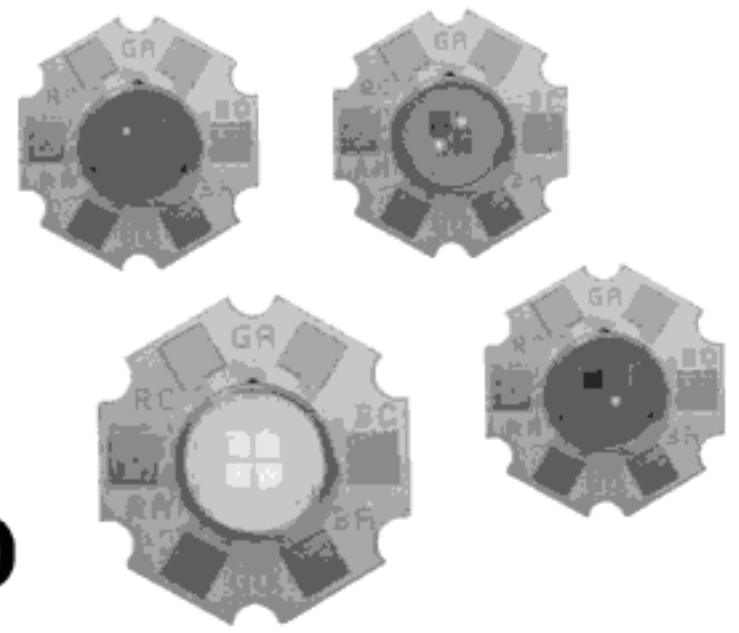


ROITHNER LASERTECHNIK

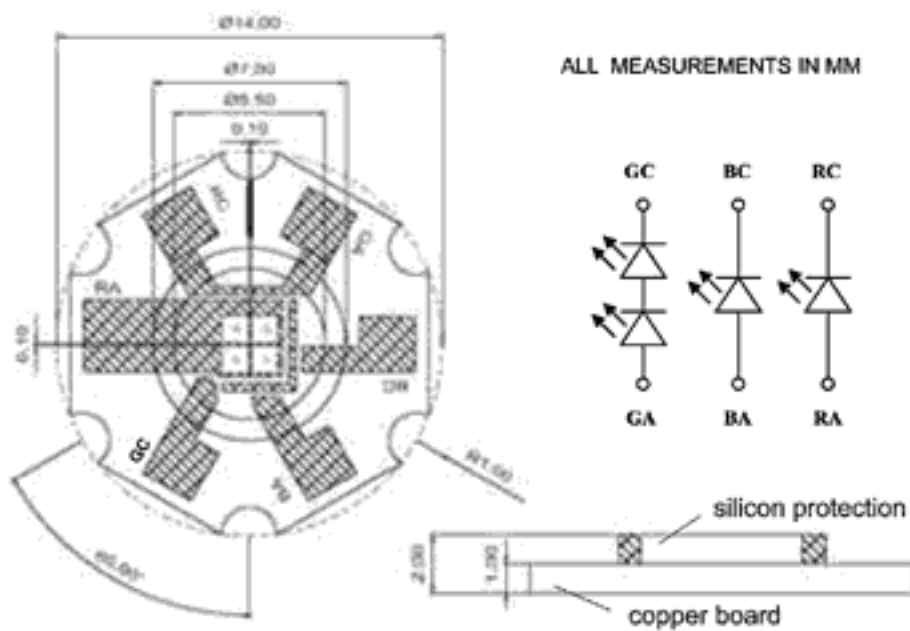
High Brightness RGB LED



PCR-RGB-4-xxx

MADE IN GERMANY

12/2004



Features

- Excellent colour mixing by individual driving of each chip
- One blue, one red and two green powerchips
- Close individual placement produces an exquisite white colour mix
- Separate anode and cathode for each colour
- Two green dice connected in serial
- Copper board for superior thermal management
- Up to 4,5W electrical power

Applications

The tunable RGB LED is a high power light source for general illumination. Typical applications are e.g. vision systems, architectural lighting, backlighting, displays, signs. Additional optics are easily attached.

OPTICAL AND ELECTRICAL CHARACTERISTICS

ambient temperature = 25°C

Parameter	Symbol	RED	GREEN	BLUE	Unit
Dominant wavelength* @350mA	λ_{dom}	(0) 620-630	(0) 515-530	(0) 455-465	nm
		(1) 620-630	(1) 520-525	(1) 460-465	nm
			(2) 515-520	(2) 455-460	nm
			(3) 525-530		nm
Spectral bandwidth @350mA	typ. $\Delta\lambda$	30	45	30	nm
		Forward voltage @350mA	typ. V_f	2.5	7.0
	max. V_f	3.0	9.0	4.5	V
Optical efficiency @350mA	typ. η_{opt}	16	11	2	lm/W
		@50mA	typ. η_{opt}	25	23
Luminous intensity @350mA	min. I_v	5000	6000**	2000	mcd
Luminous flux @350mA	typ. Φ_v	12.5	26	2.5	lm

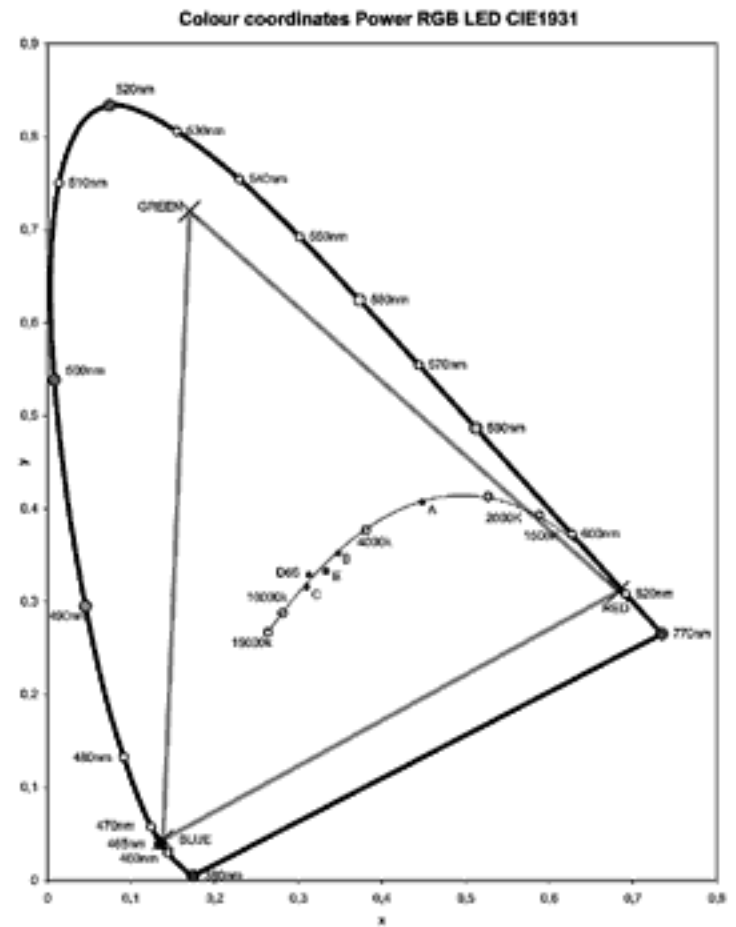
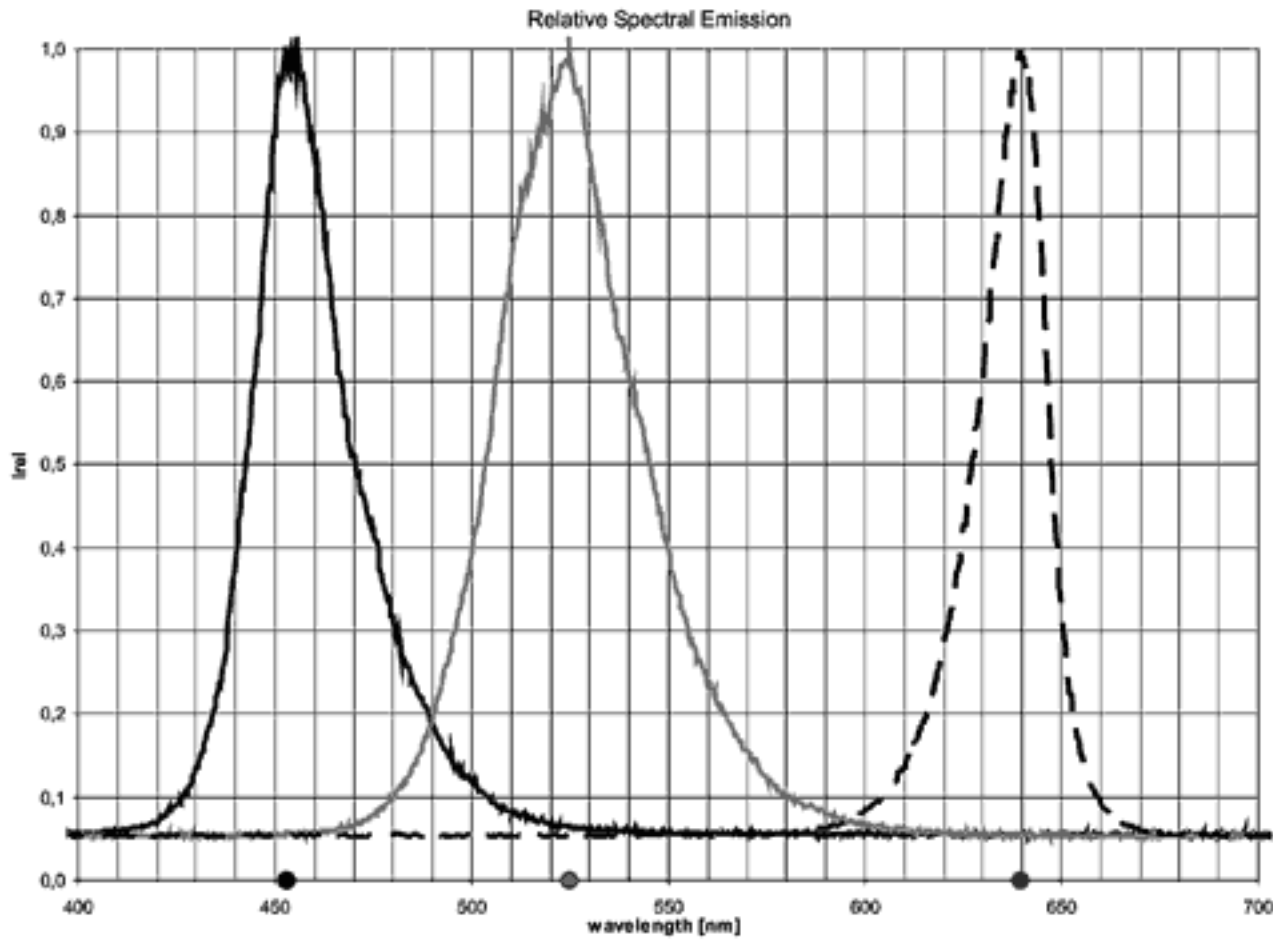
*binning: (0) = standard, (1) = main binning

Adequate heatsink is required. Derating must be observed to maintain junction temperature below maximum.

**for each powerchip

Note: according IEC 60825-1 (EN 60825-1)

LED Radiation class 1M LED product
Do not view directly with optical instruments



MAXIMUM RATINGS @25°C

Operating temperature range

Storage temperature

Junction temperature

Forward current per colour

Surge current per colour

Reverse voltage

RED, BLUE

GREEN

Power consumption

RED

GREEN

BLUE

Symbol

Values

Unit

T_{op} -40 to 100 °C

T_{st} -40 to 100 °C

T_j 120 °C

I_F 350 mA

I_{FM} 700 mA

V_R 5 V

V_R 10 V

P_{tot} 1.05 W

P_{tot} 3.2 W

P_{tot} 1.6 W

Taping on request:
standard 24mm blister tape

