

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	$T_p < 10\mu\text{sec.}; T=1:100; R_{\text{therm}} < 100\text{K/W}$
V_F	Forward Voltage	1.4		2.8	V	$I_F = 100\text{mA}$
V_R	Reverse Voltage	5			V	$I_{rev} = 10\mu\text{A}$
λ_{Peak}	Peak Wavelength		655		nm	$I_F = 100\text{mA}$
$\Delta\lambda_{0.5}$	Bandwidth of half power		20		nm	$I_F = 20\text{mA}$
t_f	Fall time			100	ns	$I_F = 100\text{mA}$
t_r	Rise time			100	ns	$I_F = 100\text{mA}$
Φ_E	Total Radiant Flux	150		200	mW	$I_F = 500\text{mA}$
I_e	Radiant Intensity	130		170	mW/sr	$I_F = 500\text{mA}$
A	Chip Size		4		mm ²	
$2\Phi_{0.5}$	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-PIN}	Thermal Resistance	10			K/W	
P_{tot}	Total Power Dissipation @ 20mA			4200	mW	

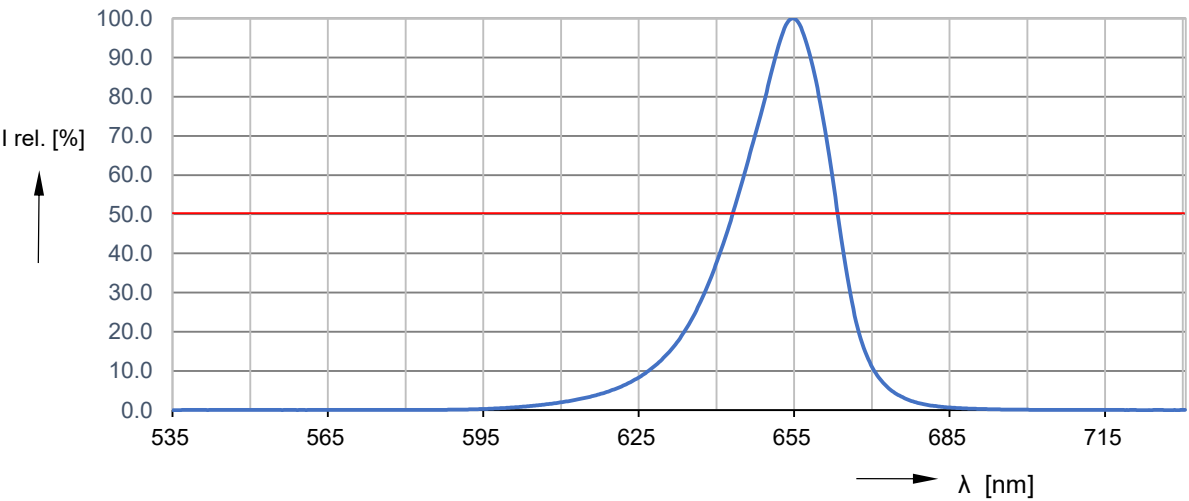
* values only for information

Pls. Contact us for more technical detail information !

CREATIVE LED GMBH reserves the right to make changes at any time in order to improve design and to supply the best product possible, contact us for latest device specification sheets before using.

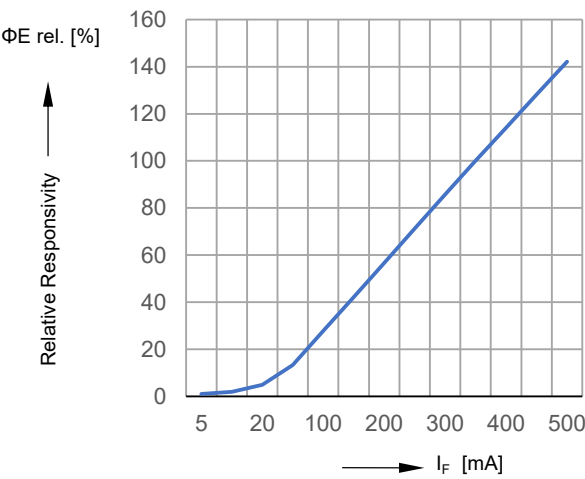
Relative Spectral Emission

@100mA @ T_{ambient} = 25°C



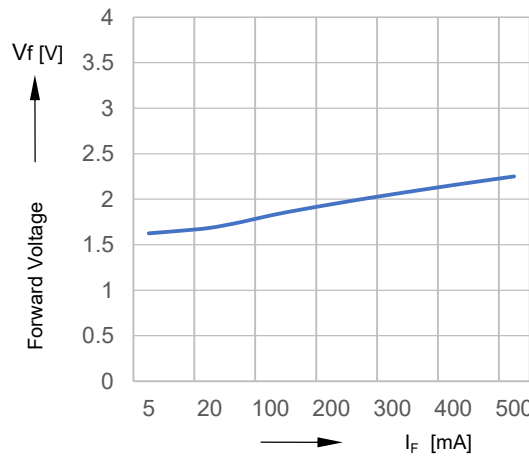
Relative Radiant Flux

@ T_{ambient} = 25°C



Forward Voltage

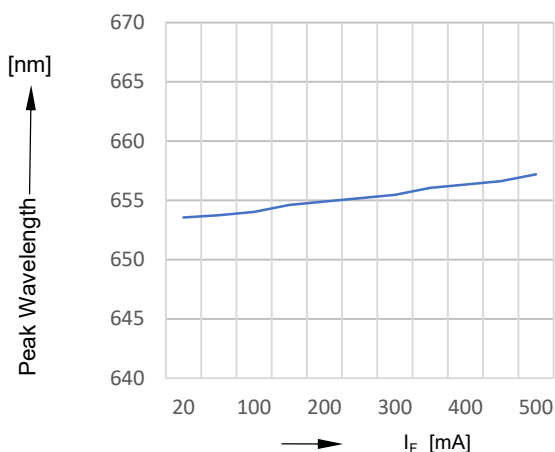
@ T_{ambient} = 25°C



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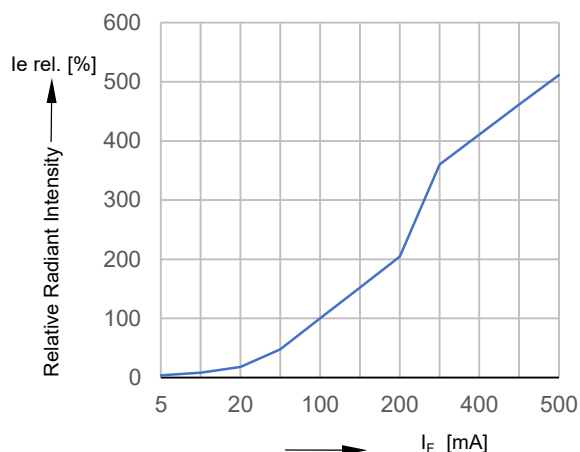
Fwd Current vs. Peak Wavelength

@ T_{ambient} = 25°C



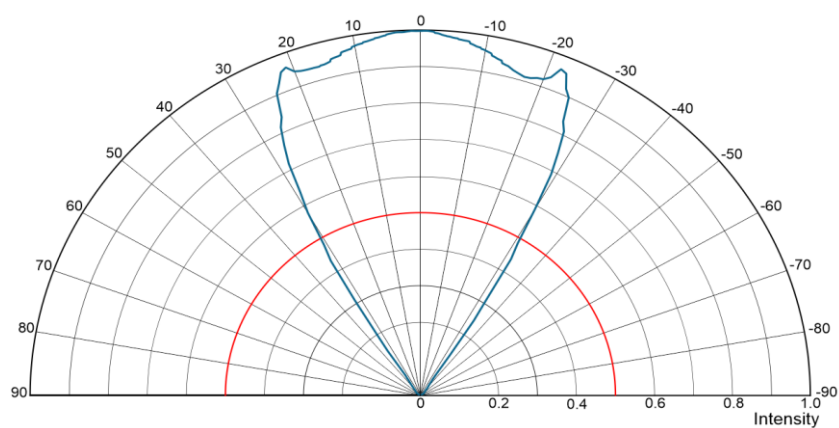
Relative Radiant Intensity

@ T_{ambient} = 25°C



Relative Radiation Angle

@20mA @ T_{ambient} = 25°C



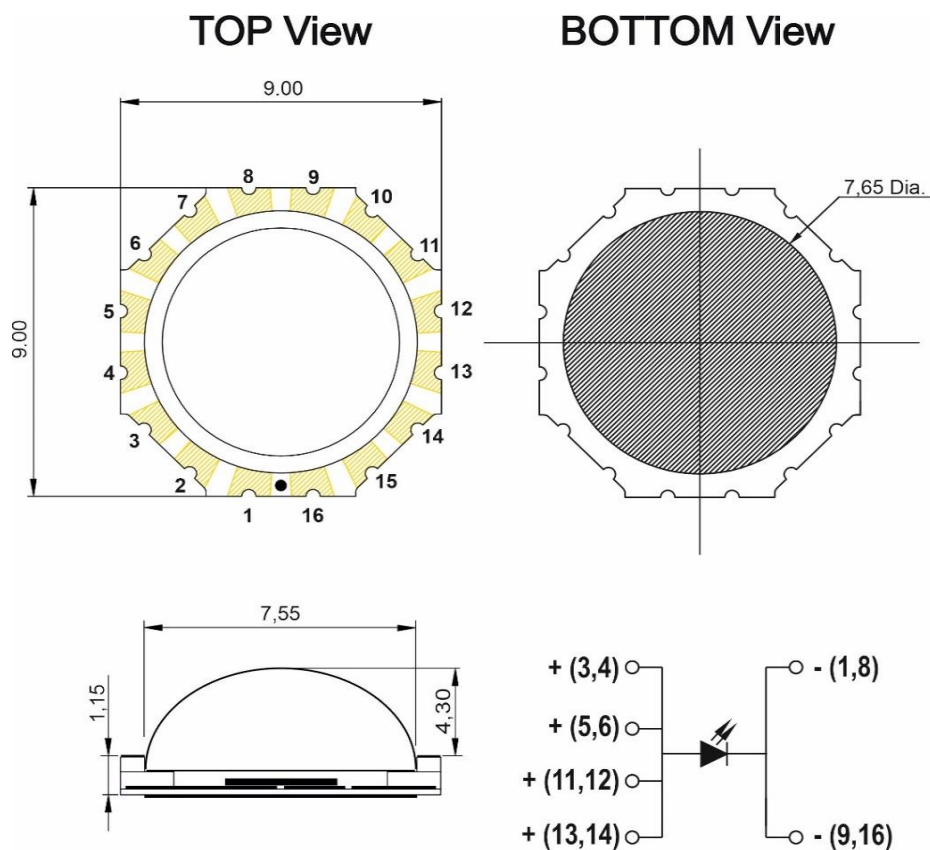
Order information

CQA97312TLW

Bulk (20pcs./Bag) / standard

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Mechanical Drawing

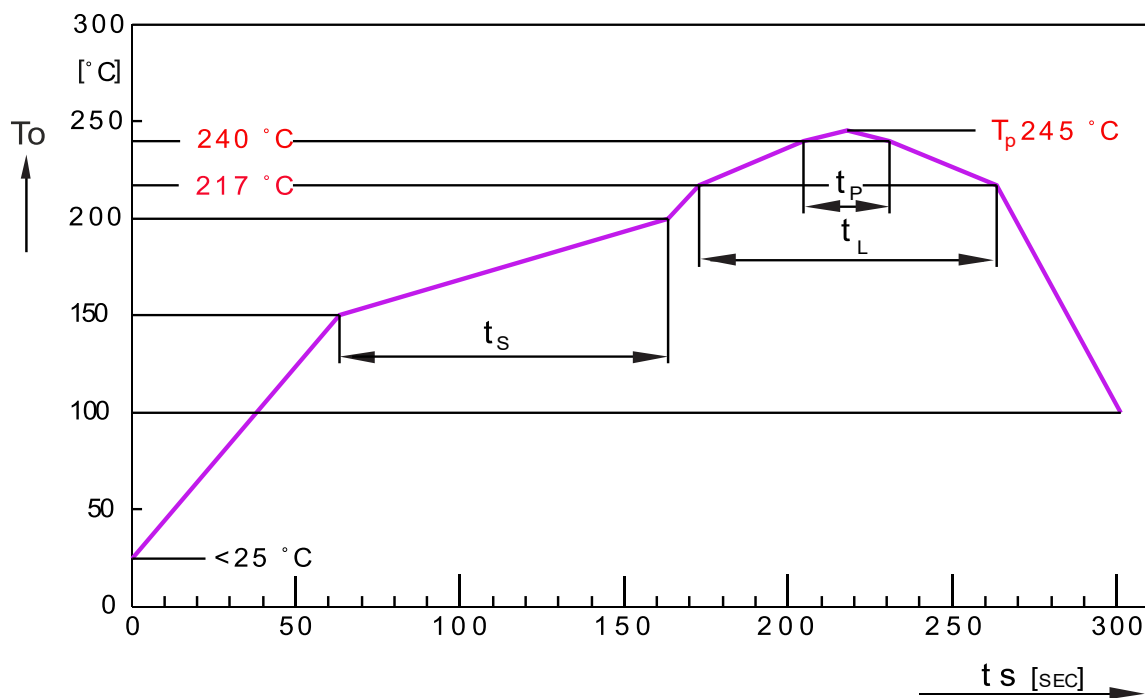


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Reflow Soldering Profile

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Prec onditioning: JEDEC Level 3 acc. to JEDEC J-S TD-020D.01



PROFIL FEATURES	SYMBOL	PB-FREE (SNAAGU) ASSEMBLY			UNIT
		MINIMUM	RECOMMENDATION	MAXIMUM	
RAMP-UP RATE TO PREHEAT ⁽¹⁾ 25 °C TO 150 °C			2	3	K/SEC
TIME T_S $T_{S\text{MIN}}$ TO $T_{S\text{MAX}}$	T_S	60	100	120	SEC
RAMP-UP RATE TO PEAK ⁽¹⁾ $T_{S\text{MAX}}$ TO T_P			2	3	K/SEC
LIQUIDUS 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

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