

WP934AD/GD

3mm Single-Level Circuit Board Indicator

DESCRIPTION

- The Green source color devices are made with Gallium Phosphide Green Light Emitting Diode

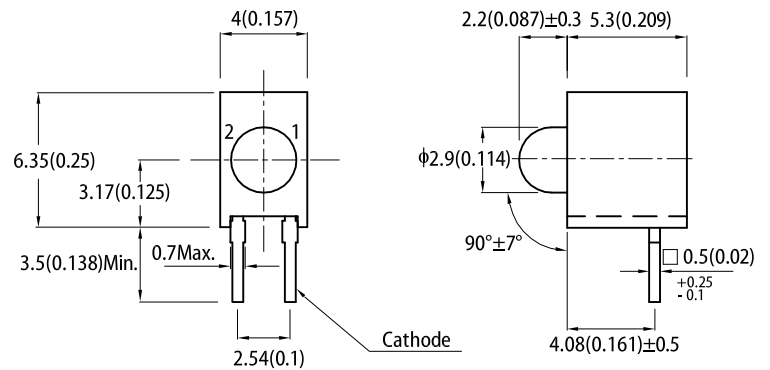
FEATURES

- Ideal for card edge status indication
- Pre-trimmed leads for pc board mounting
- Black case enhances contrast ratio
- High reliability - life measured in years
- Housing UL rating: 94V-0
- Housing material: Type 66 nylon
- RoHS compliant

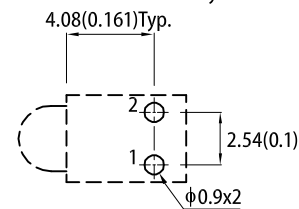
APPLICATIONS

- Status indicator
- Illuminator
- Signage applications
- Decorative and entertainment lighting
- Commercial and residential architectural lighting

PACKAGE DIMENSIONS



Recommended PCB Layout



Notes:

- All dimensions are in millimeters (inches).
- Tolerance is $\pm 0.25(0.01)$ unless otherwise noted.
- Lead spacing is measured where the leads emerge from the package.
- The specifications, characteristics and technical data described in the datasheet are subject to change without prior notice.

SELECTION GUIDE

Part Number	Emitting Color (Material)	Lens Type	Iv (mcd) @ 10mA ^[2]		Viewing Angle ^[1]
			Min.	Typ.	2θ1/2
WP934AD/GD	■ Green (GaP)	Green Diffused	10	25	50°

Notes:
 1. $\theta_{1/2}$ is the angle from optical centerline where the luminous intensity is 1/2 of the optical peak value.
 2. Luminous intensity / luminous flux: +/-15%.
 3. Luminous intensity value is traceable to CIE127-2007 standards.

ELECTRICAL / OPTICAL CHARACTERISTICS at T_A=25°C

Parameter	Symbol	Emitting Color	Value		Unit
			Typ.	Max.	
Wavelength at Peak Emission I _F = 10mA	λ _{peak}	Green	565	-	nm
Dominant Wavelength I _F = 10mA	λ _{dom} ^[1]	Green	568	-	nm
Spectral Bandwidth at 50% Φ REL MAX I _F = 10mA	Δλ	Green	30	-	nm
Capacitance	C	Green	15	-	pF
Forward Voltage I _F = 10mA	V _F ^[2]	Green	2	2.4	V
Reverse Current (V _R = 5V)	I _R	Green	-	10	μA
Temperature Coefficient of λ _{peak} I _F = 10mA, -10°C ≤ T ≤ 85°C	TC _{λpeak}	Green	0.1	-	nm/°C
Temperature Coefficient of λ _{dom} I _F = 10mA, -10°C ≤ T ≤ 85°C	TC _{λdom}	Green	0.06	-	nm/°C
Temperature Coefficient of V _F I _F = 10mA, -10°C ≤ T ≤ 85°C	TC _V	Green	-2	-	mV/°C

Notes:

- The dominant wavelength (λ_d) above is the setup value of the sorting machine. (Tolerance λ_d : ±1nm.)
- Forward voltage: ±0.1V.
- Wavelength value is traceable to CIE127-2007 standards.
- Excess driving current and / or operating temperature higher than recommended conditions may result in severe light degradation or premature failure.

ABSOLUTE MAXIMUM RATINGS at T_A=25°C

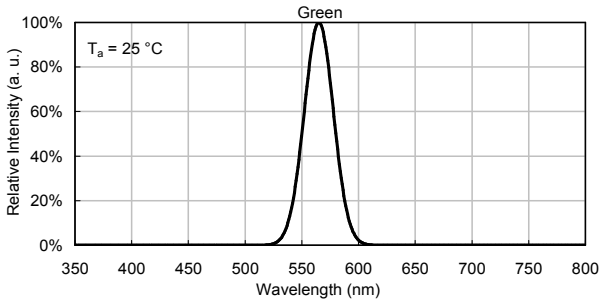
Parameter	Symbol	Value	Unit
Power Dissipation	P _D	62.5	mW
Reverse Voltage	V _R	5	V
Junction Temperature	T _j	110	°C
Operating Temperature	T _{op}	-40 To +85	°C
Storage Temperature	T _{stg}	-40 To +85	°C
DC Forward Current	I _F	25	mA
Peak Forward Current	I _{FM} ^[1]	140	mA
Electrostatic Discharge Threshold (HBM)	-	8000	V
Thermal Resistance (Junction / Ambient)	R _{th JA} ^[2]	680	°C/W
Thermal Resistance (Junction / Solder point)	R _{th JS} ^[2]	460	°C/W
Lead Solder Temperature ^[3]		260°C For 3 Seconds	
Lead Solder Temperature ^[4]		260°C For 5 Seconds	

Notes:

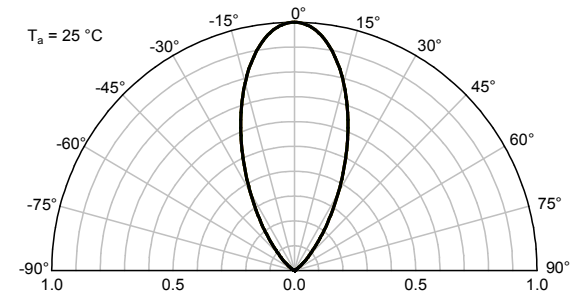
- 1/10 Duty Cycle, 0.1ms Pulse Width.
- R_{th JA}, R_{th JS} Results from mounting on PC board FR4 (pad size ≥ 16 mm² per pad).
- 2mm below package base.
- 5mm below package base.
- Relative humidity levels maintained between 40% and 60% in production area are recommended to avoid the build-up of static electricity – Ref JEDEC/JESD625-A and JEDEC/J-STD-033.

TECHNICAL DATA

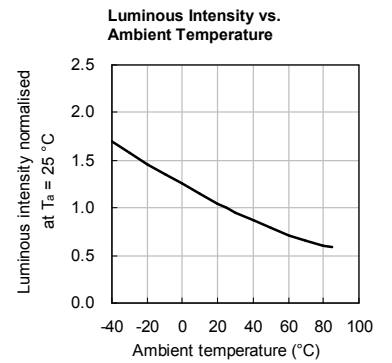
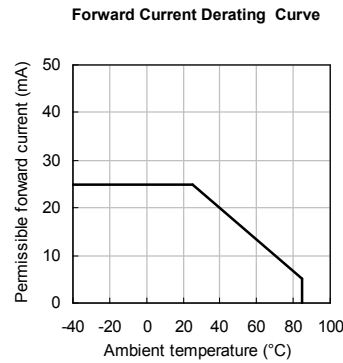
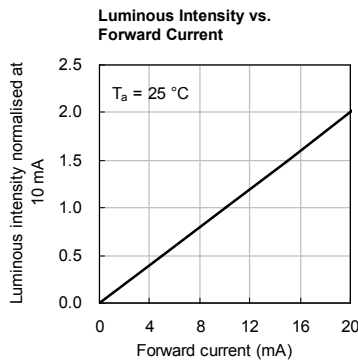
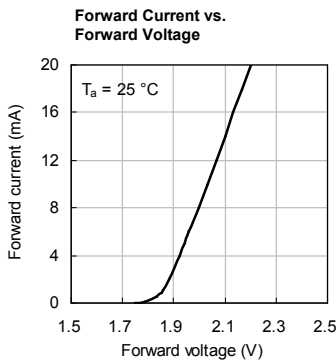
RELATIVE INTENSITY vs. WAVELENGTH



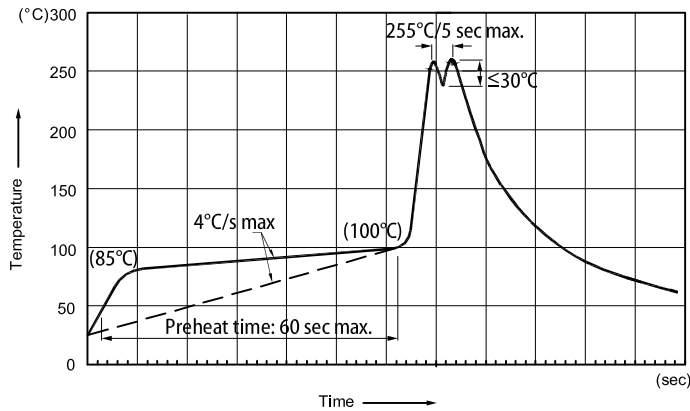
SPATIAL DISTRIBUTION



GREEN



RECOMMENDED WAVE SOLDERING PROFILE



- Notes:
1. Recommend pre-heat temperature of 105°C or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260°C
 2. Peak wave soldering temperature between 245°C ~ 255°C for 3 sec (5 sec max).
 3. Do not apply stress to the epoxy resin while the temperature is above 85°C.
 4. Fixtures should not incur stress on the component when mounting and during soldering process.
 5. SAC 305 solder alloy is recommended.
 6. No more than one wave soldering pass.

PACKING & LABEL SPECIFICATIONS

