

# DATA SHEET

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## 產品承認書 APPROVED SHEET

品名 Product	R05圓形紅管
產品型號 Part No	LTLM-R05ARCE-019
樣品編號 Sample No	-----

隨本承認書提供該產品的設計及技術參數

Provide the product's design and technical character with the file.

核准 Approved By	審核 Check By	擬定 Prepared By	
廖志平	--	陈映廷	
客戶承認 Customer Approved	核准 Approved By	工程 Engineer	品保 Q.C

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LTLM-R05ARCE-019

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**Part No:**  
**LTLM-R05ARCE-019**

## Features

- \* High intensity LED lamp
- \*  $\varnothing 5\text{mm}$  round shape
- \* UV resistant epoxy

## Applications

- \* LED Screen
- \* Illumination

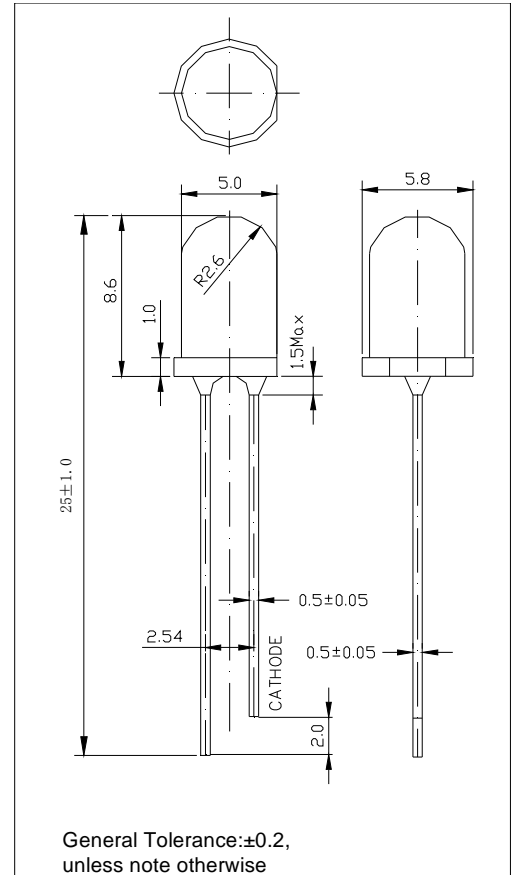
## Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Max	Unit
Power Dissipation	$P_D$	100	mW
Peak Forward Current *	$I_{FP}$	100	mA
Continuous Forward Current	$I_F$	20	mA
Reverse Voltage	$V_R$	5	V
Operating Temperature Range	$T_{opr}$	-25°C to +80°C	
Storage Temperature Range	$T_{stg}$	-40°C to +100°C	
Lead Soldering Temperature $\Delta$	$T_{sol}$	260	°C

\* Duty ratio max 1/10 Pulse Width max. 0.1ms;

$\Delta$  At the position of 4mm from the bottom of the package within 5 seconds.

## Package Dimensions



Unit : mm

Tolerance are  $\pm 0.2$ , unless note otherwise

## Electrical Optical Characteristics

( Ta=25°C , @IF=20mA )

Part No.	Material	Lens	Emitting Color	Forward Voltage (v)		Luminous Intensity (mcd)		Dominant Wavelength(nm)		Viewing Angle ( $2\theta_{1/2}$ )
				Min	Max	Min	Max	Min	Max	
LM-R05ARCE-019	AlGaInp	Water Clear	Red	1.8	2.6	3680	6300	620	630	30°

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## BIN Table : (Test at 20mA)

VF (v)	
Color	Range
Red	1.8-2.6
按 0.2v 分档	

IV (mcd)	
Code	Range
22	3680-4360
23	4360-5250
25	5250-6300

Wd (nm)	
Code	Range
R2	620-625
R3	625-630

## Error range :

- Luminous Intensity (IV)  $\pm 10\%$ , Forward Voltage (VF)  $\pm 0.1$ , Wavelength (Wd)  $\pm 1\text{nm}$

## Caution in ESD :

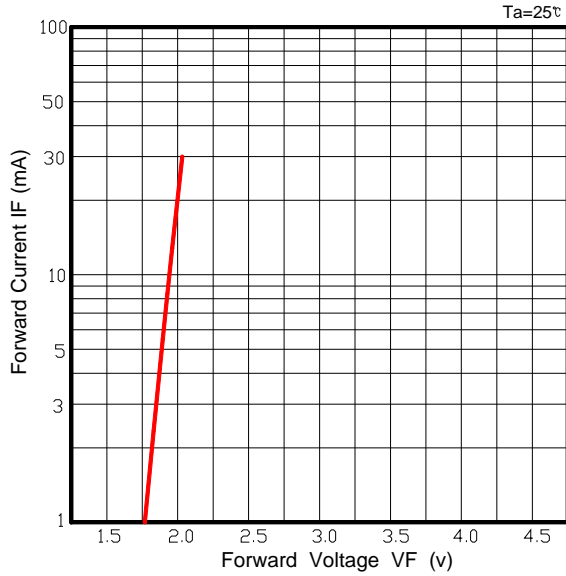
1. Static Electricity and surge damages the LEDs. It is recommended to use a wrist band or anti-electrostatic glove when handling the LEDs. All devices、Equipment and machinery must be properly grounded.
2. When inspecting own final products on which LEDs were mounted, It is easy to find static-damaged LEDs by light emission test at lower current (below 1mA is recommended) .
3. Damaged LEDs will show some unusual characteristics such as leak current remarkably increases, starting forward voltage becomes lower, or the LEDs get unlighted at the low current.

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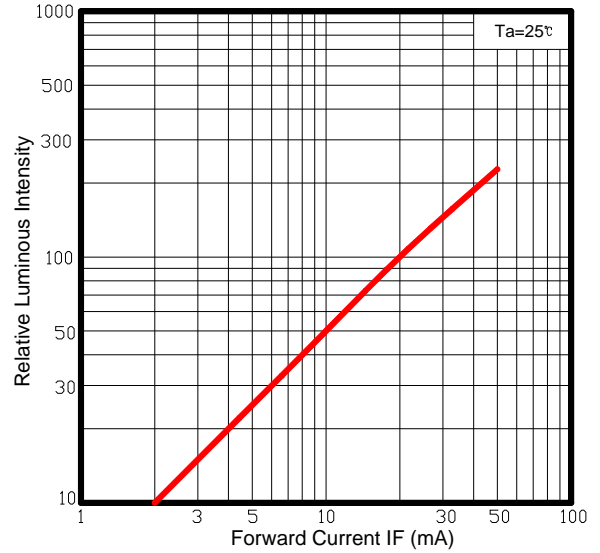
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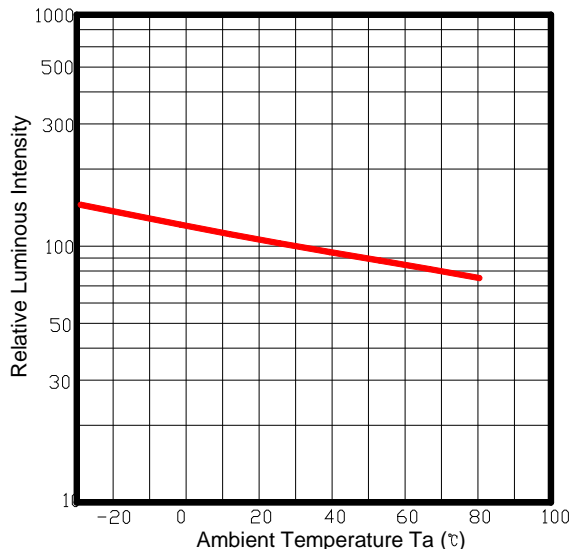
VF-IF



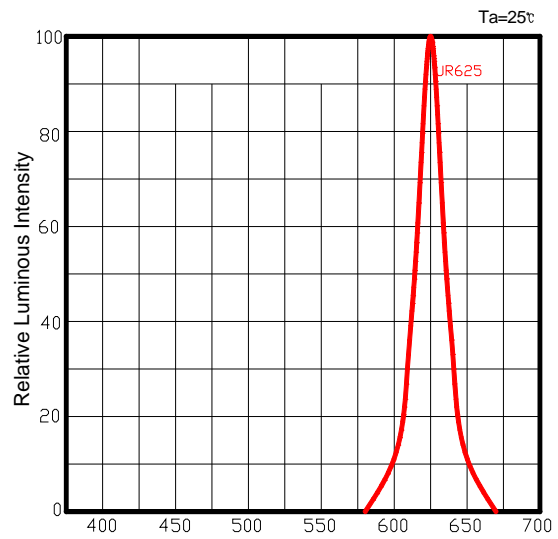
Relative Luminous Intensity-Ta



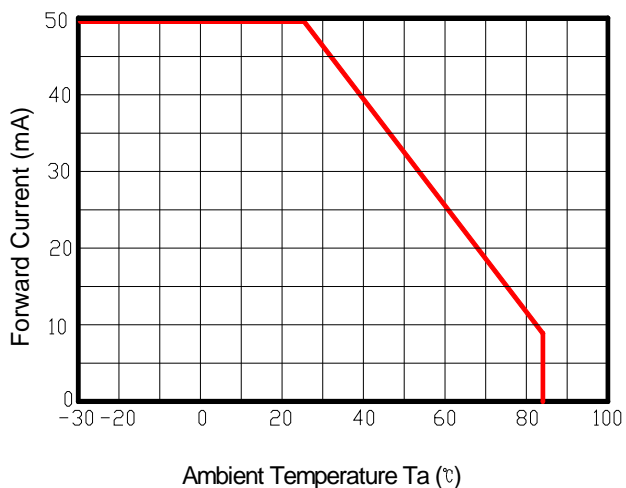
Relative Luminous Intensity-Ta



Wavelength Characteristics



IF-Ta



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## Reliability Test

Classification	Test Item	Test Conditions	Sample Size	Num of Damaged	Reference Standard
Endurance Test	Operating Life	$I_F=30mA$ 1000Hrs	22	0	MIL-STD-750:1026 MIL-STD-202:107D JIS C 7021:B-4
	High Temp. High Humidity Storage	$85\pm 5^\circ C$ $90\pm 5\%$ RH 500Hrs	100	0	MIL-STD-202:103D JIS C 7021:B-11
	Hi-Temp. Storage	$100\pm 5^\circ C$ 1000Hrs	100	0	MIL-STD-750:2031 MIL-STD-202:210A JIS C 7021:B-10
	Low-Temp. Storage	$-30\pm 5^\circ C$ 1000Hrs	100	0	JIS C 7021:B-12
Environmental Test	Temperature Cycling	$-30\pm 5^\circ C$ 30min Room Temp. 5min $100\pm 5^\circ C$ 30min 100 Cycles	100	0	MIL-STD-750:1051 MIL-STD-202:107D JIS C 7021:A-4
	Thermal Shock	$-30\pm 5^\circ C$ 5min $100\pm 5^\circ C$ 5min 100 Cycles	100	0	MIL-STD-750:1051 MIL-STD-202:107D JIS C 7021:A3
	Solderability	$230\pm 5^\circ C$ Dwell Time $\leq 5sec$	22	0	MIL-STD-202:208D MIL-STD-750:2026 MIL-STD-883:2003 JIS C 7021:A-2
	Solder Resistance	$260\pm 5^\circ C$ $10\pm 1sec$	22	0	MIL-STD-750:2031 MIL-STD-202:210A JIS C 7021:A-1

## Criteria for Judging The Damage:

Item	Symbol	Test Conditions	Criteria for Judgment	
			Min	Max
Forward Voltage	$V_F$	$I_F=20mA$	—	U. S. L*1.1
Reverse Current	$I_R$	$V_R=5V$	—	U. S. L*2.0
Luminous Intensity	$I_v$	$I_F=20mA$	L. S. L*0.7	—

PS: U. S. L. :Upper Standard Level L. S. L. :Lower Standard Level