LZC emitter on
1 channel 2x6 connectorized MCPCB with thermistor

LZC-FxxxT1

Key Features

- Supports 6 LED dies in series twice, connected in parallel
- Very low thermal resistance for MCPCB adds only 0.6°C/W
- Multiple mounting and attachment options
- 1-channel configuration for 2x6 allows for easy driver connection
- MCPCB contains Zener Diodes for ESD protection
- LED Engin LZC Lens family (8 to 45deg) aligns with the MCPCB cutouts
- One poke-home/in connectors already mounted on the MCPCB for easy connections
- One poke-home/in connector for the on board thermistor
- 49.9mm diameter star MCPCB

Description

The LZC-FxxxT1 MCPCB with two 2-pin poke-in connectors provides a convenient method to mount LED Engin's LZC emitters. The four recessed features allow the use of M3 or #4-40 screws to attach the MCPCB to a heat sink. The MCPCB has a 2 pin poke-home connector for electrical connections as well as a 2 pin poke-in connector for control of the thermistor. The MCPCB also contains a Zener diode for enhanced ESD protection.

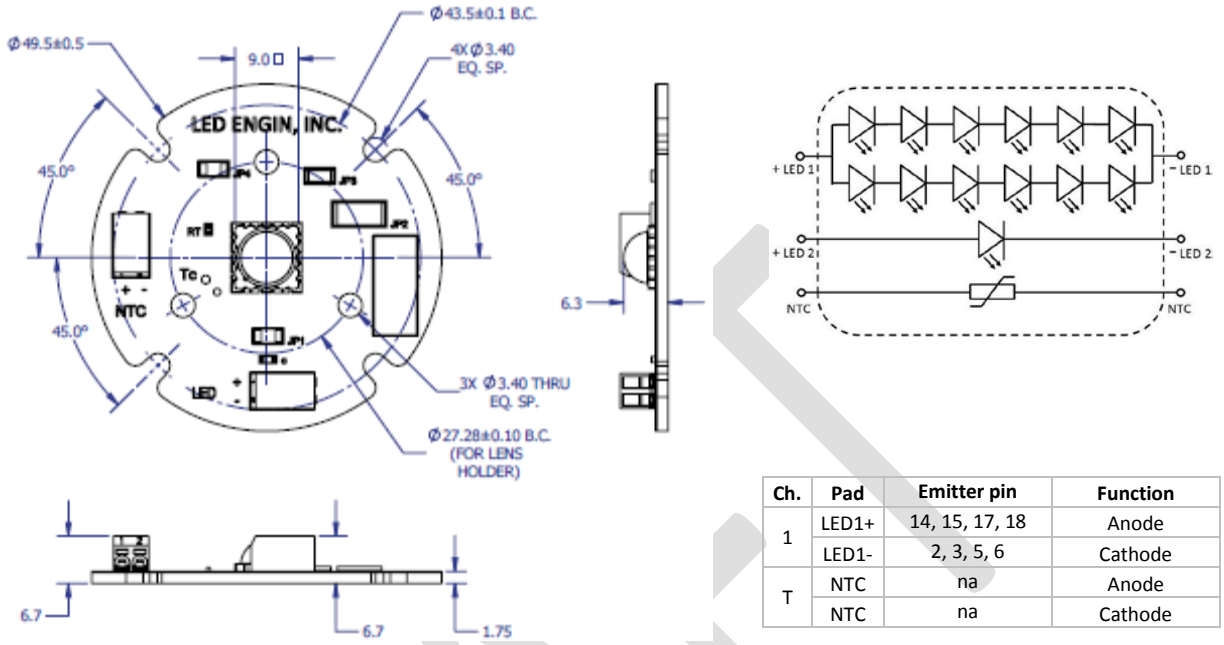
RΘJ-B Lookup Table

Product	**Emitter Θ_{J-C}**		**MCPCB $R\Theta_{C-B}$**		**Emitter + MCPCB $R\Theta_{J-B}$**
LZC-Fxxxxx	0.7°C/W	+	0.6°C/W	=	1.3°C/W

Note for table 1

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

Emitter on 1-channel MCPCB Dimensions (mm)



Ch.	Pad	Emitter pin	Function
1	LED1+	14, 15, 17, 18	Anode
	LED1-	2, 3, 5, 6	Cathode
T	NTC	na	Anode
	NTC	na	Cathode

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 interface material when attaching the MCPCB to a heatsink
- For the connectors it is recommended to use solid wires with gauge size, 18, 20 or 22 AWG. It is recommended to strip the insulation of the wires to a length of 4-5mm. When stranded wires are used it is recommended to twists the strands at the end of the wire and use wire extraction toll to insert the wires.

Components used

MCPCB:	HT04503	(Bergquist)
ESD chips:	BZT52C36LP	(NXP, for 6 LED dies in series)
Thermistor:	NCP15WF104F03RC	(Murata, 100kOhm)
Connectors:	00-9276-002-0-21-1-06	(AVX, poke-home)

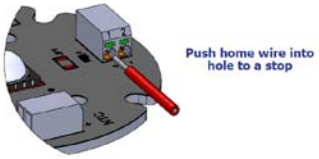
Wire Insertion and Extraction Instructions

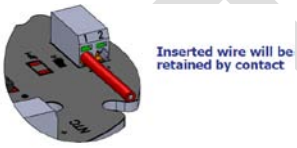
For the connectors it is recommended to use solid wires with gauge size, 18, 20 or 22 AWG. Push in and then give slight tug on the wire to confirm that it is properly engaged.

Wire Insertion

Solid conductor

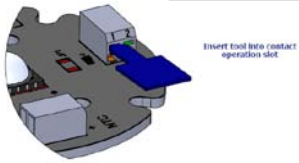
- Strip insulation length 4-5mm
- Insert into appropriate hole to a stop
- Inserted wire will be retained by contact

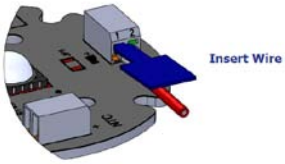




Stranded wire conductor

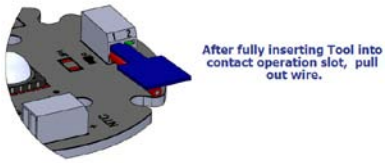
- Twist strands together
- Insert tool into contact operation slot
- Insert wire
- Remove tool





Wire extraction

- Insert tool into contact
- Extract wire
- Remove tool



Extraction Tool References:

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

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.
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