



**SOLUTION FOR
LED LIGHTING**

ELECTRONICS MANUFACTURING SERVICES

TRON MODULES

ZHAGA STANDARD

- ✓ ZHAGA, BOOK 7 STANDARD COMPATIBLE
- ✓ 5 YEARS WARRANTY
- ✓ FLEXIBLE PARAMETERS
- ✓ VARIABLE CONNECTIVITY
- ✓ Selectable color temperatures:
ANSI 2.700 K - 6.500 K
- ✓ 3 SDCM chromaticity accuracy
- ✓ CRI80 or CRI90
- ✓ Optional - EMERGENCY and STATUS channel



LG LED MODULES - SELECTION

dimensions	weight	storage temperature	ambient temp. - Ta	operating temp. - Tc	max. humidity	lifetime L70
250 x 250 mm	175 g	-40 °C ... +85 °C	-30 °C ... +45 °C	-30 °C ... +70 °C	80 %	50.000 hours
250 x 500 mm	230 g	-40 °C ... +85 °C	-30 °C ... +45 °C	-30 °C ... +70 °C	80 %	50.000 hours
40 x 280 mm	40 g	-40 °C ... +85 °C	-30 °C ... +45 °C	-30 °C ... +70 °C	80 %	50.000 hours
40 x 560 mm	80 g	-40 °C ... +85 °C	-30 °C ... +45 °C	-30 °C ... +70 °C	80 %	50.000 hours
20 x 280 mm	10 g	-40 °C ... +85 °C	-30 °C ... +45 °C	-30 °C ... +70 °C	80 %	50.000 hours
20 x 560 mm	20 g	-40 °C ... +85 °C	-30 °C ... +45 °C	-30 °C ... +70 °C	80 %	50.000 hours
24 x 560 mm	20 g	-40 °C ... +85 °C	-30 °C ... +45 °C	-30 °C ... +70 °C	80 %	50.000 hours

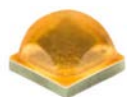
MADE BY TRON ASSEMBLY LINES

- ✓ in-house production
- ✓ 5 independent lines
- ✓ 120.000 LEDs/hour performance

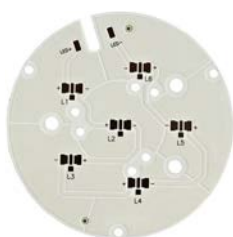
TRON MODULES

STANDARD MCPCBs

- ✓ PRACTICAL SOLUTION FOR CREE POWER LEDs
- ✓ Aluminium board **efficiently transfers heat** into housing or heatsink



CREE XP-L2



TR22-6M



TR51-1



TR58-1



TR21-3M



TR20-1M



TR57-3



TR23-11M



TR59-3



CREE XM-L2



TR50-1

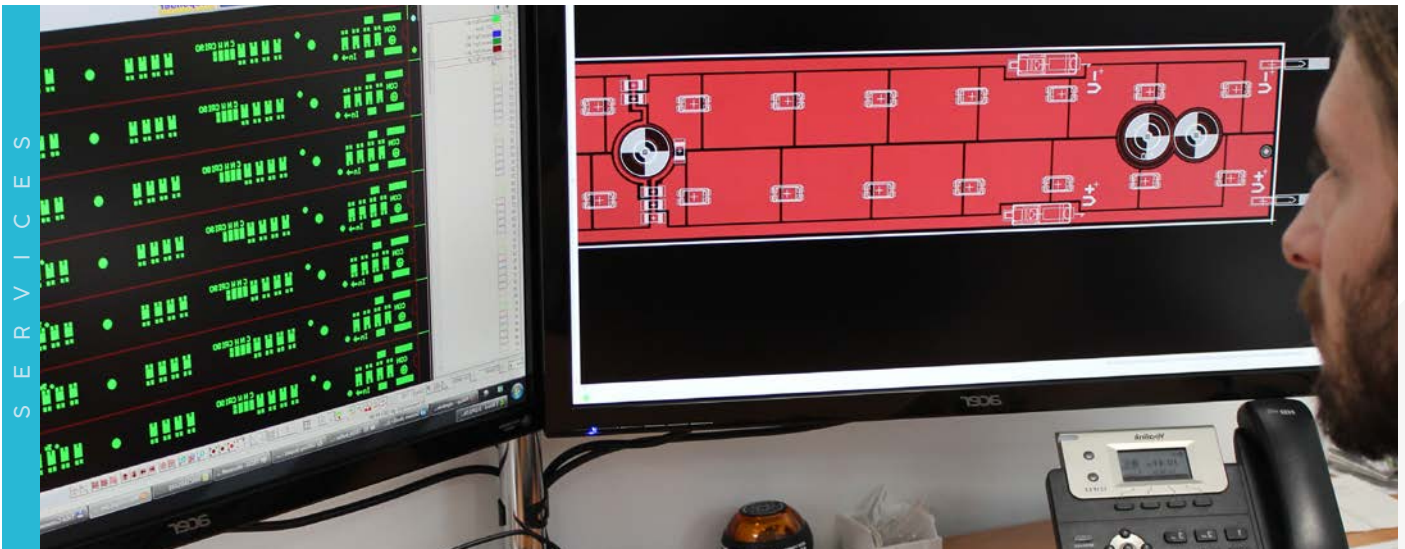
ALUMINIUM LED MODULES - SELECTION

LED series	name	number of LEDs	dimensions
XP_ or XT_	TR20-1M	1	ø 20 mm
	TR51-1	1	35 x 14 mm
	TR57-3	3	ø 20 mm
	TR59-3	3	ø 50 mm
	TR58-1	1	15 x 10 mm
	TR21-3M	3	ø 62 mm
	TR22-6M	6	ø 86 mm
XM-L	TR23-11M	11	ø 114 mm
	TR50-1	1	ø 20 mm

CUSTOMIZED LED MODULES

- ✓ custom design
- ✓ custom parameters





ENGINEERING - RESEARCH & DEVELOPMENT CENTRE

- ✓ Development of custom-made PCBs and solutions
- ✓ Modification of products according to the needs of the customer
- ✓ Redesign and development of new technical solutions based on improving LEDs' parameters
- ✓ Technical support for design, hardware and project specific issues



ASSEMBLY LINES - MANUFACTURE

- ✓ **9 MACHINES IN 5 INDEPENDENT ASSEMBLY LINES**, 3 OF THEM OPTIMIZED ONLY FOR LED
- ✓ Total performance 120.000 LEDs/hour
- ✓ PCB maximum dimensions: 1.200 x 360 mm / 600 x 460 mm
- ✓ Accuracy 41 µm
- ✓ Output testing (by the end of 2018 planned introduction of traceability, SPI and AOI)



PHOTOMETRIC LABORATORY

- ✓ Free services for our customers
- ✓ Measurements of luminaires during development and production stage
- ✓ Data output - **LDT data**, Luminous intensity distribution diagram, Co plane isolux diagram, Zonal flux diagram, Luminance limitation curves, UGR table, Detailed spectrometric data, etc.



FLEXIBLE LED RIBBONS

- ✓ Constant current or constant voltage (12V, 24V) driving
- ✓ The same LED chips and quality as LED modules
- ✓ Wide portfolio from cost-effective to superior quality



MEAN WELL POWER SUPPLIES

- ✓ Wide selection of drivers for LED applications
- ✓ Excellent quality - warranty up to 7 years
- ✓ By Q4 2018 introduction of ERP drivers known especially for very high power density, i. e. powerful drivers in very compact design and lots of additional functionalities like mesh networks





| LED CHIPS - SPECIAL OR STANDARD

SPECIAL

405 nm LEDs - for disinfection lighting

HIGH CRI LEDs - for true colors

UV ABC LEDs - medicine, art, hardening, purification and more

STANDARD

CREE 

official distributor
& solution provider

 **LG Innotek**

official distributor



Wide selection
of LEDs
in these
catalogues

TRON PROVIDES COMPLEX SOLUTIONS



- SERVICES FOR CUSTOMIZED PRODUCTION
- POWERFUL IN-HOUSE ASSEMBLY LINES
- DESIGN ACCORDING TO YOUR REQUIREMENTS
- COMPONENTS AND ACCESSORIES FOR LIGHTING
- MEASUREMENTS AND TESTING
- TECHNICAL SUPPORT



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