 configuration

Key Features

- Poke-home connectors already mounted on the MCPCB for easy connections
- 1-channel configuration allows for easy driver control for LZP emitters
- Very low Thermal Resistance for MCPCB adds only 0.1°C/W
- Zener Diodes for ESD protection
- On-board thermistor for common constant current source with thermal feedback option
- LuxiGen LZP Lens family (15° / 23° / 32°) holders align with the MCPCB cutouts
- Optional center die control for custom emitters

Description

The LZP-HxxxT1, MCPCB with three 2-pin poke-home connectors provides a convenient method to connect LED Engin's LZP emitters. One 2 pin poke-home connector supports 4 parallel strings of 6 die in series; a second one is for connecting to the thermistor, and a third one is available for an optional center die for custom emitters. Four recessed features allow the use of M3 or #4-40 screws to mount the MCPCB to a heat sink. There are additional mounting holes for the complementary TIR lenses and Zener diodes for enhanced ESD protection.

Standard Product Part Numbers

additional parts based on emitter nomenclature

LZP-H0WWT1	LZP-series, Warm White 24 die emitter mounted on connector board in 4x6 configuration with 1000kΩ thermistor
LZP-H0NWT1	LZP-series, Nuetral White 24 die emitter mounted on connector board in 4x6 configuration with 1000kΩ thermistor
LZP-H0CWT1	LZP-series, Cool White 24 die emitter mounted on connector board in 4x6 configuration with 1000kΩ thermistor

Thermistor Options

Part Designator	Thermistor type	Resistance @ 25°
-T1	Murata, PN: NCP15WF104F03RC	100kΩ

$R\Theta_{J-B}$ Lookup Table

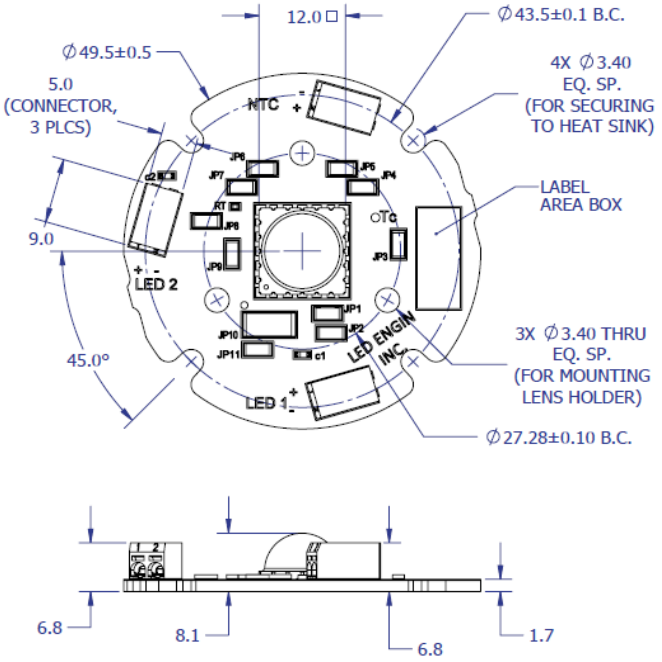
Product	Emitter Θ_{J-C}		MCPCB $R\Theta_{C-B}$		Emitter + MCPCB $R\Theta_{J-B}$
LZP-HMCPCB	0.6°C/W	+	0.1°C/W	=	0.7°C/W

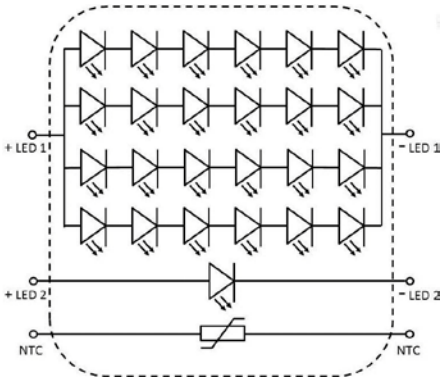
- $R\Theta_{J-B}$ is the combined thermal resistance from the LED die junction to the copper core on MCPCB ($R\Theta_{J-C} + R\Theta_{C-B} = R\Theta_{J-B}$).

Operating Temperatures:

Maximum Operation Temperature measured at Tc or thermistor: 90°C

Emitter on 2-channel MCPCB Dimensions (mm)





Ch.	Pad	Emitter pin	Function
1	LED1+	14, 15, 17, 18	Anode
	LED1-	8, 5, 3, 24	Cathode
2	LED2+	2	Anode
	LED2-	23	Cathode
T	NTC	na	Terminal
	NTC	na	Terminal

Note for Figure 1:

- Unless otherwise noted, the tolerance = ± 0.2 mm. angle = ± 1°
- Slots in MCPCB are for M3 or #4-40 mounting screws. Maximum torque should not exceed 1N-m (8.9 lbf-in)
- LED Engin recommends plastic washers to electrically insulate screws from solder pads and electrical traces.
- LED Engin recommends using thermally conductive interface material when attaching the MCPCB to a heatsink
- Use solid or stranded wires with gauge size, 18, 20, 22 or 24AWG. See section on Wire Insertion and Extraction for further instructions.

Components used

MCPCB:	SuperMCPCB (copper)	(Bridge Semiconductor)
ESD chips:	BZX585-C30	(NXP, for 6 LED dies in series)
	BZX585-C9	(NXP, for optional center die)
Thermistor:	NCP15WF104F03RC	(Murata, 100kOhm)
Connectors:	00-9276-002-0-21-1-06	(AVX, poke-home)

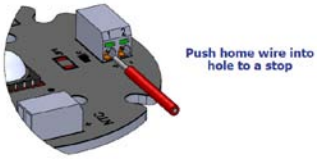
Wire Insertion and Extraction Instructions

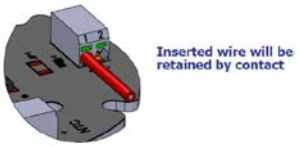
For the connectors it is recommended to use solid or stranded wires with gauge size, 18, 20 , 22 or 24AWG. Push in and then give slight tug on the wire to confirm that it is properly engaged.

Extraction Tool References:
Thin Blade Wire Extraction Tool: AVX P/N - 0692-7670-0101-000
Miniature Precision Screw Driver, 0.047" Tip Width

Wire Insertion
Solid conductor

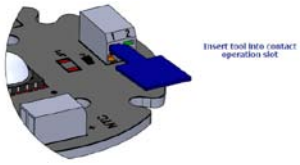
- Strip insulation length 4-5mm
- Insert into appropriate hole to a stop
- Inserted wire will be retained by contact

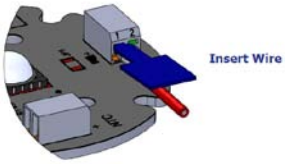




Stranded wire conductor

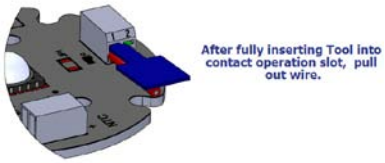
- Twist strands together
- Insert tool into contact operation slot
- Insert wire
- Remove tool





Wire extraction

- Insert tool into contact
- Extract wire
- Remove tool



Company Information

LED Engin, based in California's Silicon Valley, specializes in ultra-bright, ultra compact solid state lighting solutions allowing lighting designers & engineers the freedom to create uncompromised yet energy efficient lighting experiences. Our LuxiGen™ Platform— an emitter and lens combination or integrated module solution, delivers superior flexibility in light output, ranging from 3w to 90w, a wide spectrum of available colors, including whites, multi-color and UV, and the ability to deliver upwards of 5,000 high quality lumens to a target. The small size, yet remarkably powerful output, allows for a previously unobtainable freedom of design wherever high-flux density, directional light is required. www.LED Engin.com

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