



LIGITEK

LIGITEK ELECTRONICS CO.,LTD.  
Property of Ligitek Only

---

DOT MATRIX DIGIT LED DISPLAY (0.68Inch)

## LMD5701/2ASBKS-XX

# DATA SHEET

DOC. NO : QW0905-LMD5701/2ASBKS-XX

REV. : A

DATE : 21 - Feb. - 2006



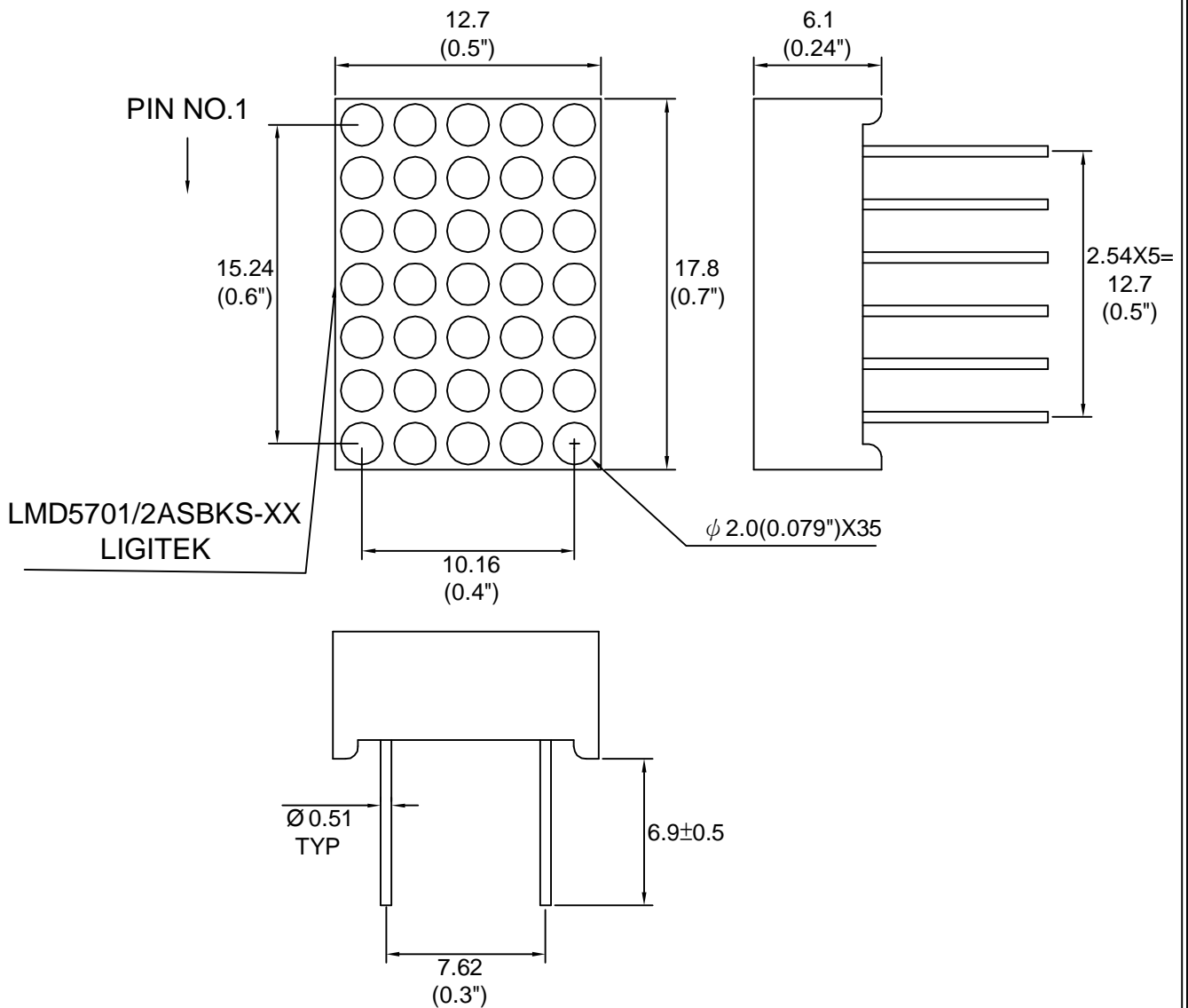
LIGITEK

LIGITEK ELECTRONICS CO.,LTD.  
Property of Ligitek Only

PART NO. LMD5701/2ASBKS-XX

Page 1/7

### Package Dimensions

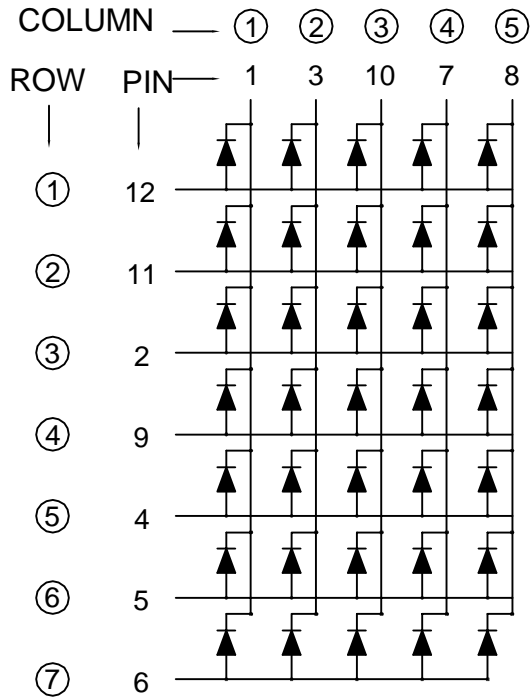


Note : 1.All dimension are in millimeters and (Inch) tolerance is  $\pm 0.25$ mm unless otherwise noted.  
2.Specifications are subject to change without notice.

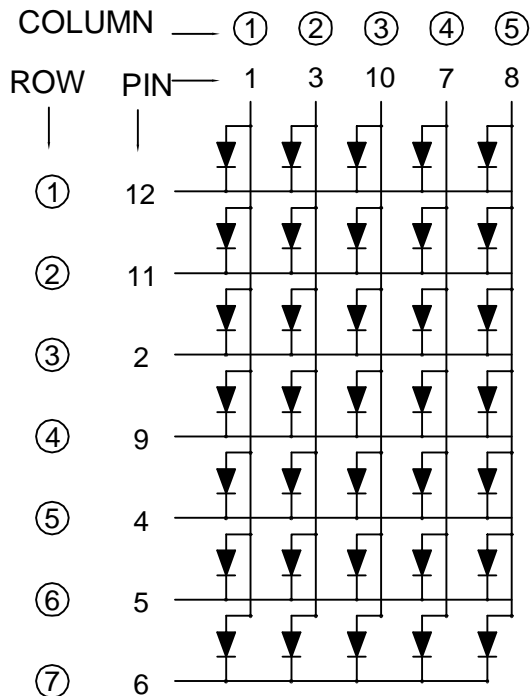


Internal Circuit Diagram

LMD5701ASBKS-XX



LMD5702ASBKS-XX





### Electrical Connection

PIN NO.	LMD5701ASBKS-XX	PIN NO.	LMD5702ASBKS-XX
1	Cathode Column 1	1	Anode Column 1
2	Anode Row 3	2	Cathode Row 3
3	Cathode Column 2	3	Anode Column 2
4	Anode Row 5	4	Cathode Row 5
5	Anode Row 6	5	Cathode Row 6
6	Anode Row 7	6	Cathode Row 7
7	Cathode Column 4	7	Anode Column 4
8	Cathode Column 5	8	Anode Column 5
9	Anode Row 4	9	Cathode Row 4
10	Cathode Column 3	10	Anode Column 3
11	Anode Row 2	11	Cathode Row 2
12	Anode Row 1	12	Cathode Row 1



Absolute Maximum Ratings at Ta=25 °C

Parameter	Symbol	Ratings	UNIT
		SBKS	
Forward Current Per Chip	IF	30	mA
Peak Forward Current Per Chip (Duty 1/10,0.1ms Pulse Width)	IFP	100	mA
Power Dissipation Per Chip	PD	120	mW
Reverse Current Per Any Chip	Ir	50	μA
Electrostatic Discharge( * )	ESD	500	V
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

\* Static Electricity or power surge will damage the LED. Use of a conductive wrist band or anti-electrosatic glove is recommended when handing these LED. All devices, equipment and machinery must be properly grounded.

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

PART NO	CHIP		common cathode or anode	λ D (nm)	Δ λ (nm)	Electrical				IV-M
	Material	Emitted				Vf(v)		Iv(mcd)		
						Typ.	Max.	Min.	Typ.	
LMD5701ASBKS-XX	InGaN/SiC	Blue	Common Cathode	475	26	3.5	4.2	15.25	26	2:1
LMD5702ASBKS-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	Vf	volt	If=20mA
Luminous Intensity Per Chip	Iv	mcd	If=10mA
Dominant Wavelength	$\lambda D$	nm	If=20mA
Spectral Line Half-Width	$\Delta \lambda$	nm	If=20mA
Reverse Current Any Chip	Ir	$\mu A$	Vr=5V
Luminous Intensity Matching Ratio	IV-M		



### Typical Electro-Optical Characteristics Curve

SBK-S CHIP

Fig.1 Forward current vs. Forward Voltage

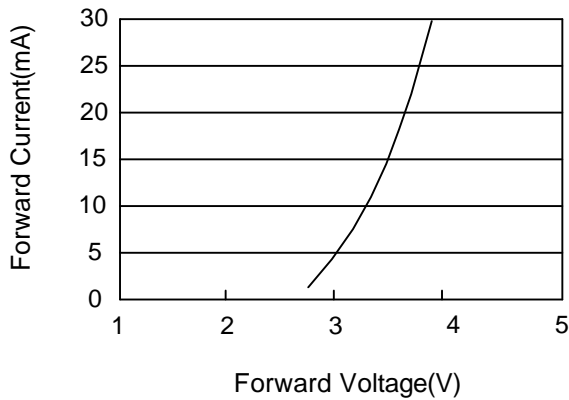


Fig.2 Relative Intensity vs. Forward Current

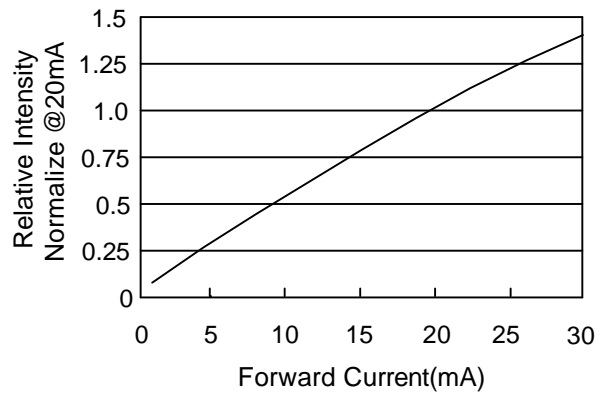


Fig.3 Forward Current vs. Temperature

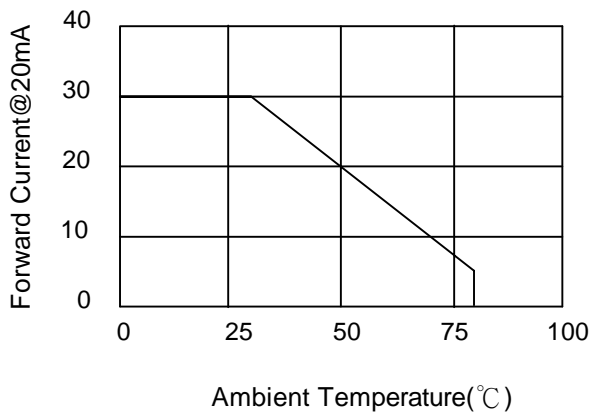
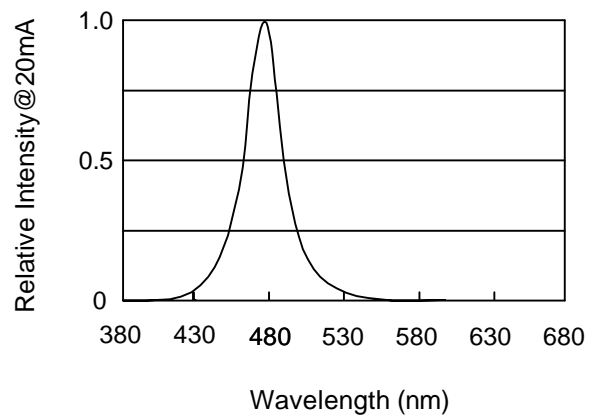


Fig.4 Relative Intensity vs. Wavelength





## 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