



Device Number : DDS-405-008 REV: 1.0

## 4.0" Single Digit Displays

MODEL NO ELS-4005GWA ECN :                      Page: 1/5

### ■ Features :

- Industrial standard size.
- Low power consumption.
- Categorized for luminous intensity.

### ■ Applications:

- Audio equipment
- Instrument panels
- Digital read out display

### ■ Description :

- The ELS-4005series is a large 101.2mm (4.0")high seven segment display design for viewing distances up to 7 meters.
- These displays provide excellent reliability in bright ambient light .
- These device is made with white segments and gray surface.

PART NO	CHIP		C.C. or C.A.
	Material	Emitted Color	
ELS-4005GWA	GaP	Green	C.C.

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<http://www.everlight.com>





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■ Absolute maximum ratings at Ta = 25°C :

Parameter	Symbol	Rating	Unit
Reverse Voltage	Vr	5	V
Forward Current	If	30	mA
Operating Temperature	Topr	-40 to +85	°C
Storage Temperature	Tstg	-40 to +100	°C
Soldering Temperature	Tsol	260 ± 5	°C
Power Dissipation	Pd	500	mW
Peak Forward Current(Duty 1/10 @ 1KHZ)	If(Peak)	160	mA

■ Electronic optical characteristics :

Parameter		Symbol	MIN.	TYP.	MAX.	Unit	Condition
Luminous Intensity	Per segment	Iv	2.80	5.5	----	mcd	If=10mA
	Per decimal point		0.45	1.05	----		
Peak Wavelength		$\lambda p$	----	565	----	nm	If=20mA
Dominant Wavelength		$\lambda d$	----	570	----	nm	If=20mA
Spectrum Radiation Bandwidth		$\Delta \lambda$	----	30	----	nm	If=20mA
Forward Voltage	Per segment	Vf	8.5	10.5	12.0	V	If=20mA
	Per decimal point		1.7	2.1	2.4		
Reverse Current		Ir	----	----	10	$\mu A$	Vr=5V



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■ Reliability test item and condition:

NO	Item	Test Conditions	Test Hours/Cycle	Sample Size	Ac/Re
1	Solder Heat	TEMP : 260°C ± 5 °C	5 SEC	76 PCS	0/1
2	Temperature Cycle	H : +85°C 30min ∫ 5 min L : -55°C 30min	50 CYCLE	76 PCS	0/1
3	Thermal Shock	H : +100°C 5min ∫ 10 sec L : -10°C 5min	50 CYCLE	76 PCS	0/1
4	High Temperature Storage	TEMP : 100°C	1000 HRS	76 PCS	0/1
5	Low Temperature Storage	TEMP : -55°C	1000 HRS	76 PCS	0/1
6	DC Operating Life	If = 10 mA	1000 HRS	76 PCS	0/1
7	High Temperature / High Humidity	85°C/85% RH	1000 HRS	76 PCS	0/1

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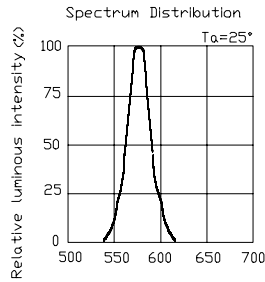
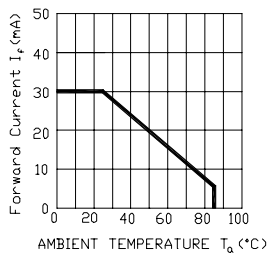
ECN :

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## Typical Electro-Optical Characteristic Curves:

Forward Current Derating Curve



Per decimal point

Forward Current vs. Forward Voltage

