

# MCL0805FBL2RD2T DATASHEET

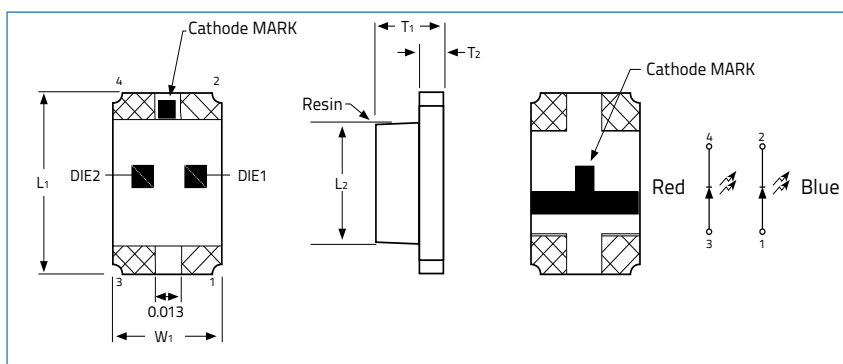
Multi Color LED, 0805, Flat Lens, Blue, Red



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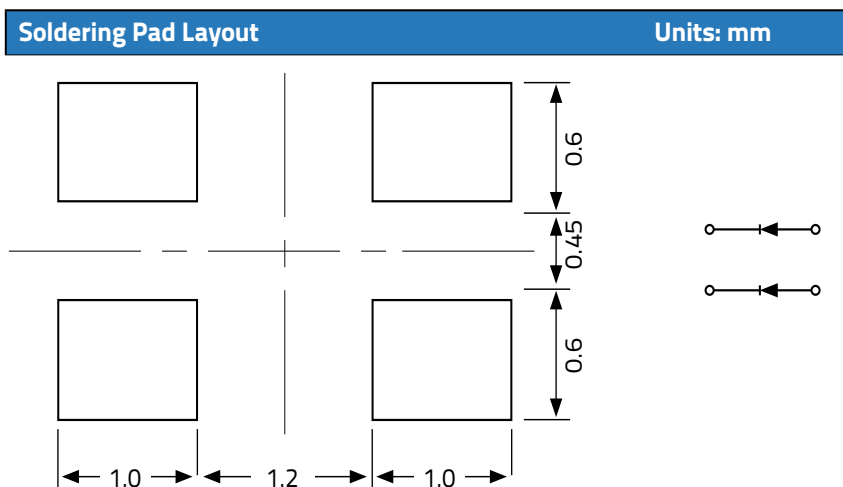
Part Number	Size	Emitting Color	Emitting Material	Lens-Color	Luminous Intensity mcd	Wavelength nm $\lambda_P$	Viewing Angle (2 $\theta$ 1/2)
MCL0805FBL2RD2T	0805	Red, Blue	AlGaInP, InGaN	Clear	Red: 80 mcd typ Blue: 80 mcd typ	Red: 645 nm typ Blue: 465 nm typ	120°

Electrical & Optical Specifications (T <sub>A</sub> =25°C)		Red @20mA	Blue @20mA	Unit
Forward Voltage Min.	V <sub>F</sub>	1.8	2.8	V
Forward Voltage Max.	V <sub>F</sub>	2.4	3.7	V
Reverse Current (Max) (V <sub>R</sub> =5V)	I <sub>R</sub>	10	10	uA
Peak Wavelength Typ.	$\lambda_P$	645	465	nm
Dominant Wavelength Typ.	$\lambda_D$	630	470	nm
Spectral Line Half Width Typ.	$\Delta\lambda$	20	25	nm



Dimensions		Units: Inches (mm)	
L <sub>1</sub>	L <sub>2</sub>	T <sub>1</sub>	T <sub>2</sub>
0.0787±0.004 (2.0±0.1)	0.0511±0.004 (1.3±0.1)	0.0315±0.004 (0.80±0.1)	0.0196±0.004 (0.50±0.1)
W <sub>1</sub>			
0.0492±0.004 (1.25±0.1)			

Absolute Maximum Ratings (T <sub>A</sub> =25°C)		Red	Blue	Unit
Reverse Voltage	V <sub>R</sub>	5	5	V
DC Forward Current	I <sub>F</sub>	30	30	mA
Peak Forward Current 1/10 Duty Cycle @ 10KHz	I <sub>FP</sub>	125	125	mA
Power Dissipation	P <sub>D</sub>	72	111	mW
Operating Temperature	T <sub>A</sub>	-40 ~ +85		°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +85		



Tolerances are all ±0.1mm, Angle ±0.5mm

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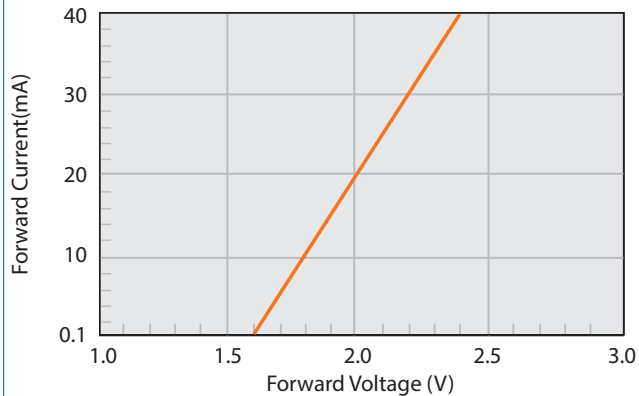
Multi Color LED, 0805, Flat Lens, Blue, Red



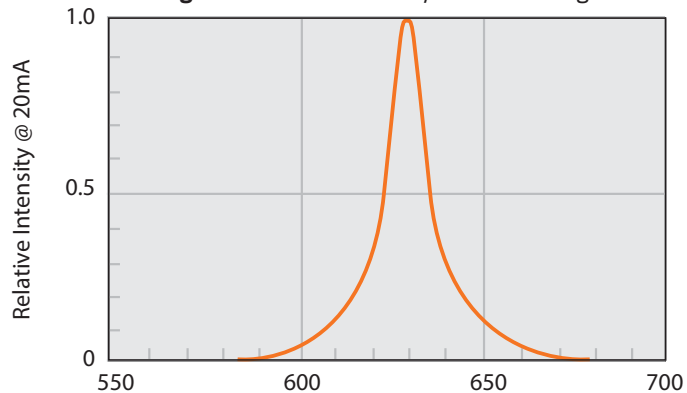
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## Graphs for Red (AlGaInP)

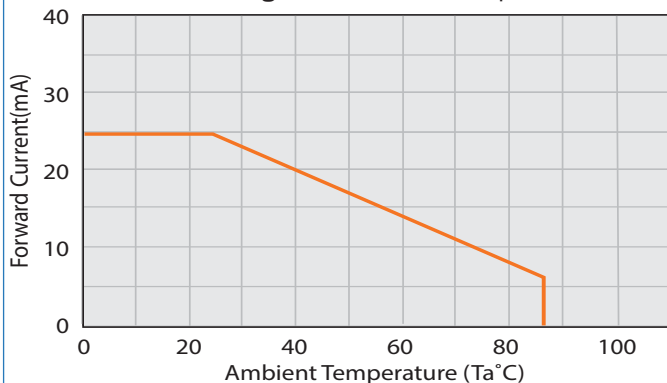
**Fig.1** Forward Current vs Forward Voltage



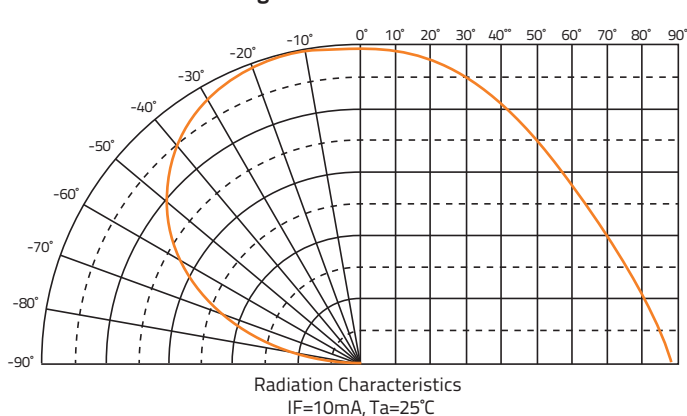
**Fig.2** Relative Intensity vs Wavelength



**Fig.3** Current vs Temp



**Fig.6** Direct Radiation



### 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
Time at Max Reflow Temperature	10 seconds

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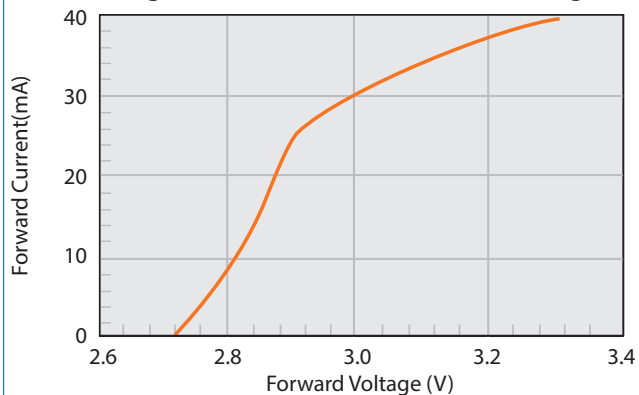
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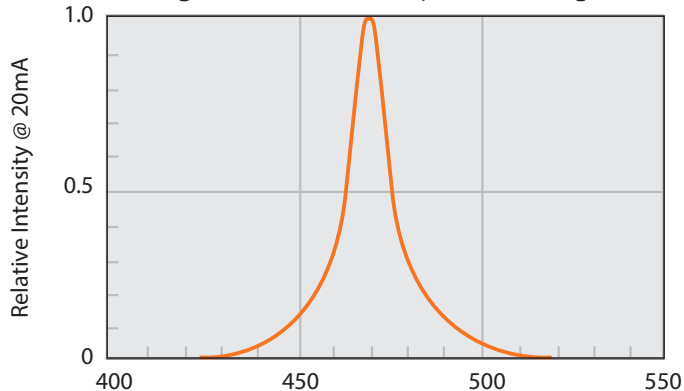
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## Graphs for Blue (InGaN)

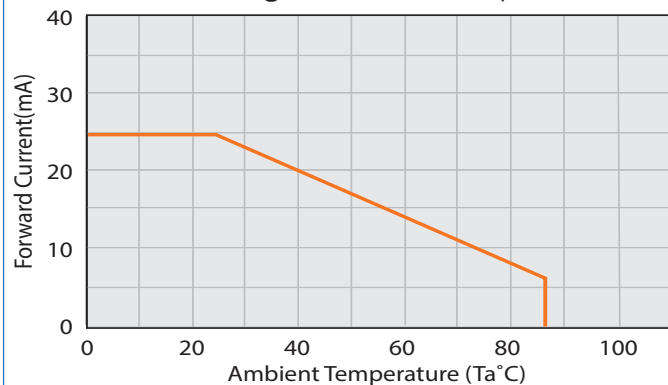
**Fig.1** Forward Current vs Forward Voltage



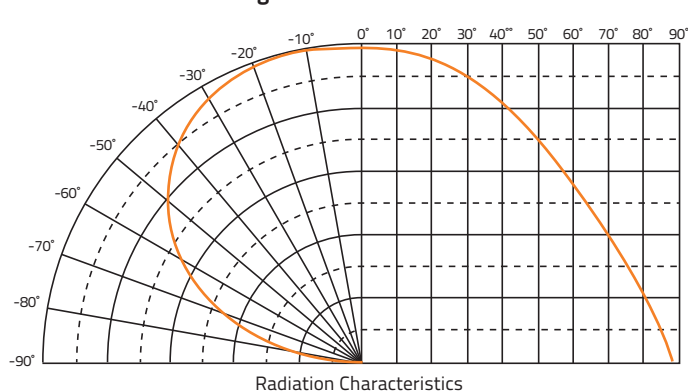
**Fig.2** Relative Intensity vs Wavelength



**Fig.3** Current vs Temp



**Fig. 4** Direct Radiation



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## Label Example

Item: MCL0805FBL2RD2T

Chip Type LED,0805,Flat Lens,Blue,Red

Qty: 3000

D/C: 1940

Lot: GS115A0168

VF: 1.8-2.4

BIN/HUE: I/v-J/G

VF: 2.8-3.1

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## Codes:

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

## Luminous Intensity Classification (BIN Code)

RED BIN Code	Iv(mcd) at 20mA	
	Min.	Max.
H	63	80
I	80	100
J	100	125
K	125	160

Blue BIN Code	Iv(mcd) at 20mA	
	Min.	Max.
H	63	80
I	80	100
J	100	125
K	125	160

## Dominant Wavelength Classification (HUE Code)

$\lambda_D$ (nm) at 20mA					
Red			Blue		
Hue Code	Min.	Max.	Hue Code	Min.	Max.
v	630	635	E	460	462.5
w	635	650	F	462.5	465
			G	465	467.5
			H	467.5	470

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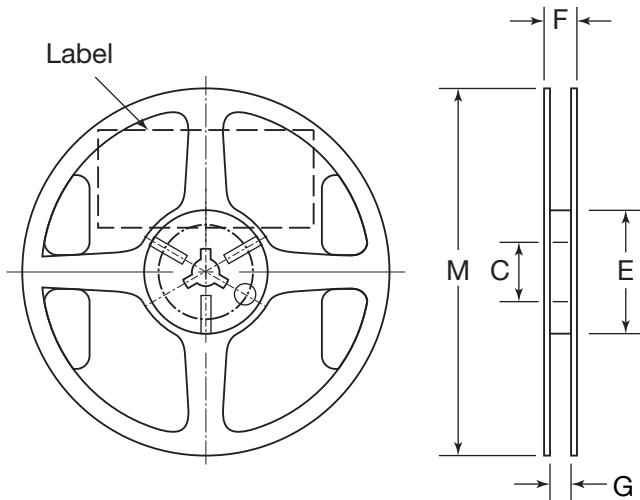
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## Reel Specifications

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

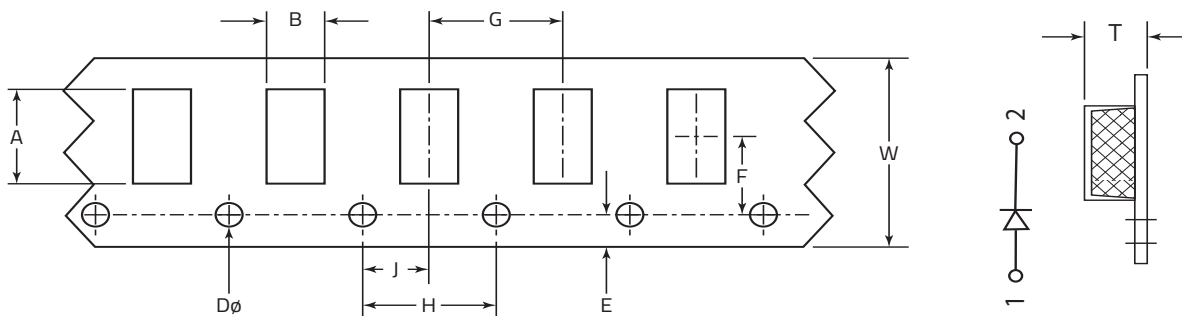
Reel Size:	7"
Quantity per Reel :	4,000

## 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



<b>T</b>	<b>W</b>	<b>A</b>	<b>B</b>	<b>F</b>
0.85±0.5	8.0±0.3	2.22±0.5	1.36±0.1	3.5±0.2
<b>E</b>	<b>H</b>	<b>J</b>	<b>D</b>	<b>G</b>
1.75±0.1	4.0±0.2	2.0±0.1	1.5±0.1	4.0±0.2

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## Environmental Test Criteria

Classification	Test Item	Test Condition	Sample Size
Endurance Test	Operating Life	1. Ta=25°C 2. If=20mA 3. t=1000hrs (-24hrs, (+72hrs)	22
	High Temperature Storage	1. Ta=100°C±5°C 2. t=1000hrs (-24hrs, (+72hrs)	22
	Low Temperature Storage	1. Ta=-40°C±5°C 2. t=1000hrs (-24hrs, (+72hrs)	22
	High Temperature, High Humidity Storage	1. Ta=85°C 2. RH=85% 3. t=1000hrs(-24hrs, (+72hrs)	22
Environmental Test	Thermal Shock	1. Ta=100°C±5°C & -40°C±5°C 20min/ 10sec / 20min 3. Total: 100 cycles total	22
	Temperature Cycling	1. 100°C±5°C & -40°C±5°C 30mins / 5mins / 30mins 2. 100 Cycles	22
	IR Reflow	1. T=260°C Max. 10 seconds Max 2. 6 Min	22