



**LIGITEK**

**LIGITEK ELECTRONICS CO.,LTD.**  
**Property of Ligitek Only**

---

DOT MATRIX DIGIT LED DISPLAY (4.0Inch)

**LMD5741/2BY-XX**

**DATA SHEET**

DOC. NO : QW0905-LMD5741/2BY-XX

REV. : A

DATE : 04 - Dec. - 2005



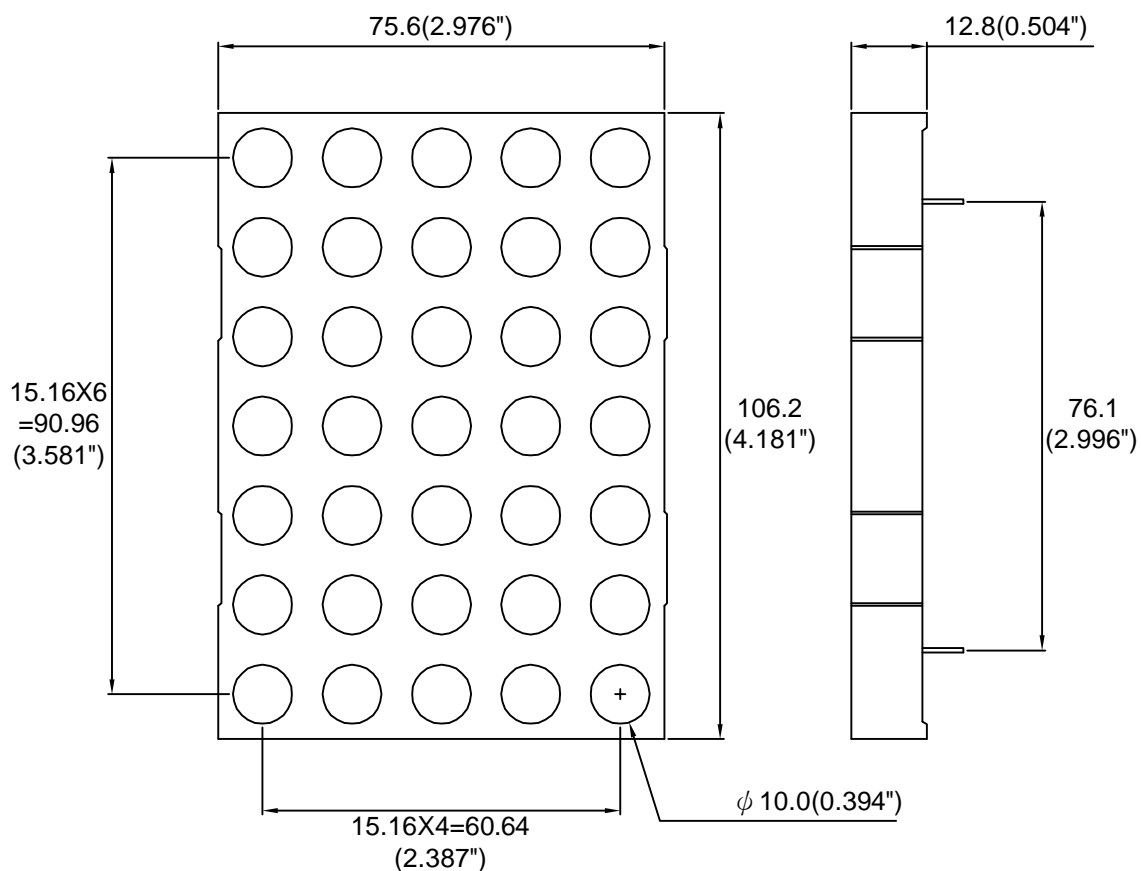
LIGITEK

LIGITEK ELECTRONICS CO.,LTD.  
Property of Ligitek Only

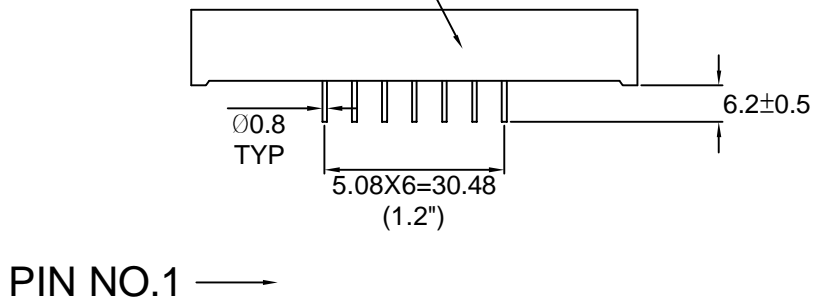
PART NO. LMD5741/2BY-XX

Page 1/7

### Package Dimensions



LMD5741/2BY-XX  
LIGITEK

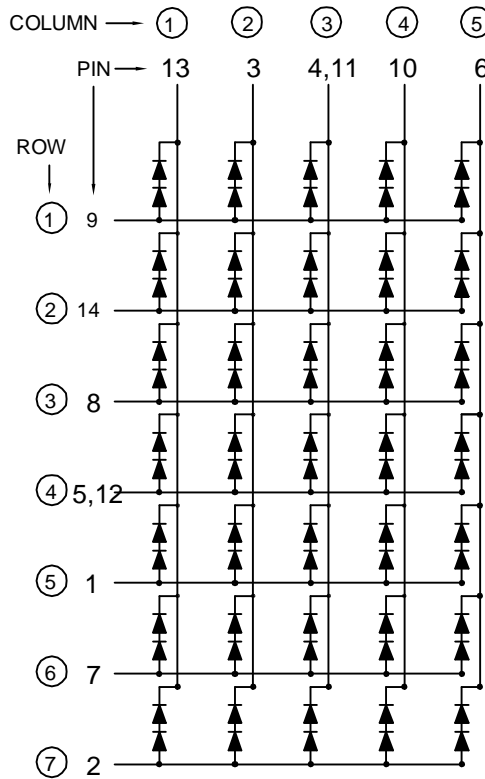


Note : 1.All dimension are in millimeters and (Inch) tolerance is  $\pm 0.25$ mm unless otherwise noted.  
2.Specifications are subject to change without notice.

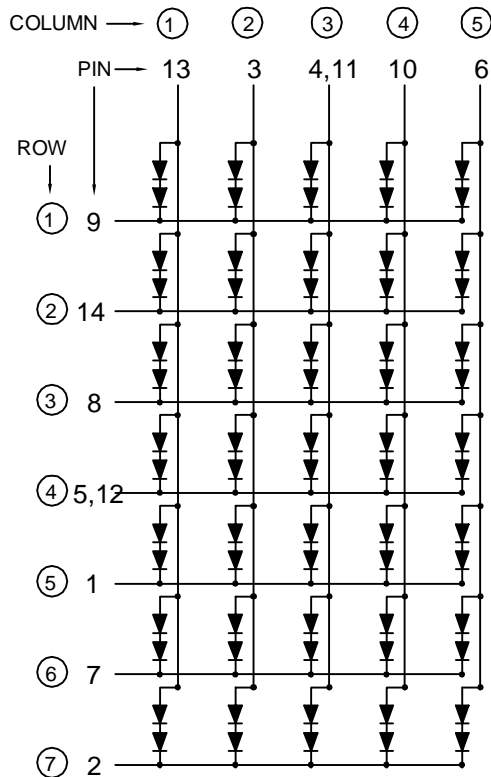


### Internal Circuit Diagram

LMD5741BY-XX



LMD5742BY-XX





### Electrical Connection

PIN NO.	LMD5741BY-XX	PIN NO.	LMD5742BY-XX
1	Anode Row 5	1	Cathode Row 5
2	Anode Row 7	2	Cathode Row 7
3	Cathode Column 2	3	Anode Column 2
4	Cathode Column 3	4	Anode Column 3
5	Anode Row 4	5	Cathode Row 4
6	Cathode Column 5	6	Anode Column 5
7	Anode Row 6	7	Cathode Row 6
8	Anode Row 3	8	Cathode Row 3
9	Anode Row 1	9	Cathode Row 1
10	Cathode Column 4	10	Anode Column 4
11	Cathode Column 3	11	Anode Column 3
12	Anode Row 4	12	Cathode Row 4
13	Cathode Column 1	13	Anode Column 1
14	Anode Row 2	14	Cathode Row 2

**Absolute Maximum Ratings at Ta=25 °C**

Parameter	Symbol	Ratings	UNIT
		Y	
Forward Current Per Chip	IF	20	mA
Peak Forward Current Per Chip (Duty 1/10,0.1ms Pulse Width)	IFP	80	mA
Power Dissipation Per Chip	PD	60	mW
Reverse Current Per Any Chip	Ir	10	μA
Operating Temperature	Topr	-25 ~ +85	°C
Storage Temperature	Tstg	-25 ~ +85	°C
Solder Temperature 1/16 Inch Below Seating Plane For 3 Seconds At 260 °C			

**Part Selection And Application Information(Ratings at 25°C)**

PART NO	CHIP		common cathode or anode	λ P (nm)	Δ λ (nm)	Electrical					IV-M
	Material	Emitted				Vf(v)			Iv(mcd)		
						Min.	Typ.	Max.	Min.	Typ.	
LMD5741BY-XX	GaAsP/GaP	Yellow	Common Cathode	585	35	3.4	4.0	5.2	4.0	6.1	2:1
LMD5742BY-XX			Common Anode								

Note : 1.The forward voltage data did not including ±0.1V testing tolerance.  
2. The luminous intensity data did not including ±15% testing tolerance.

**Test Condition For Each Parameter**

Parameter	Symbol	Unit	Test Condition
Forward Voltage Per Chip	V <sub>f</sub>	volt	I <sub>f</sub> =20mA
Luminous Intensity Per Chip	I <sub>v</sub>	mcd	I <sub>f</sub> =10mA
Peak Wavelength	$\lambda_p$	nm	I <sub>f</sub> =20mA
Spectral Line Half-Width	$\Delta \lambda$	nm	I <sub>f</sub> =20mA
Reverse Current Any Chip	I <sub>r</sub>	$\mu A$	V <sub>r</sub> =5V
Luminous Intensity Matching Ratio	IV-M		



### Typical Electro-Optical Characteristics Curve

Y CHIP

Fig.1 Forward current vs. Forward Voltage

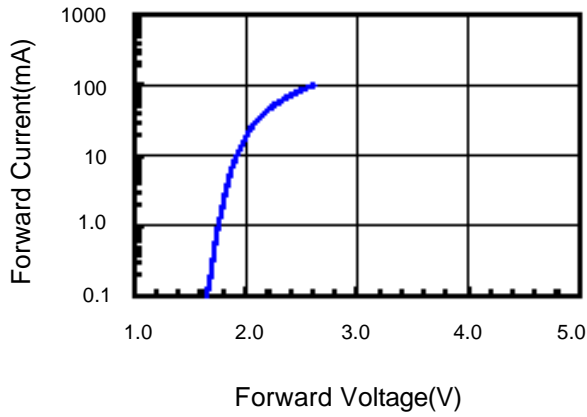


Fig.2 Relative Intensity vs. Forward Current

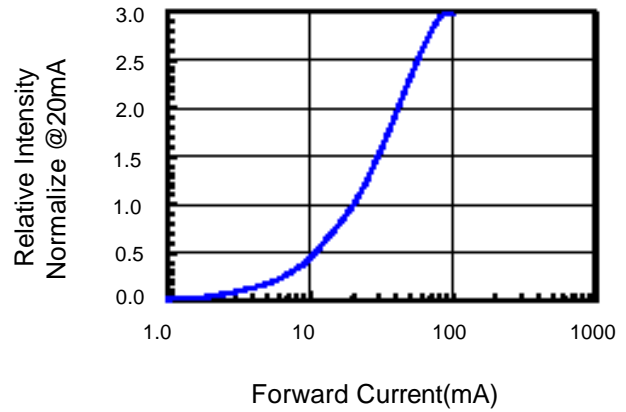


Fig.3 Forward Voltage vs. Temperature

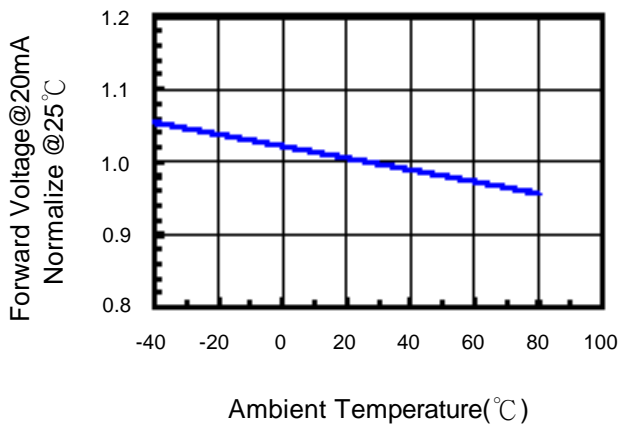


Fig.4 Relative Intensity vs. Temperature

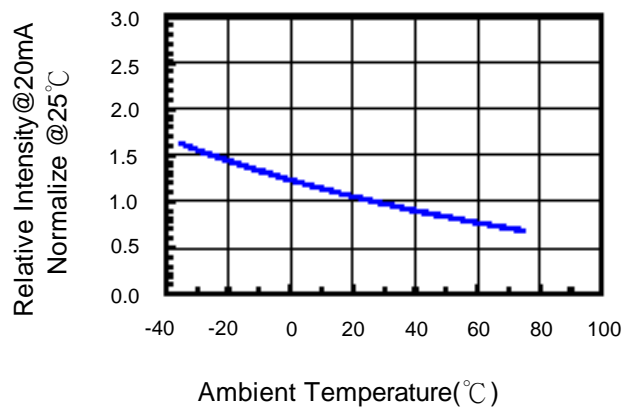
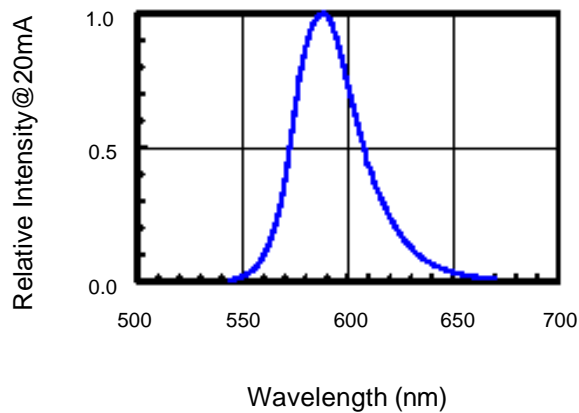


Fig.5 Relative Intensity vs. Wavelength



**Reliability Test:**

Test Item	Test Condition	Description	Reference Standard
Operating Life Test	1.Under Room Temperature 2.If=10mA 3.t=1000 hrs (-24hrs, +72hrs)	This test is conducted for the purpose of determining the resistance of a part in electrical and thermal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=105 °C ±5°C 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of high temperature for hours.	MIL-STD-883:1008 JIS C 7021: B-10
Low Temperature Storage Test	1.Ta=-40 °C ±5°C 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of low temperature for hours.	JIS C 7021: B-12
High Temperature High Humidity Test	1.Ta=65 °C ±5°C 2.RH=90%~95% 3.t=240hrs ±2hrs	The purpose of this test is the resistance of the device under tropical for hours.	MIL-STD-202:103B JIS C 7021: B-11
Thermal Shock Test	1.Ta=105 °C ±5°C & -40 °C ±5°C (10min) (10min) 2.total 10 cycles	The purpose of this is the resistance of the device to sudden extreme changes in high and low temperature.	MIL-STD-202: 107D MIL-STD-750: 1051 MIL-STD-883: 1011
Solder Resistance Test	1.T.Sol=260 °C ±5°C 2.Dwell time= 10 ±1sec.	This test intended to determine the thermal characteristic resistance of the device to sudden exposures at extreme changes in temperature when soldering the lead wire.	MIL-STD-202: 210A MIL-STD-750: 2031 JIS C 7021: A-1
Solderability Test	1.T.Sol=230 °C ±5°C 2.Dwell time=5 ±1sec	This test intended to see soldering well performed or not.	MIL-STD-202: 208D MIL-STD-750: 2026 MIL-STD-883: 2003 JIS C 7021: A-2