



WP424IDT
T-1 (3mm) Cylindrical LED Lamp

DESCRIPTION

- The High Efficiency Red source color devices are made with Gallium Arsenide Phosphide on Gallium Phosphide Orange Light Emitting Diode

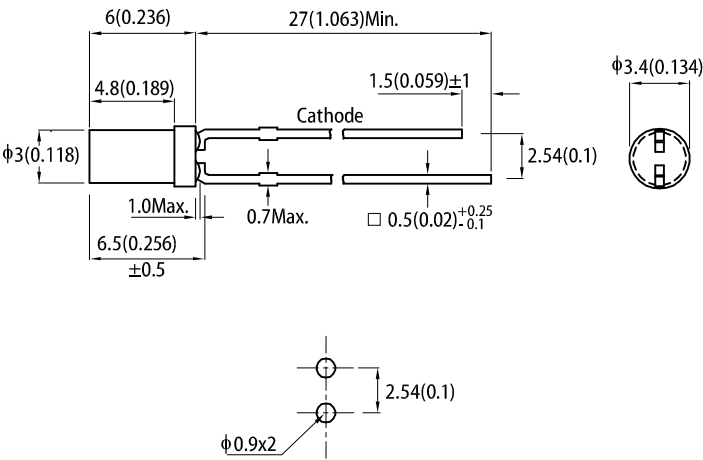
FEATURES

- Cylindrical type
- Low power consumption
- Reliable and rugged
- Long life - solid state reliability
- Available on tape and reel
- Halogen Free
- RoHS compliant

APPLICATIONS

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

PACKAGE DIMENSIONS



Notes:
1. All dimensions are in millimeters (inches).
2. Tolerance is $\pm 0.25(0.01")$ unless otherwise noted.
3. Lead spacing is measured where the leads emerge from the package.
4. 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
WP424IDT	■ High Efficiency Red (GaAsP/GaP)	Red Diffused	2	6	140°
			*1.2	*4	

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: $\pm 15\%$.
* 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}	High Efficiency Red	627	-	nm
Dominant Wavelength I _F = 10mA	$\lambda_{dom}^{[1]}$	High Efficiency Red	617	-	nm
Spectral Bandwidth at 50% Φ REL MAX I _F = 10mA	$\Delta\lambda$	High Efficiency Red	45	-	nm
Capacitance	C	High Efficiency Red	15	-	pF
Forward Voltage I _F = 10mA	V _F ^[2]	High Efficiency Red	1.9	2.3	V
Reverse Current (V _R = 5V)	I _R	High Efficiency Red	-	10	μA
Temperature Coefficient of λ_{peak} I _F = 10mA, -10°C ≤ T ≤ 85°C	TC _{λ_{peak}}	High Efficiency Red	0.13	-	nm/°C
Temperature Coefficient of λ_{dom} I _F = 10mA, -10°C ≤ T ≤ 85°C	TC _{λ_{dom}}	High Efficiency Red	0.06	-	nm/°C
Temperature Coefficient of V _F I _F = 10mA, -10°C ≤ T ≤ 85°C	TC _V	High Efficiency Red	-1.9	-	mV/°C

Notes:

1. The dominant wavelength (λ_d) above is the setup value of the sorting machine. (Tolerance λ_d : ±1nm.)
2. Forward voltage: ±0.1V.
3. Wavelength value is traceable to CIE127-2007 standards.
4. 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	75	mW
Reverse Voltage	V _R	5	V
Junction Temperature	T _j	125	°C
Operating Temperature	T _{op}	-40 to +85	°C
Storage Temperature	T _{stg}	-40 to +85	°C
DC Forward Current	I _F	30	mA
Peak Forward Current	I _{FM} ^[1]	160	mA
Electrostatic Discharge Threshold (HBM)	-	8000	V
Thermal Resistance (Junction / Ambient)	R _{th JA} ^[2]	660	°C/W
Thermal Resistance (Junction / Solder point)	R _{th JS} ^[2]	420	°C/W
Lead Solder Temperature ^[3]		260°C For 3 Seconds	
Lead Solder Temperature ^[4]		260°C For 5 Seconds	

Notes:

1. 1/10 Duty Cycle, 0.1ms Pulse Width.
2. R_{th JA}, R_{th JS} Results from mounting on PC board FR4 (pad size ≥ 16 mm² per pad).
3. 2mm below package base.
4. 5mm below package base.
5. 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.