

CTL0402FGR1T-L DATASHEET

Chip Type LED, 0402, Flat Lens, Green (Yellow Green), Low Profile

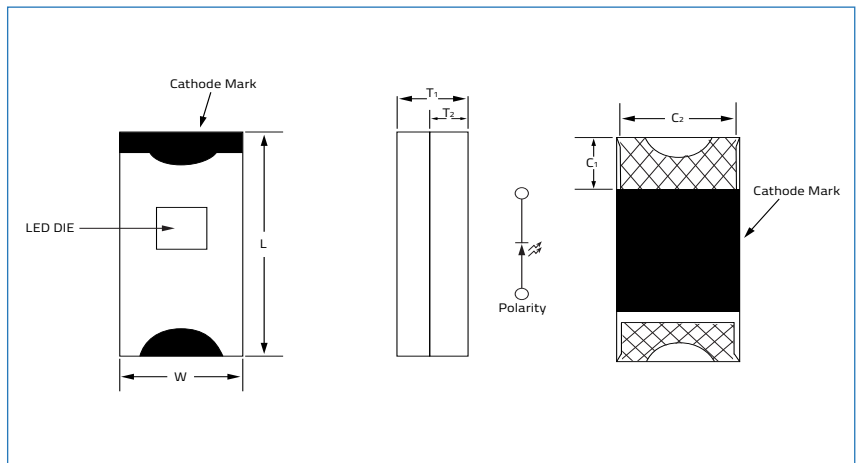


VENKEL LTD.

Part Number	Size	Emitting Color	Emitting Material	Lens-Color	Luminous Intensity ($I_F=20\text{mA}$) mcd	Wavelength nm λ_P	Viewing Angle ($2\theta_{1/2}$)
CTL0402FGR1T-L	0402	Green (Yellow Green)	AllInGaP	Water Clear	4.50 min 7.15 typ	573	130°

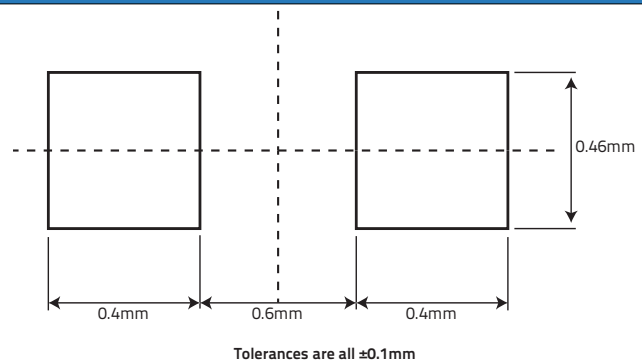
Electrical & Optical Specifications ($T_A=25^\circ\text{C}$)	GR1 (AllInGaP)	Unit
Forward Voltage (Min.) ($I_F=20\text{mA}$)	V_F	2.1 V
Forward Voltage (Max.) ($I_F=20\text{mA}$)	V_F	2.4 V
Reverse Current (Max) ($V_R=5\text{V}$)	I_R	10 μA
Peak Wavelength (Typ.) ($I_F=20\text{mA}$)	λ_P	573 nm
Dominant Wavelength (Typ.) ($I_F=20\text{mA}$)	λ_D	571 nm
Spectral Line Half Width (Typ.) ($I_F=20\text{mA}$)	$\Delta\lambda$	20 nm

Absolute Maximum Ratings ($T_A=25^\circ\text{C}$)	GR1 (AllInGaP)	Unit
Reverse Voltage	V_R	5 V
DC Forward Current	I_F	20 mA
Peak Forward Current 1/10 Duty Cycle @ 10KHz	I_{FP}	40 mA
Power Dissipation	P_D	48 mW
Operating Temperature	T_A	-40 ~ +85 °C
Storage Temperature	T_{stg}	-40 ~ +100 °C



Dimensions		Units: Inches (mm)	
L_1	W	T_1	T_2
0.039±0.004 (1.0±0.1)	0.0196±0.004 (0.5±0.1)	0.01±0.004 (0.25±0.1)	0.0055±0.004 (0.14±0.1)
C_1	C_2		
0.0079±0.004 (0.20±0.1)	0.018±0.004 (0.46±0.1)		

Soldering Pad Layout



CTL0402FGR1T-L DATASHEET

Chip Type LED, 0402, Flat Lens, Green (Yellow Green), Low Profile



VENKEL LTD.

Graphs

Fig.1 Forward Current vs Forward Voltage

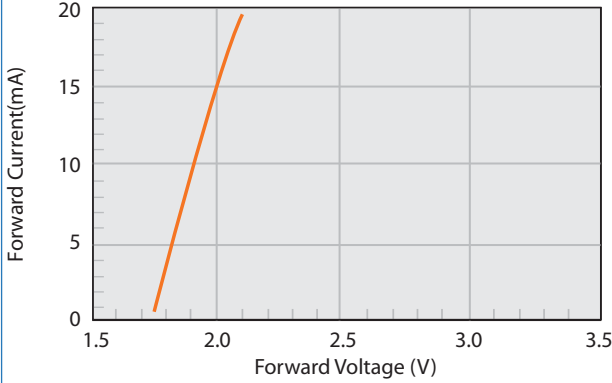


Fig.4 Relative Intensity vs Wavelength

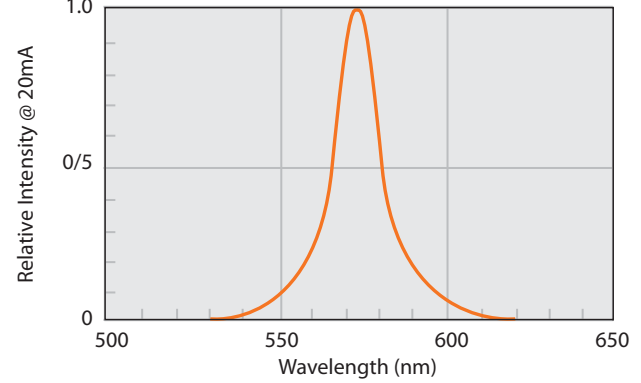


Fig.2 Relative Intensity vs Forward Current

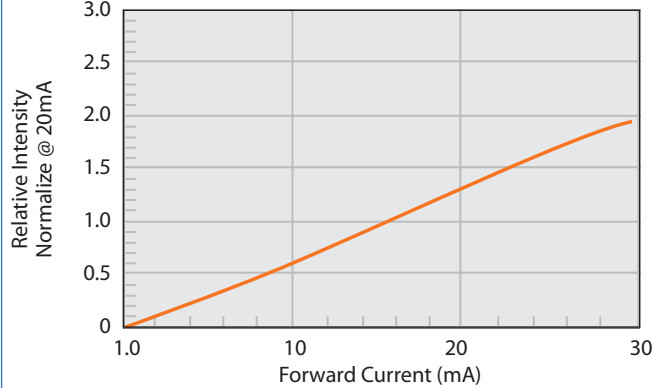


Fig. 5 Direct Radiation

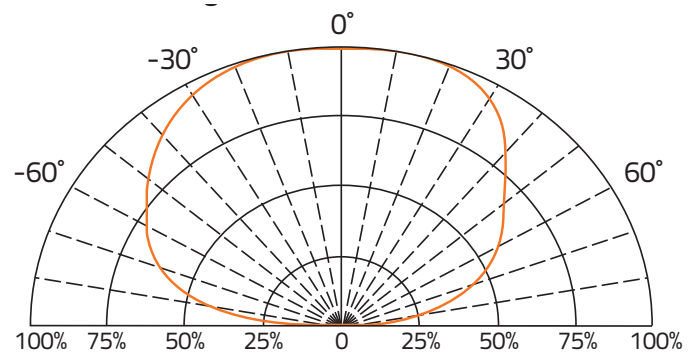
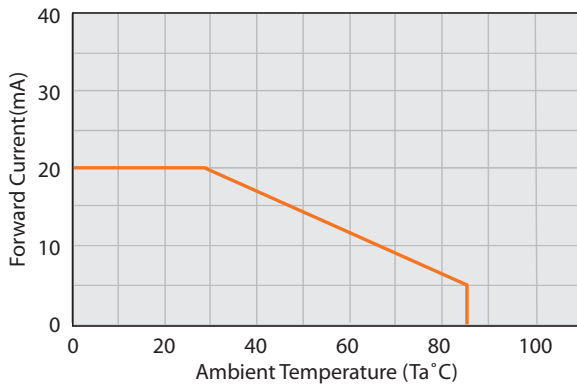


Fig.3 Current vs Temp



Environmental information

RoHS Status	6 of 6 Compliant
REACH Status	Compliant
Halogen Status	Halogen Free
Conflict Mineral Status	Conflict Mineral Free
Moisture Sensitivity Level (MSL)	3

Reflow profile

Max Reflow Temperature	260°C
Number of Reflow Cycles	2

CTL0402FGR1T-L DATASHEET

Chip Type LED, 0402, Flat Lens, Green (Yellow Green), Low Profile



VENKEL LTD.

Label Example

Item: CTL0402FGR1T-L
Chip Type LED,0402,Flat Lens,Green (Yellow Green), Low Profile
Qty: 3000 D/C: 1616

Lot: E1A1A22L12

BIN/HUE: K/D VF: 1.6-2.4

VENKEL LTD
YOUR SINGLE SOURCE FOR SURFACE MOUNT PASSIVES

Codes:

VF: Forward Voltage | BIN: Luminous Intensity | HUE: Dominant Wavelength

Luminous Intensity Classification (BIN Code)

BIN Code	Iv(mcd) at 20mA	
	Min.	Max.
J	4.5	7.15
K	7.15	11.25
L	11.25	18

Dominant Wavelength Classification (HUE Code)

HUE Code	λ_D (nm) at 20mA	
	Min.	Max.
C	567.5	570.5
D	570.5	573.5
E	573.5	576.5

CTL0402FGR1T-L DATASHEET

Chip Type LED, 0402, Flat Lens, Green (Yellow Green), Low Profile



VENKEL LTD.

Reel Specifications Units: mm

M	C	F	E	G
178±1.50	56.0±1.0	12.0±1.0	60.0±1.0	9.0±1.0

Packaging Specifications

Reel Size:	7"
Quantity per Reel :	3,000

- Storage Specifications**
1. Storage temperature and RH: 5°C~35°C, RH60%
 2. Once the package is opened, the LEDs should be used within a week. Otherwise, they should be kept in a moisture proof bag with desiccant. We suggest that you use this product within one year from date code.
 3. If opened for more than one week in an atmosphere of 5°C~35°C, RH60%. The parts should be heat treated at 60°C±5°C for 15 hours.

Tape Specifications Units: mm

T	W	A	B	F
0.38±0.03	8.0±0.3	1.11±0.03	0.60±0.03	3.5±0.05
E	H	J	D	G
1.75±0.1	4.0±0.1	2.0±0.05	1.5±0.1	4.0±0.1

CTLO402FGR1T-L DATASHEET

Chip Type LED, 0402, Flat Lens, Green (Yellow Green) , Low Profile



VENKEL LTD.

Environmental Test Criteria			
Classification	Test Item	Test Condition	Sample Size
Endurance Test	Operating Life	1. 25°C 2. 1000hrs	40
	High Temperature Storage	1. 85°C±5°C 2. 1000hrs	40
	Temperature, Humidity Bias	1. 40°C 2. 93% 3. 1000hrs	40
Environmental Test	Solderability	1. 245°C / 3±1 sec 2. 260°C / 10±1 sec	40