SPECIFICATIONS FOR LED DISPLAYS

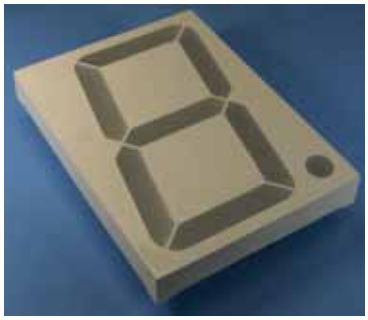
126.6mm(5.0") Seven Segments Single Digit

LSD500□□-00 Series

WENRUN OPTOELECTRONIC

◆ Features:

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



LSD500A/B/C/D□-00

◆ Descriptions:

- Industrial standard size.
- These display provide excellent reliability in bright ambient light.
- These devices are made with white segments and white 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	
LSD500B/DSR-00	LSD500A/CSR-00	GaAlAs	Super Red	White Diffused
LSD500B/DG-00	LSD500A/CG-00	GaP	Green	
LSD500B/DE-00	LSD500A/CE-00	GaAsP/GaP	Orange	

◆ Absolute Maximum Rating （Ta=25℃） 【LSD500A/B□】

Parameter	Symbol	Super Red	Green	Orange	Unit
Power Dissipation/Segment	P_d	600	650	650	mW
Peak Forward Current /Segment (Duty 1/10@ 1KHz)	I_{FP}	120	120	120	mA
Continuous Forward Current /Segment ①	I_F	40	40	40	mA
Recommend use current /Segment ②	I_F	10~20	10~20	10~20	mA
Reverse Voltage /Segment	V_R	20	20	20	V
Operating Temperature Range	Topr	-25~ +75			℃
Storage Temperature Range	Tstg	-30 ~ +85			℃
Solder Temperature ③	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℃） 【LSD500C/D□】

Parameter	Symbol	Super Red	Green	Orange	Unit
Power Dissipation/Segment	P_d	500	550	550	mW
Peak Forward Current /Segment (Duty 1/10@ 1KHz)	I_{FP}	60	60	60	mA
Continuous Forward Current /Segment ①	I_F	25	25	25	mA
Recommend use current /Segment ②	I_F	5~10	5~10	5~10	mA
Reverse Voltage /Segment	V_R	20	20	20	V
Operating Temperature Range	Topr	-25~ +75			℃
Storage Temperature Range	Tstg	-30 ~ +85			℃
Solder Temperature ③	Tsol	260±5			℃

Notes：1、The value is the limit, the continuous work do not allow using this value.

2、It is recommended that the product is driven by TTL,CMOS.

3、Soldering time≤5 seconds.

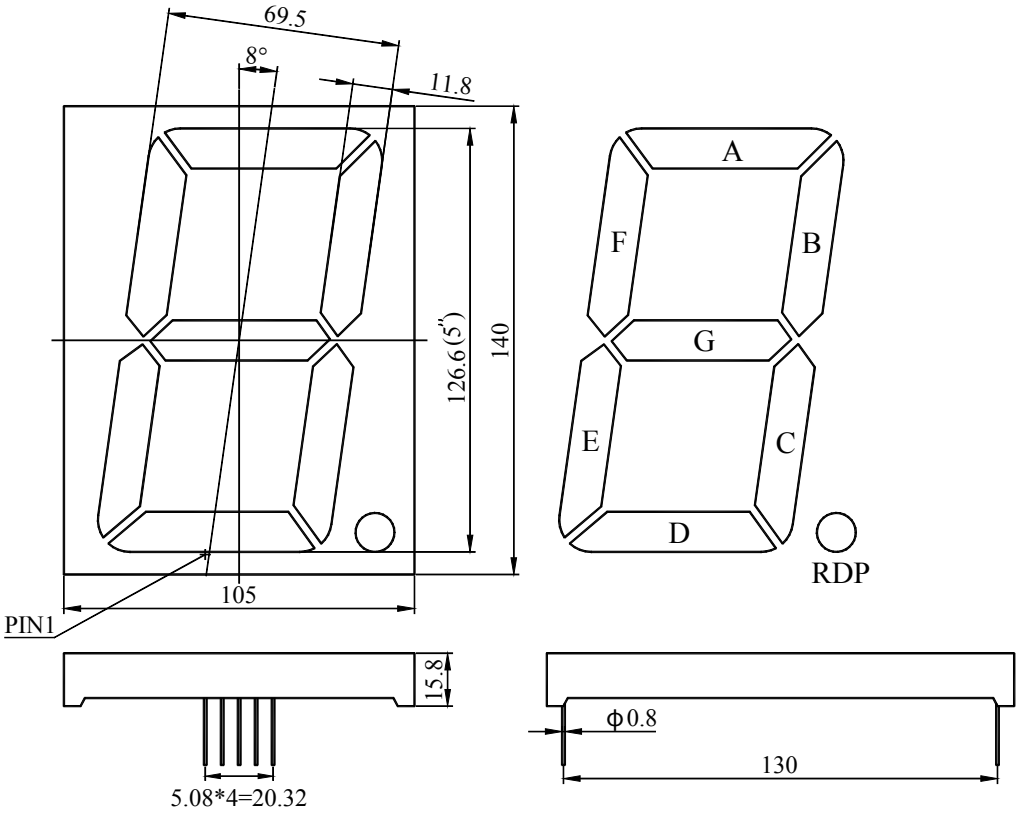
◆ Electrical Optical Characteristics（Ta=25℃） 【LSD500A/B□】

Parameter	Symbol	Super Red		Green		Orange		Unit	Test Condition
		Typ.	Max.	Typ.	Max.	Typ.	Max.		
Luminous Intensity /Segment	I_V	37	--	27	--	27	--	mcd	I_F=20mA
Forward Voltage /Segment	V_F	12.6	16	15.4	17.5	14	17.5	V	I_F=20mA
Reverse Current /Segment	I_R	--	50	--	50	--	50	uA	V_R=5V
Dominant Wavelength	λd	645	--	565	--	630	--	nm	I_F=20mA
Spectral Line Half Width	Δλ	30	--	30	--	30	--	nm	I_F=20mA

◆ Electrical Optical Characteristics（Ta=25℃） 【LSD500C/D□】

Parameter	Symbol	Super Red		Green		Orange		Unit	Test Condition
		Typ.	Max.	Typ.	Max.	Typ.	Max.		
Luminous Intensity /Segment	I_V	46	--	23	--	23	--	mcd	I_F=10mA
Forward Voltage /Segment	V_F	22.2	27.6	26.4	30	24	30	V	I_F=20mA
Reverse Current /Segment	I_R	--	50	--	50	--	50	uA	V_R=5V
Dominant Wavelength	λd	645	--	565	--	630	--	nm	I_F=20mA
Spectral Line Half Width	Δλ	30	--	30	--	30	--	nm	I_F=20mA

◆ Package Dimensions:



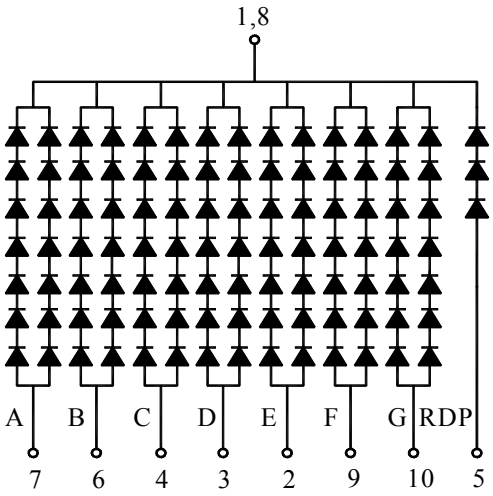
【LSD500A/B/C/D】

NOTES：

- All dimensions are in millimetres (mm), Tolerance is ±0.25mm unless otherwise noted.
- Specifications are subject to change without notice.

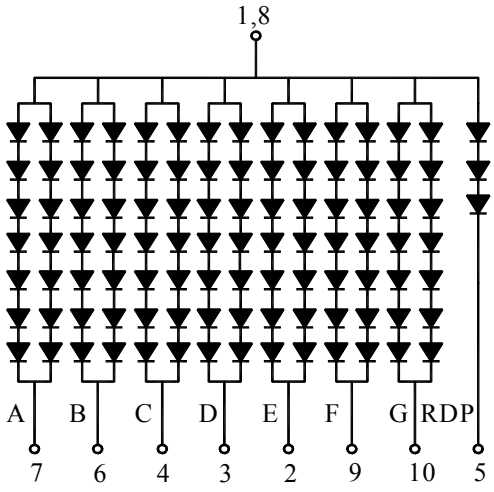
◆ Internal Circuit:

Common Cathode

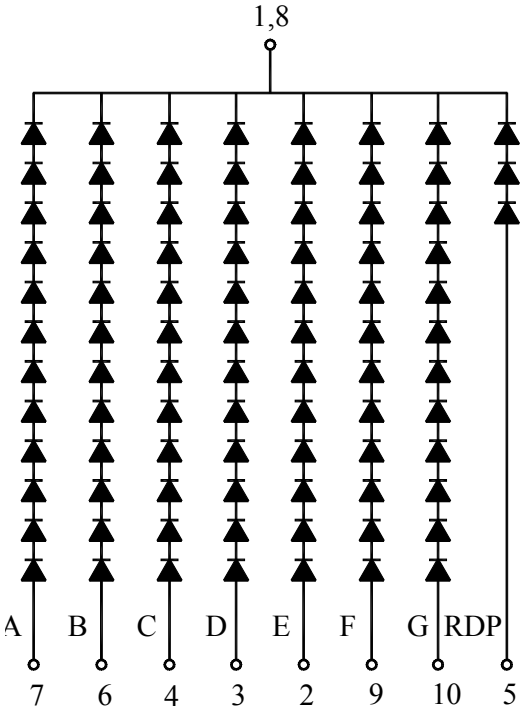


LSD150A□

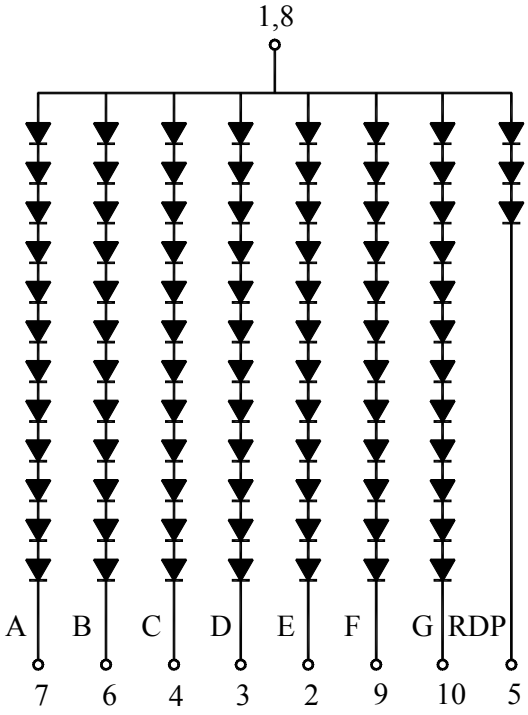
Common Anode



LSD150B□



LSD150C□



LSD150D□

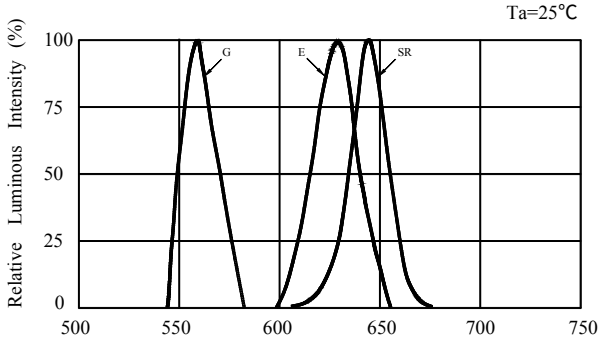
◆ Reliability Test Items and Conditions

NO	Test Item	Test Conditions	Duration	Sample	Ac/Re
1	Temperature Cycle	-30℃～25℃～85℃～25℃ 30min 5min 30min 5min	50clycles	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

Spectrum Distribution

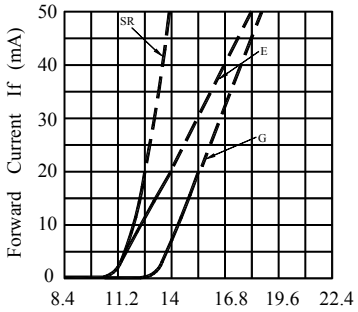
Ta=25℃



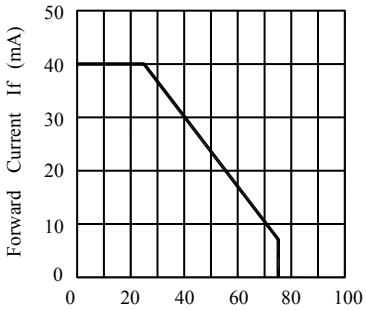
LSD500A/B

SR/G/E

Forward Current vs. Forward Voltage



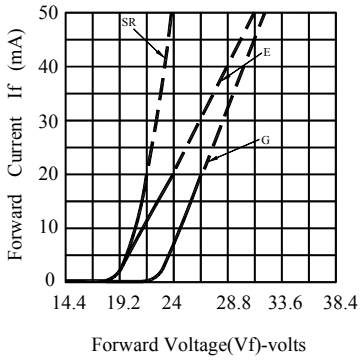
Forward Current Derating Curve



LSD500C/D

SR/G/E

Forward Current vs. Forward Voltage



Forward Current Derating Curve