Preliminary Product Specification

CREATIVE GMBH LED®

CQA97312TLW 655nm RED LED

creativeled.com

Features

* High radiant flux
* Round emitting chip surface
* Vertical electrode
* High driving current
* Most efficient heat dissipation as backside can be soldered directly to heat sink (non-conductive)
* RoHs and REACH conform

Applications

* Point Source
* Phototherapy

Optical and Electrical Characteristics @Tambient =25°C

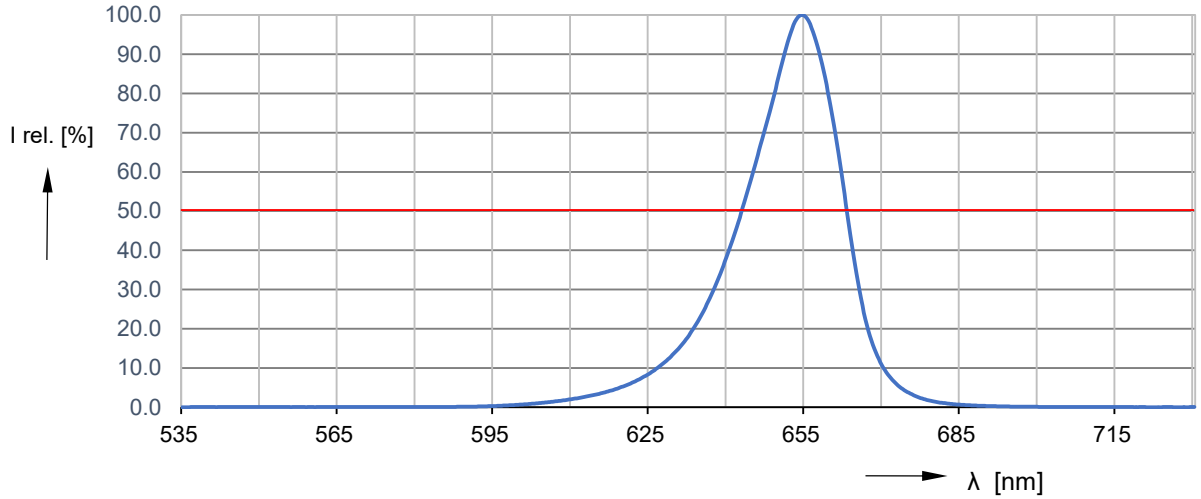
Symbol	Parameter	Min	Typ	Max	Unit	Test conditions
I_F	DC Forward current			1500	mA	
I_{Peak}	Peak Forward current			5000	mA	Tp < 10µsec. ; T=1:100 ; Rtherm < 100K/W
V_F	Forward Voltage	1.4		2.8	V	IF = 100mA
V_R	Reverse Voltage	5			V	Irev = 10µA
λ_{Peak}	Peak Wavelength		655		nm	IF = 100mA
$\Delta\lambda_{0.5}$	Bandwidth of half power		20		nm	IF = 20mA
t_f	Fall time			100	ns	IF = 100mA
t_r	Rise time			100	ns	IF = 100mA
Φ_E	Total Radiant Flux	150		200	mW	IF = 500mA
I_e	Radiant Intensitiy	130		170	mW/sr	IF = 500mA
A	Chip Size		4		mm²	
$2\Phi_{0.5}$	Full Emission Angle		60		deg.	
TK_{VF}	Temp.Coeff. Of Forward Voltage		-0.2		mV/K	
TK_F	Temp. Coeff. Of Radiant Power		-0.4		%/K	
$T_{Operating}$	Operating Temperature	-40		85	°C	
$T_{Storage}$	Storage Temperature	-40		85	°C	
$T_{Soldering}$	Soldering Temperature			245	°C	Reflow
$Q_{j\text{-}PIN}$	Thermal Resistance	10			K/W	
P_{tot}	Total Power Dissipation @ 20mA			4200	mW	

* values only for information

Pls. Contact us for more technical detail information !

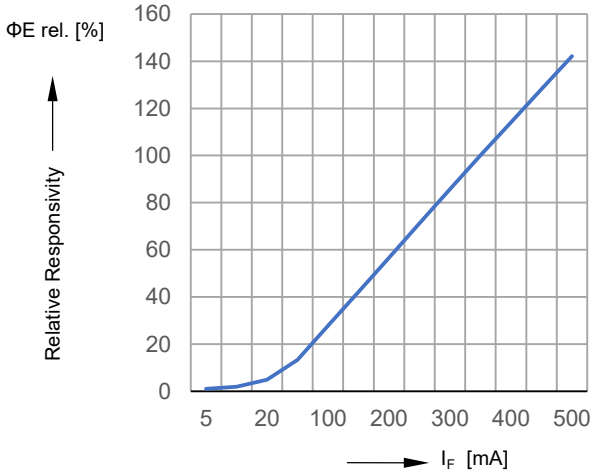
Relative Spectral Emission

@100mA @ $T_{ambient}$ = 25°C



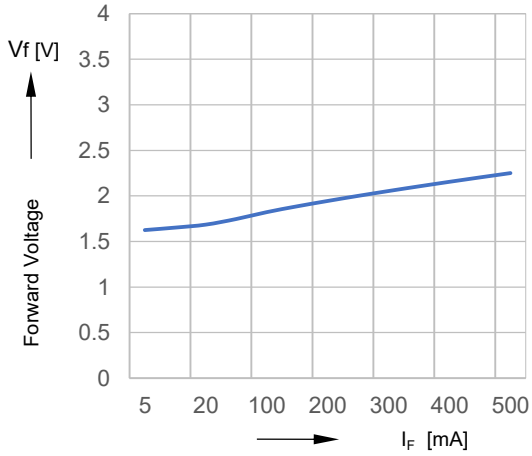
Relative Radiant Flux

@ $T_{ambient}$ = 25°C



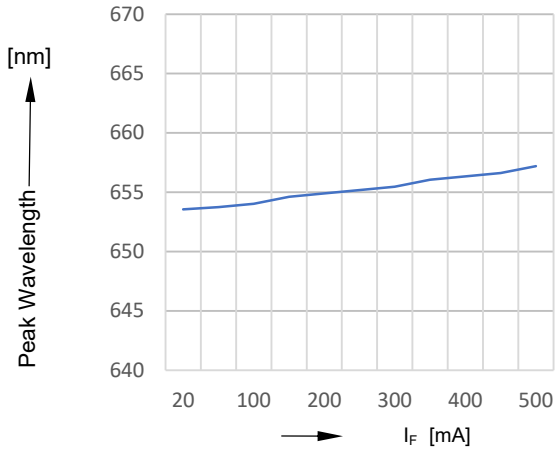
Forward Voltage

@ $T_{ambient}$ = 25°C



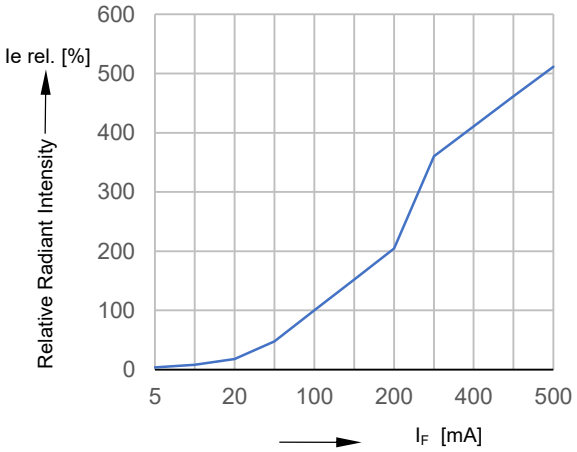
Fwd Current vs. Peak Wavelength

@$T_{ambient}$ = 25°C



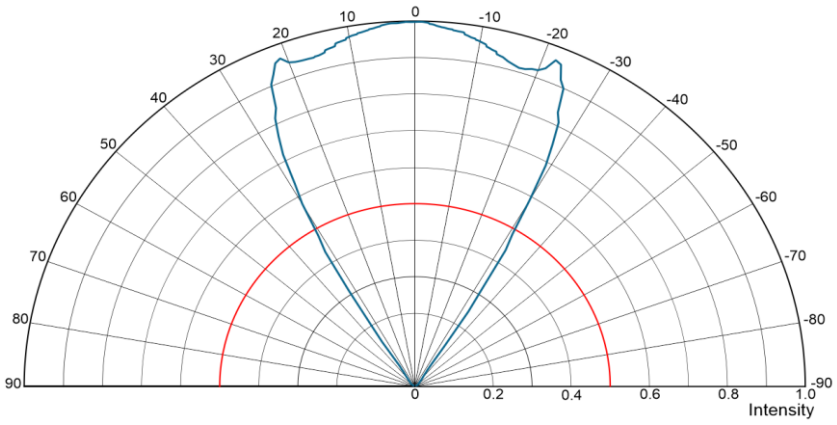
Relative Radiant Intensity

@ $T_{ambient}$ = 25°C



Relative Radiation Angle

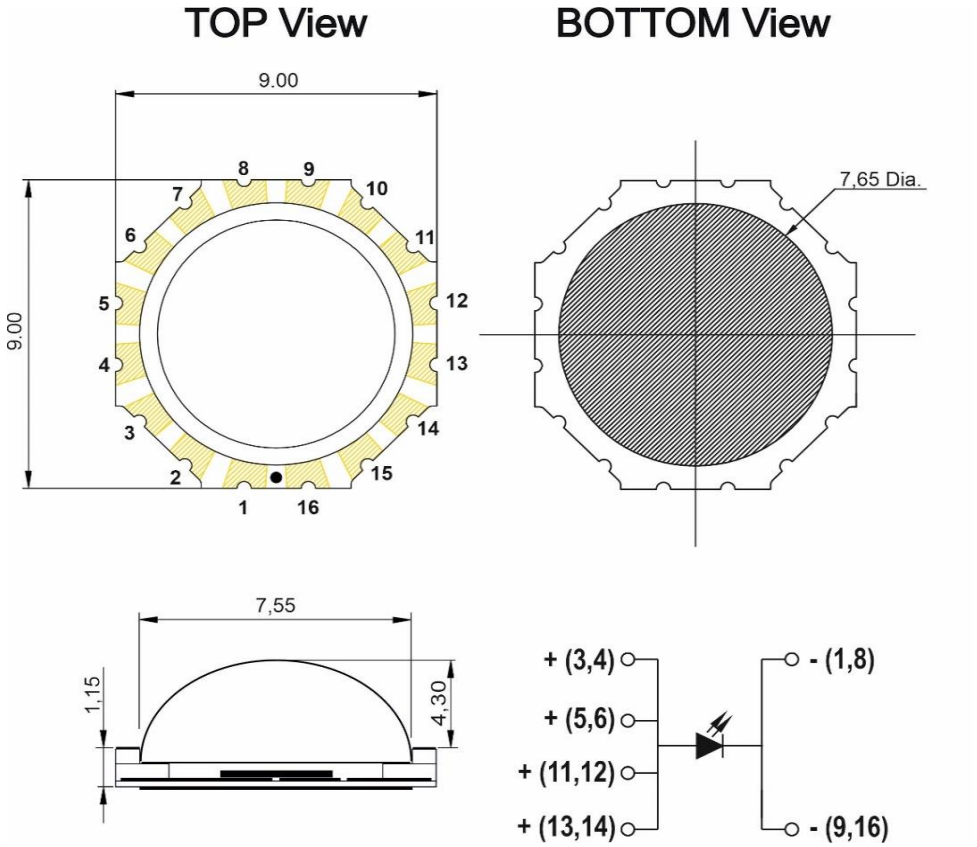
@20mA @ $T_{ambient}$ = 25°C



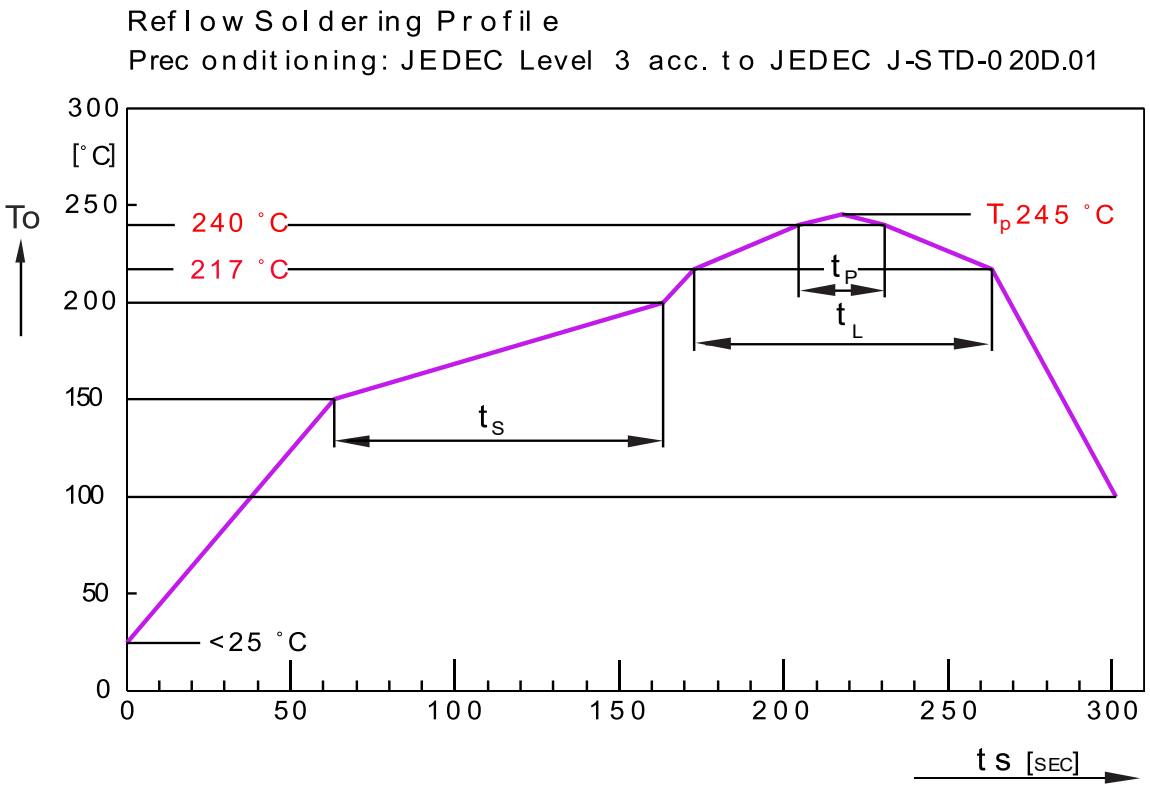
Order information

CQA97312TLW	Bulk (20pcs./Bag) / standard

Mechanical Drawing



Reflow Soldering Profile



Profil Features		PB-FREE (SNAGCU) ASSEMBLY			UNIT
	Symbol	MINIMUM	Recommendation	MAXIMUM	
RAMP-UP RATE TO PREHEAT (1) 25 °C TO 150 °C			2	3	K/SEC
TIME T_S T_{SMIN} TO T_{SMAX}	T_S	60	100	120	SEC
RAMP-UP RATE TO PEAK (1) T_{SMAX} TO T_P			2	3	K/SEC
LIQUDUS TEMPERATURE	T_L		217		°C
TIME ABOVE LIQUIDUS TEMPERATURE	T_L		80	100	SEC
PEAK TEMPERATURE	T_P		240	245/260(2)	°C
TIME WITHIN 5 °C OF THE SPECIFIED PEAKTEMPERATURE	T_{P-5K}	10	20	30	SEC
RAMP DOWN RATE T_P TO 100 °C			3	6	K/SEC
TIME 25 °C TO T_P			300	480(2)	SEC

ALL TEMPERATURES REFERS TO THE CENTER OF THE PACKAGES, MEASURED ON THE TOP OF COMPONENT

(1) SLOPE CALCULATION DT/DT: DT MAX.5 SEC. ; FULFILLMENT FOR THE WHOLE T-RANGE

(2) THESE MAXIMUM VALUES ARE STRONG DEPEND ON THE REFLOW-SOLDERING EQUIPMENT AND APPLICATION