

Product Specification

Green LED

570nm

CQA45140ECP

Features

- * Narrow typ. Viewing angle of 13°
- * SMD LTCC Package 40x40
- * Compatible with PLCC-6 Pinout
- * ROHS and REACH conform
- * Suitable for reflow soldering and automatic placement machine



Applications

- * Optical sensing
- * Bioanalysis
- * Fluorescent spectroscopy
- * Medical diagnostics

* Safety Note :

This product can be driven with high level risks for human eyes and body acc. IEC 825 and EN62471

Optical and Electrical Characteristics @Tambient =25°C

Symbol	Parameter	min	typ	max	unit	test conditions
I_F	DC Forward current			40	mA	
I_{Peak}	Peak Forward current			100	mA	$T_p < 10\mu sec.$; $T=1:100$; $R_{therm} < 100K/W$
V_F	Forward Voltage	2		2.5	V	$I_F = 20mA$
V_R	Reverse Voltage			10	V	$I_{rev} = 2\mu A$
λ_{Peak}	Peak Wavelength		570		nm	$I_F = 20mA$
$\lambda_{centroid}$	Centroid Wavelength		570		nm	$I_F = 20mA$
λ_{dom}	Dominant Wavelength		571		nm	$I_F = 20mA$
$\Delta\lambda_{0.5}$	Bandwidth of half power		14		nm	$I_F = 20mA$
t_f	Fall time		10.6		ns	$I_F = 20mA$
t_r	Rise time		12.6		ns	$I_F = 20mA$
Φ_E	Total Power Output	300	300		μW	$I_F = 20mA$
I_v	Luminous Intensity	1300	1600		mcd	$I_F = 20mA$
I_e	Radiant Intensity	2000	2300		$\mu W/sr$	$I_F = 20mA$
$2\Phi_{0.5}$	Full Emission Angle		13		deg.	$\Phi_E = 50\%$
A	Chip size		0.06		mm ²	
TK_{VF}	Temp.Coeff. Of Forward Voltage		tba		mV/K	
TK_F	Temp. Coeff. Of Radiant Power		tba		%/K	
$T_{junction}$	LED-Junction Temperature			110	°C	
$T_{Operating}$	Operating Temperature	-40		85	°C	
$T_{Storage}$	Storage Temperature	-40		85	°C	
$T_{Soldering}$	Soldering Temperature			240	°C	Reflow
R_{thJA}	Thermal Resistance		18.6		K/W	
P_{tot}	Total Power Dissipation			100	mW	

* values only for information

Order informations:

CQA45140ECP
CQA45140ECP-TR

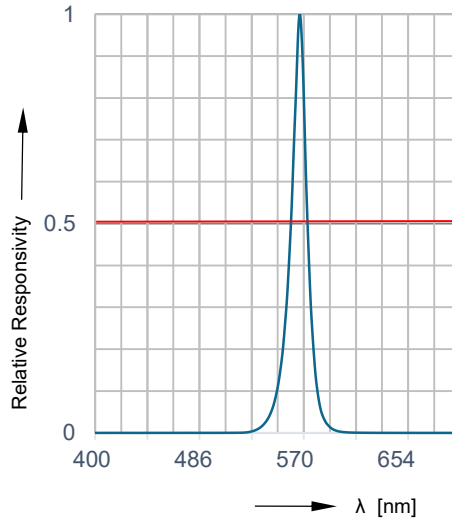
Bulk
Tape in Reel (1000/reel) on Request only

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.

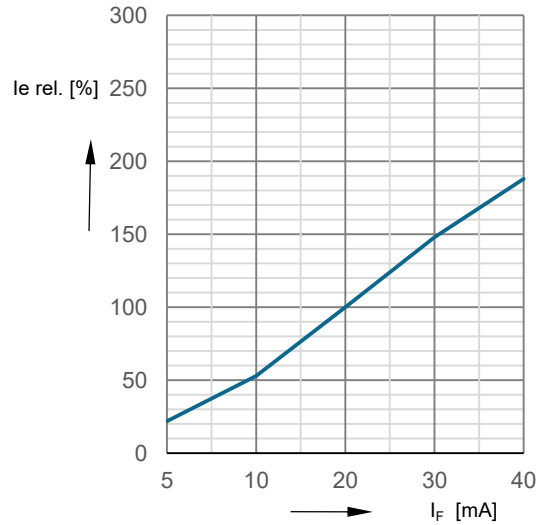
Relative Spectral Emission

@90mA @ $T_{\text{ambient}} = 25^{\circ}\text{C}$



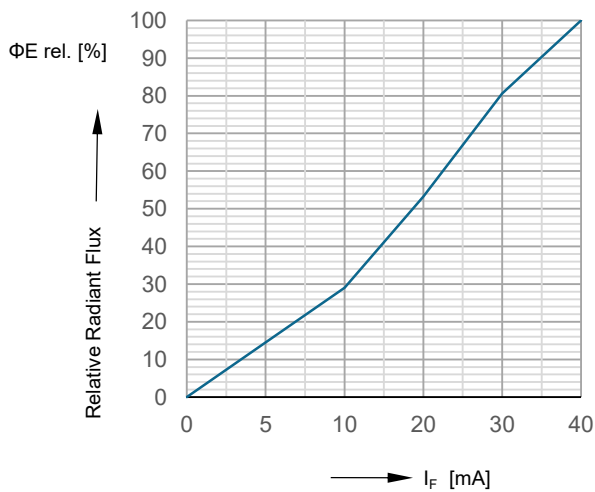
Relative Radiant Intensity

@ $T_{\text{ambient}} = 25^{\circ}\text{C}$



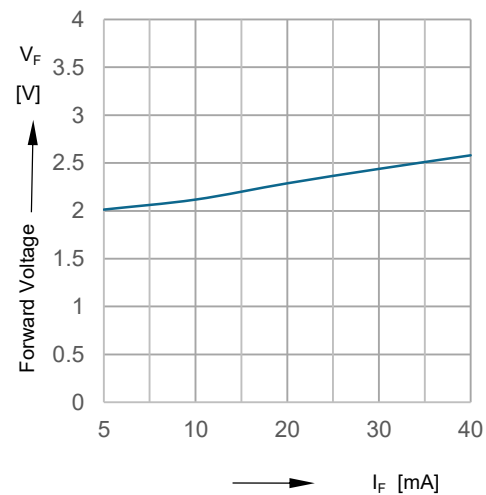
Relative Radiant Flux

@ $T_{\text{ambient}} = 25^{\circ}\text{C}$



Forward Voltage

@ $T_{\text{ambient}} = 25^{\circ}\text{C}$

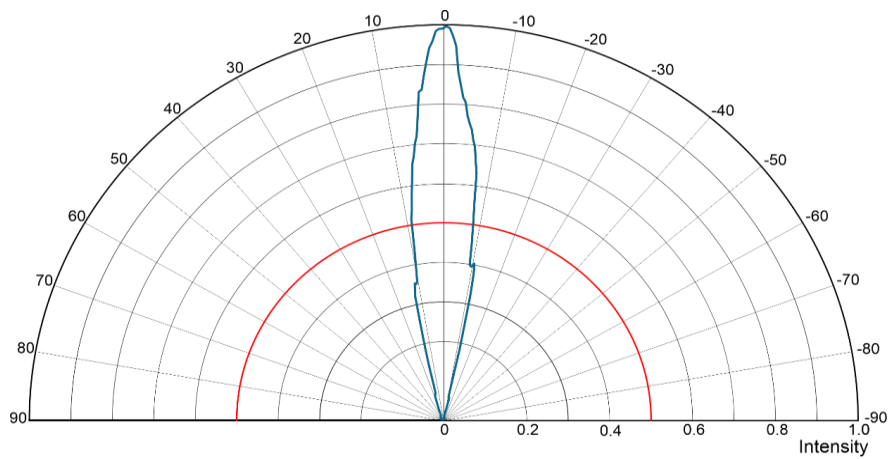


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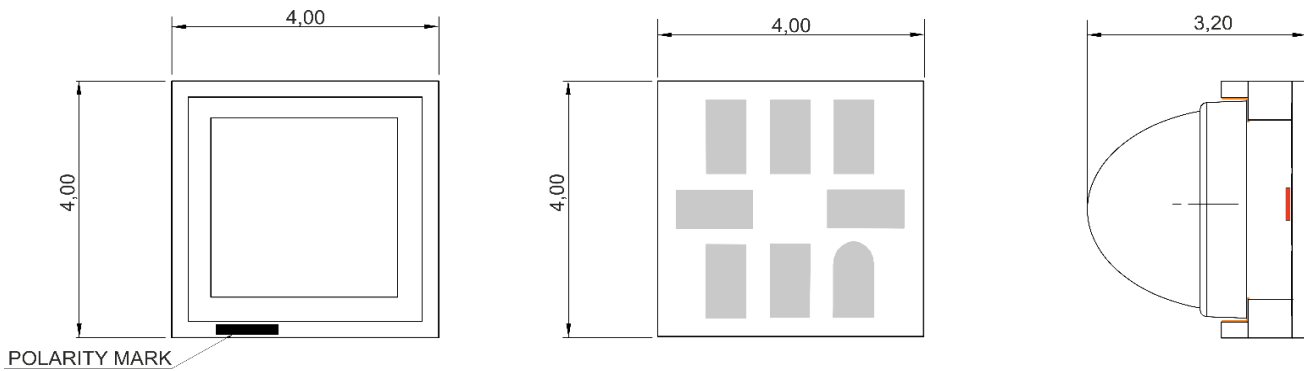
CQA45140ECP

Relative Radiation Angle

@90mA @ T_{ambient} = 25°C



Mechanical Drawing

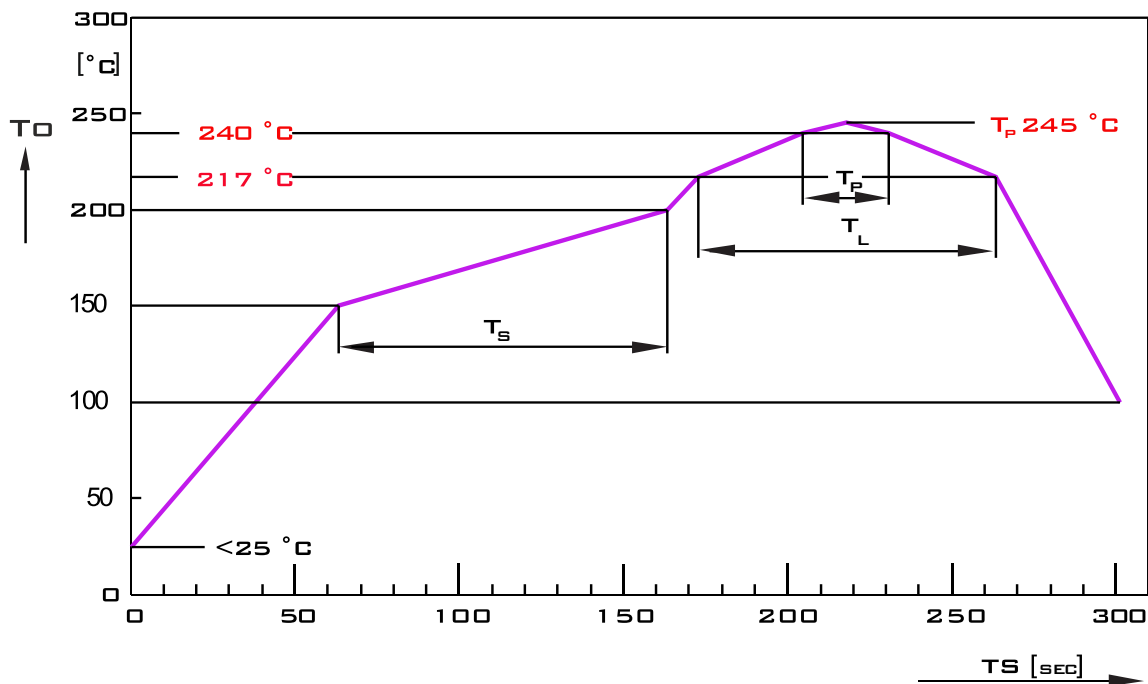


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Reflow Soldering Profile:

REFLOW SOLDERING PROFILE

PRECONDITIONING: JEDEC LEVEL 3 ACC. TO JEDEC J-STD-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 $T_{S\min}$ TO $T_{S\max}$	T_S	60	100	120	SEC
RAMP-UP RATE TO PEAK ⁽¹⁾ $T_{S\max}$ 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 PEAK TEMPERATURE	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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