CREATIVE GMBH LED®

Product Specification

UV-C LED 255nm CQA45001UBAI

* High Power UV-C LED in
  LTCC Ceramic Package for long life
* Viewing angle with 6°
* UV resistant glass lens
* Suitable for reflow soldering and automatic placement machine
* ROHS and REACH conform

Optical and Electrical Characteristics @Tambient =25°C

Symbol	Parameter	min	typ	max	unit	test conditions
I_F	DC Forward current			90	mA	
I_{Peak}	Peak Forward current			31	mA	Tp < 10µsec. ; T=1:100 ; Rtherm < 100K/W
V_F	Forward Voltage	5,5	5,8	6	V	IF = 100mA
I_R	Reverse Current			2	µA	VR= 5V
λ_{Peak}	Peak Wavelength	254	255	260	nm	IF = 20mA
$\Delta\lambda_{0,5}$	Bandwidth of half power		14		nm	IF = 20mA
t_f	Fall time		8,178		µs	IF = 90mA
t_r	Rise time		1,938		µs	IF = 90mA
Φ_E	Total Radiant Flux		3	6	mW	IF = 90mA
I_e	Radiant Intensitiy		20	27	mW/sr	IF = 90mA
E_E	Irradiance		3,452		mW/cm²	IF = 90 mA ; Distance 1cm *
A	Active Array		0,194		mm²	
$2\Phi_{0,5}$	Full Emission Angle		6		deg.	ΦE = 50%
TK_{VF}	Temp.Coeff. Of Forward Voltage		-1,6		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			240	°C	5mm from case @ 5 sec.
$Q_{j\text{-}PIN}$	Thermal Resistance		450		K/W	
P_{tot}	Total Power Dissipation			540	mW	

* values only for information

Order informations:

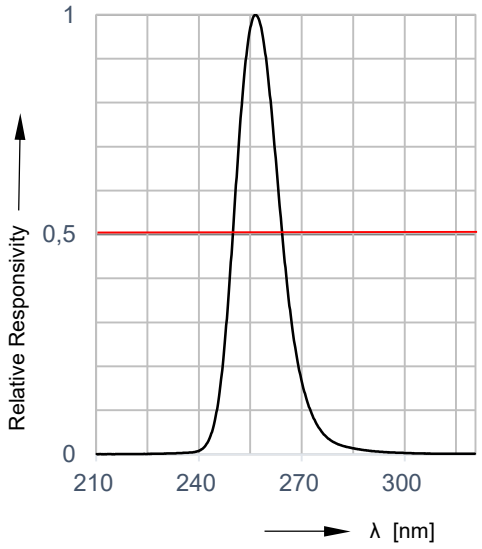
CQA45001UBAI	Bulk
CQA45001UBAI-TR	Tape in Reel (1000/reel) on Request only

Pls. Contact us for more technical detail information !

CQA45001UBAI

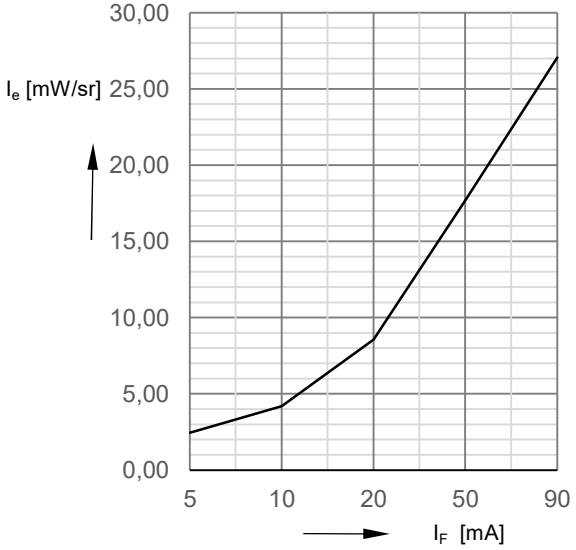
Relative Spectral Emission

@90mA @ $T_{ambient}$ = 25°C



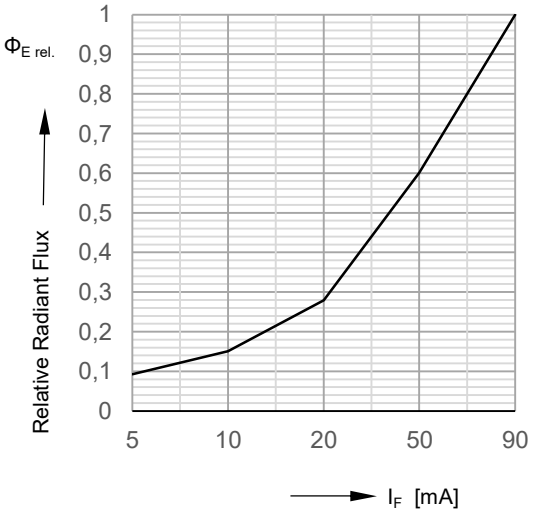
Radiant Intensity

@ $T_{ambient}$ = 25°C



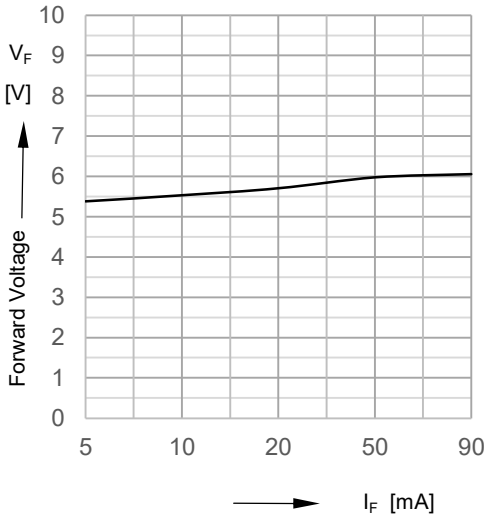
Relative Radiant Flux

@ $T_{ambient}$ = 25°C



Forward Voltage

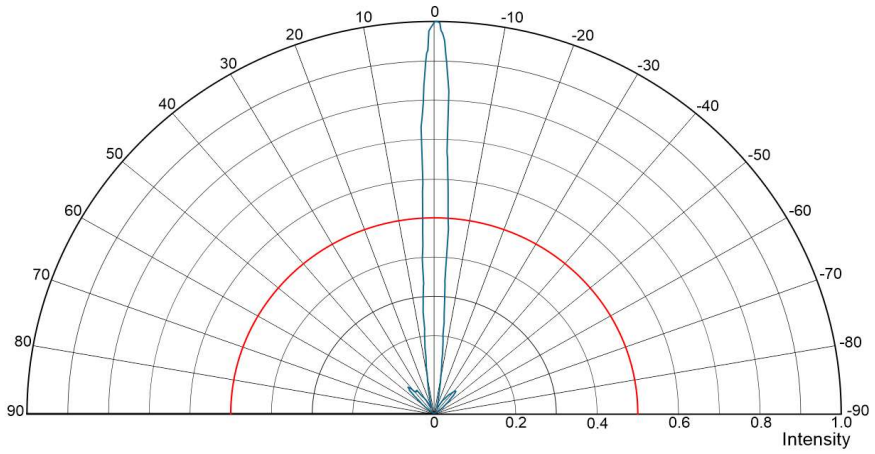
@ $T_{ambient}$ = 25°C



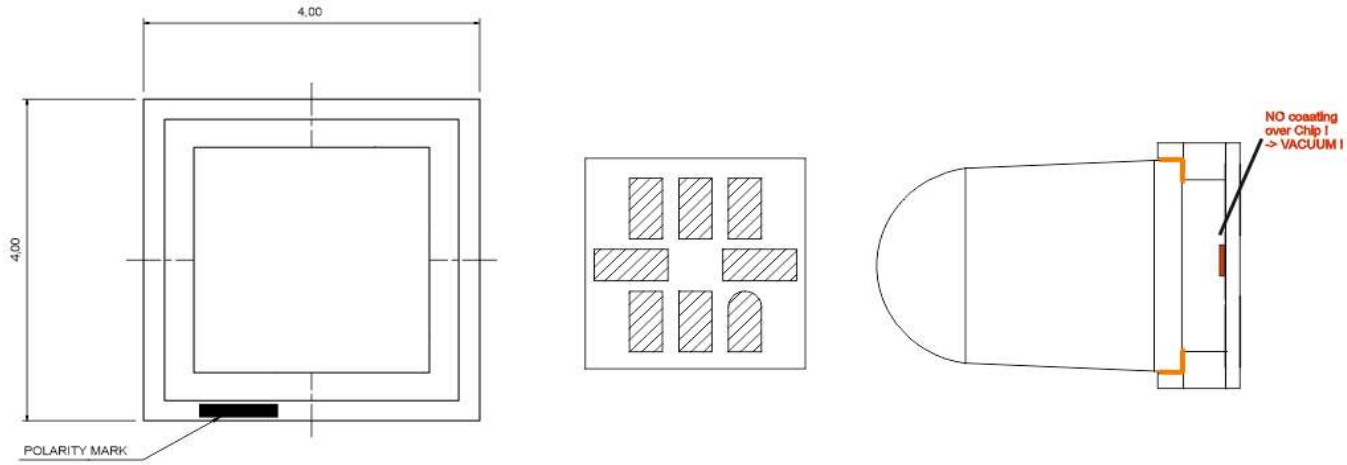
CQA45001UBAI

Relative Radiation Angle

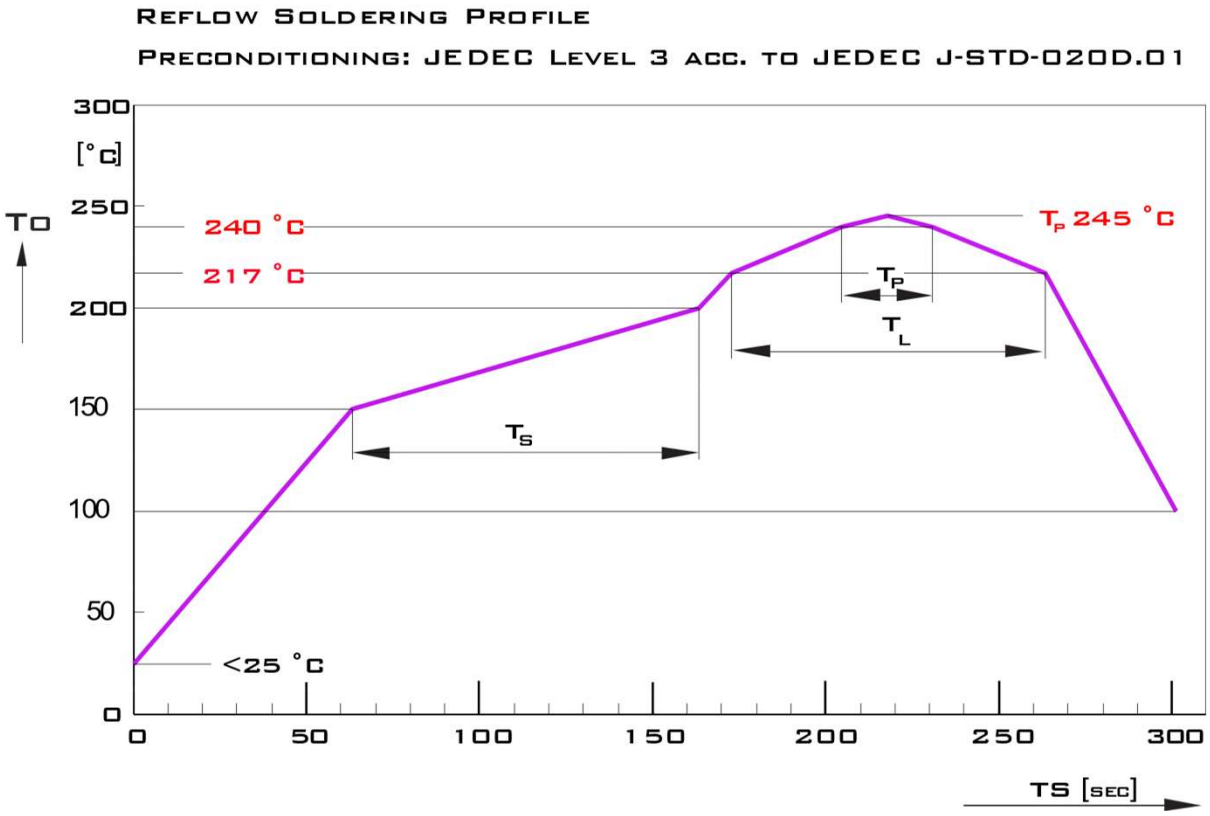
@90mA @ $T_{ambient}$ = 25°C



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
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