

SPECIFICATIONS FOR LED DISPLAYS

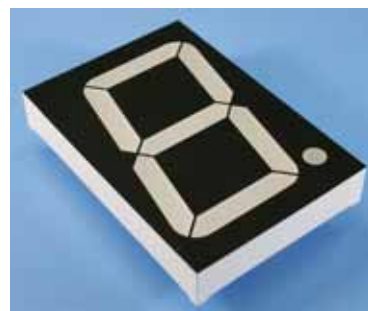
56.8mm(2.3") Seven Segments Single Digit

LSD230 -10 Series

WENRUN OPTOELECTRONIC

Features:

- High luminous intensity output.
- High efficiency, low power consumption.
- Extremely low current.
- Luminous evenly distributed on each segment.
- Low development cost.

**LSD230A/B/C/D/G/H/I/J -10****Descriptions:**

- Industrial standard size.
- These display provide excellent reliability in bright ambient light.
- These devices are made with white segments and black surface.

Applications:

- Audio equipment or Instrument panels.
- General use for digital indicators.
- Multimedia product.

Selection Guide:

Part No.		Chip		Lens Color
Anode	Cathode	Material	Emitting Color	
LSD230B/D/H/JUE-10	LSD230A/C/G/IUE-10	AlGaInP	High Super Red	White Diffused
LSD230B/D/H/JUY-10	LSD230A/C/G/IUY-10	AlGaInP	High Super Yellow	
LSD230B/D/H/JAM-10	LSD230A/C/G/IAM-10	AlGaInP	High Super Amber	

Absolute Maximum Rating (Ta=25)**【LSD230A/B/C/D】**

Parameter	Symbol	High Super	High Super	High Super	Unit
		Red	Amber	Yellow	
Power Dissipation/Segment	P _d	220	220	220	mW
Peak Forward Current /Segment (Duty 1/10@ 1KHz)	I _{FP}	60	60	60	mA
Continuous Forward Current /Segment	I _F	20	20	20	mA
Recommend use current /Segment	I _F	5~10	5~10	5~10	mA
Reverse Voltage /Segment	V _R	12	12	12	V
Operating Temperature Range	Topr	-25~ +75			
Storage Temperature Range	Tstg	-30 ~ +85			
Solder Temperature	Tsol	260 ± 5			

- Notes :** 1、 This is the limit current. It is not allowed to use when the product work continuously.
 2、 It is recommended that the product is driven by TTL,CMOS .
 3、 Soldering time 5 seconds.

Absolute Maximum Rating (Ta=25)**【LSD230G/H/I/J】**

Parameter	Symbol	High Super	High Super	High Super	Unit
		Red	Amber	Yellow	
Power Dissipation/Segment	P _d	180	180	180	mW
Peak Forward Current /Segment (Duty 1/10@ 1KHz)	I _{FP}	60	60	60	mA
Continuous Forward Current /Segment	I _F	20	20	20	mA
Recommend use current /Segment	I _F	5~10	5~10	5~10	mA
Reverse Voltage /Segment	V _R	10	10	10	V
Operating Temperature Range	Topr	-25~ +75			
Storage Temperature Range	Tstg	-30 ~ +85			
Solder Temperature	Tsol	260 ± 5			

- Notes :** 1、 This is the limit current. It is not allowed to use when the product work continuously.
 2、 It is recommended that the product is driven by TTL,CMOS .
 3、 Soldering time 5 seconds.

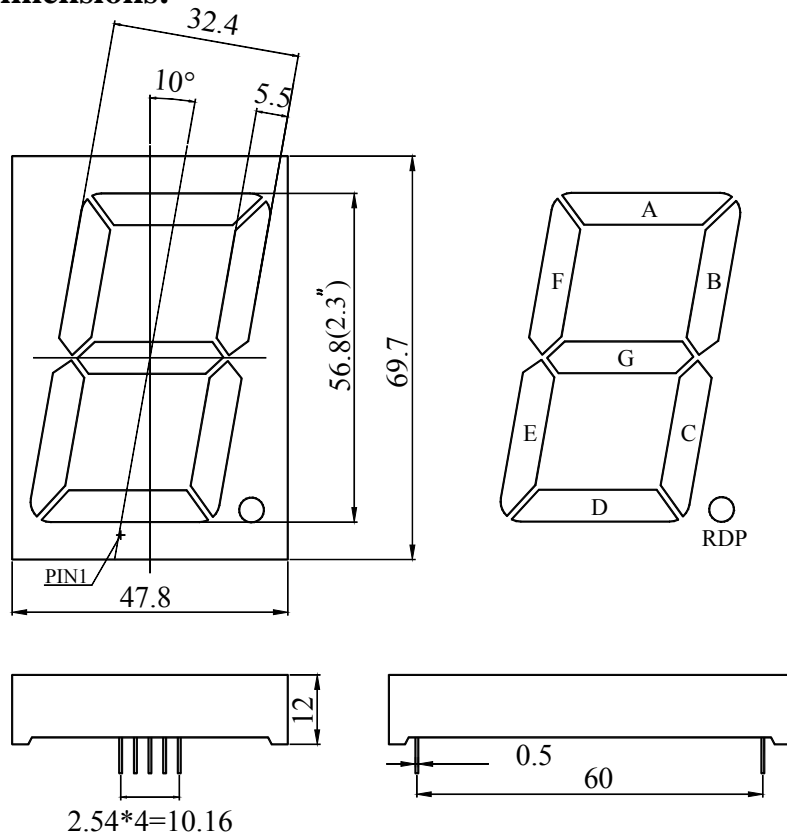
Electrical Optical Characteristics (Ta=25)**【LSD230A/B/C/D 】**

Parameter	Symbol	High Super Red		High Super Amber		High Super Yellow		Unit	Test Condition
		Typ.	Max.	Typ.	Max.	Typ.	Max.		
Luminous Intensity /Segment	I _V	98	--	98	--	98	--	mcd	I _F =10mA
Forward Voltage /Segment	V _F	8.0	10	8.0	10	8.0	10	V	I _F =20mA
Reverse Current /Segment	I _R	--	50	--	50	--	50	uA	V _R =5V
Dominant Wavelength	d	625	--	605	--	590	--	nm	I _F =20mA
Spectral Line Half Width		30	--	30	--	30	--	nm	I _F =20mA

Electrical Optical Characteristics (Ta=25)**【LSD230G/H/I/J 】**

Parameter	Symbol	High Super Red		High Super Amber		High Super Yellow		Unit	Test Condition
		Typ.	Max.	Typ.	Max.	Typ.	Max.		
Luminous Intensity /Segment	I _V	82	--	82	--	82	--	mcd	I _F =10mA
Forward Voltage /Segment	V _F	6.0	7.5	6.0	7.5	6.0	7.5	V	I _F =20mA
Reverse Current /Segment	I _R	--	50	--	50	--	50	uA	V _R =5V
Dominant Wavelength	d	625	--	605	--	590	--	nm	I _F =20mA
Spectral Line Half Width		30	--	30	--	30	--	nm	I _F =20mA

Package Dimensions:



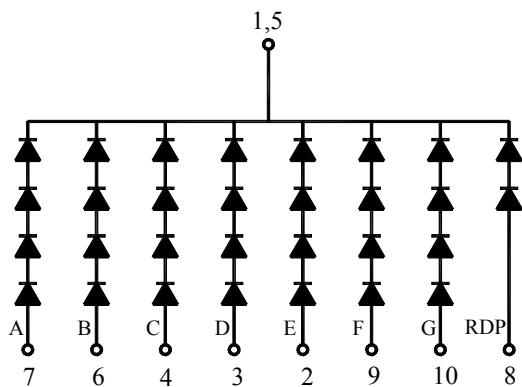
【LSD230A/B/C/D/G/H/I/J】

NOTES :

- All dimensions are in millimetres (mm), Tolerance is $\pm 0.25\text{mm}$ unless otherwise noted.
- Specifications are subject to change without notice.

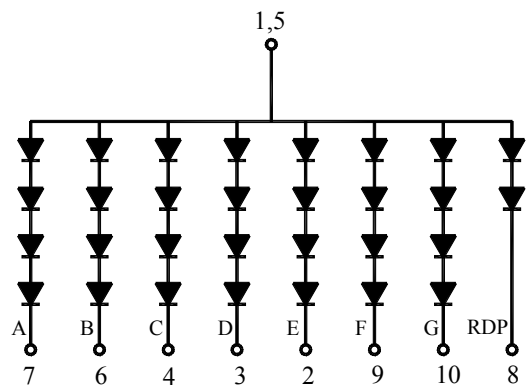
Internal Circuit:

Common Cathode



LSD230A

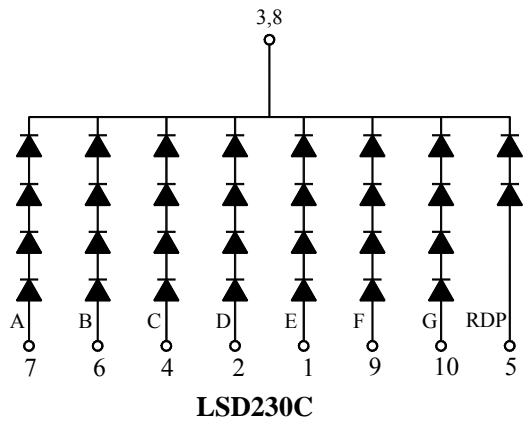
Common Anode



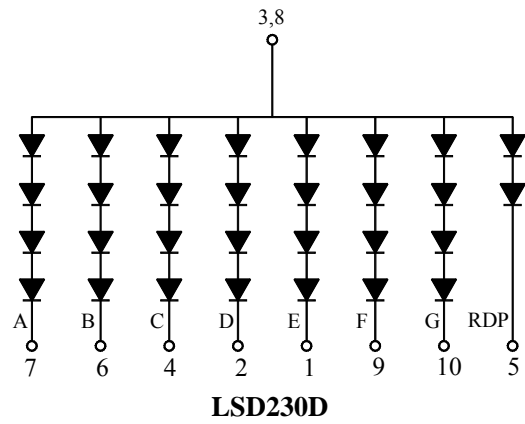
LSD230B

Internal Circuit:

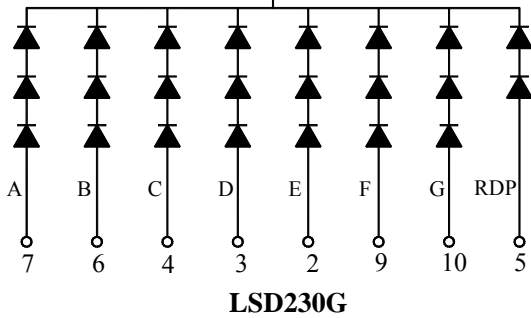
Common Cathode



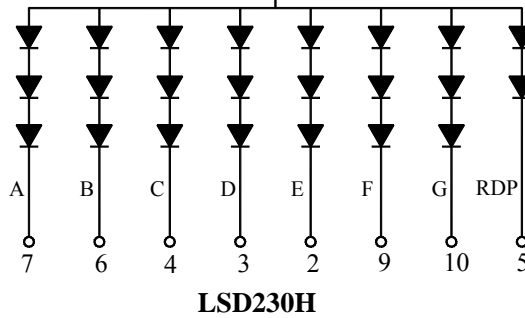
Common Anode



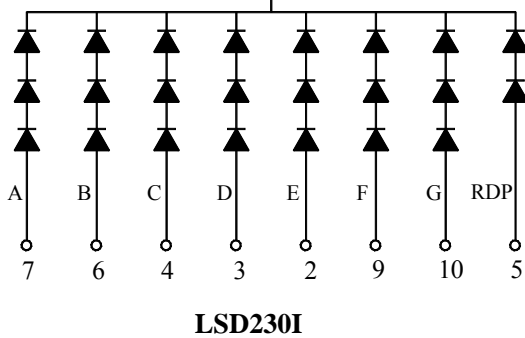
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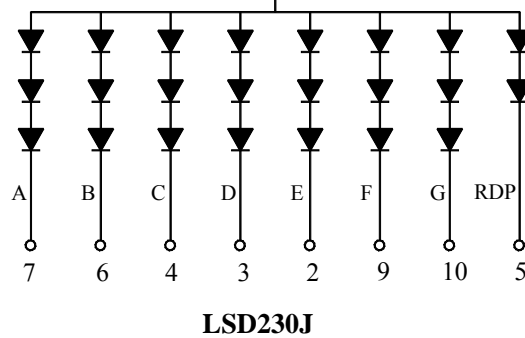
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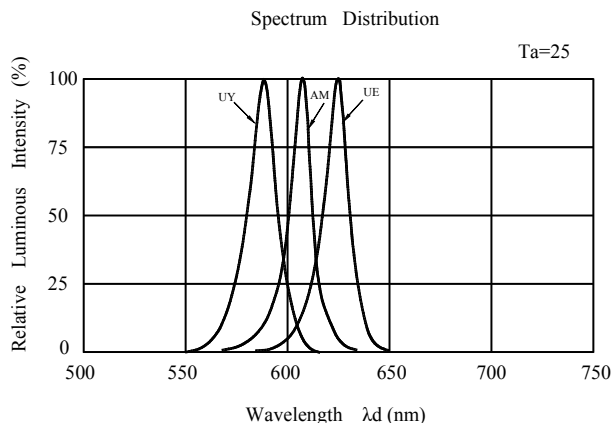
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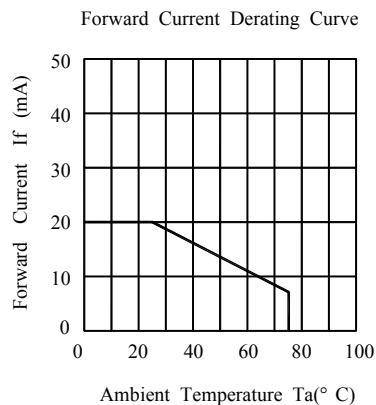
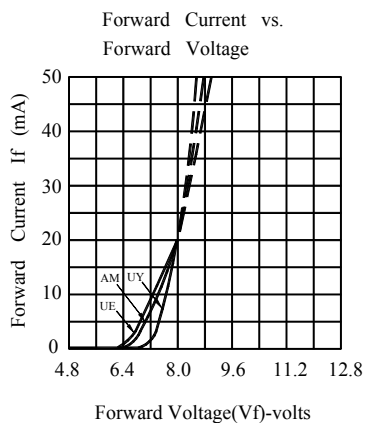
Reliability Test Items and Conditions

NO	Test Item	Test Conditions	Duration	Sample	Ac/Re
1	Temperature Cycle	-30 ~ 25 ~ 85 ~ 25 30min 5min 30min 5min	50cycles	100	0/1
2	High Temp. Storage	Ta=85	1000hours	100	0/1
3	Temp.& Humidity Test	Ta=85 RH=85%	1000hours	100	0/1
4	Low Temp. Storage	Ta=-30	1000hours	100	0/1
5	Operating Life Test	Ta=25 ± 5 DC IF=15mA	1000hours	100	0/1
6	Solder Heat	Tsol=260 ± 5 , 10s	1times	20	0/1

Typical Electro-Optical Characteristics Curves



LSD230A/B/C/D UE/UY/AM



LSD230G/H/I/J UE/UY/AM

