

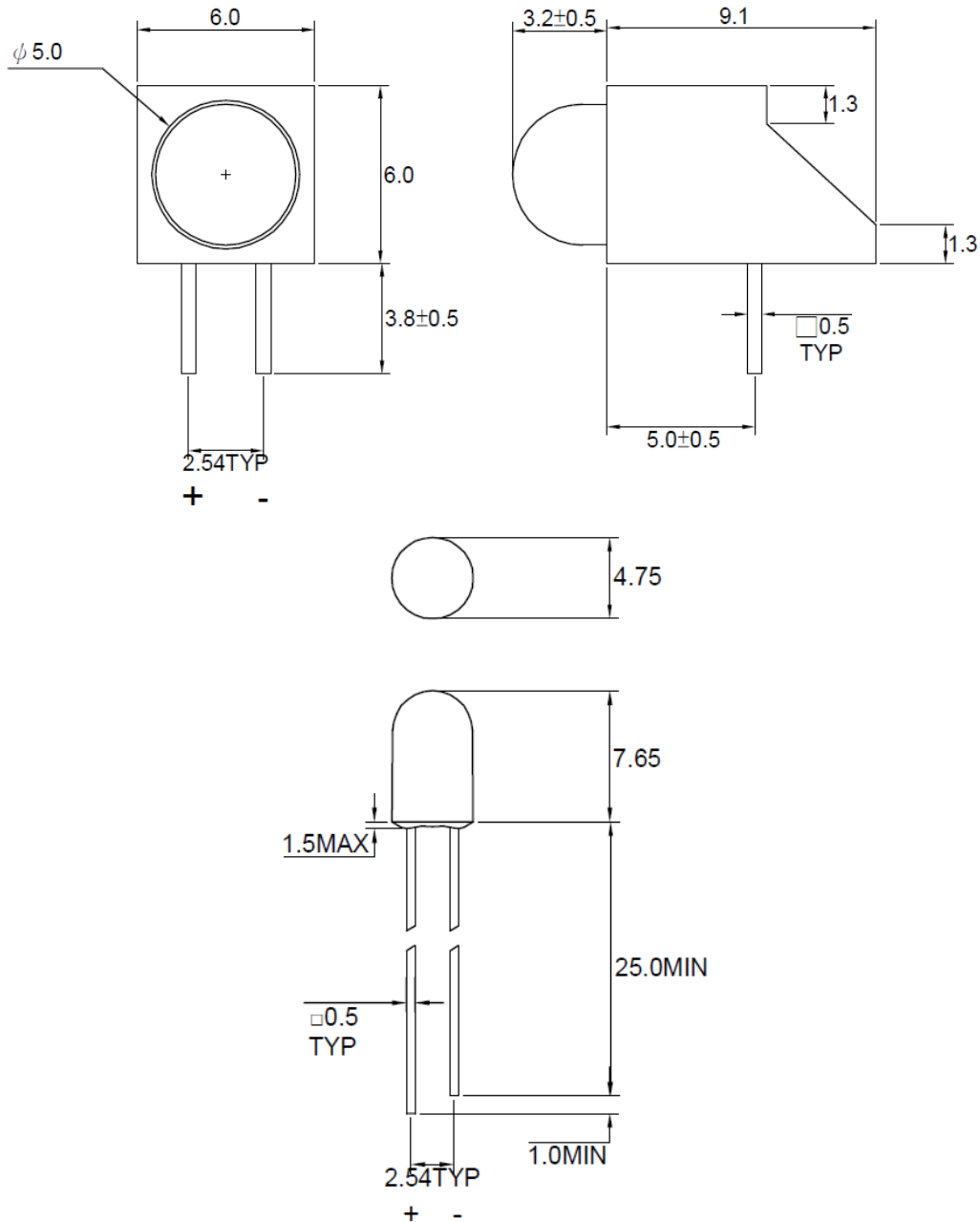


American Opto Plus LED Corp.

L503YD-H401

5mm Yellow LED Lamp with Holder

PACKAGE OUTLINES



Note: All dimensions are in millimeter; tolerance is ± 0.25 mm unless otherwise noted.

Chip	Emitted Color	Lens
GaAsP/GaP	Yellow	Yellow Diffused



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ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

Parameter	Symbol	Value	Unit
Forward Current	I _F	20	mA
Peak Forward Current (duty 1/10@10KHz)	I _{FP}	80	mA
Power Dissipation	P _D	60	mW
Reverse Current @ 5V	I _R	10	μA
Operating Temperature Range	T _{OPR}	-40~+85	°C
Storage Temperature Range	T _{STG}	-40~+100	°C

OPTICAL-ELECTRICAL CHARACTERISTICS

(Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Peak Wavelength	λ _P	--	--	585	--	nm
Forward Voltage	V _F	I _F = 20mA	1.7	--	2.6	V
Luminous Intensity	I _V	I _F = 10mA	20	30	--	mcd
Viewing Angle	2θ _{1/2}	--	--	46	--	deg
Spectral Halfwidth	Δλ	--	--	30	--	nm

*Notes:

1. Luminous Intensity Tolerance is ±15%.
2. Forward voltage tolerance is ±0.1V.



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ELECTRICAL OPTICAL CHARACTERISTICS

Fig.1 Forward current vs. Forward Voltage

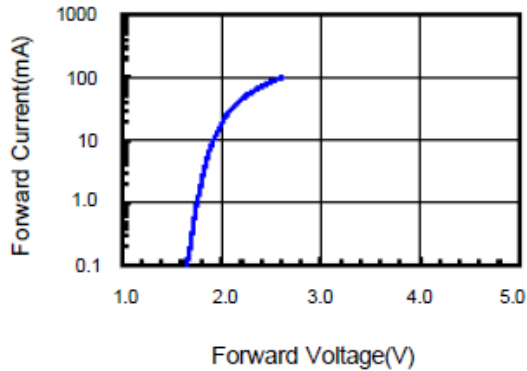


Fig.2 Relative Intensity vs. Forward Current

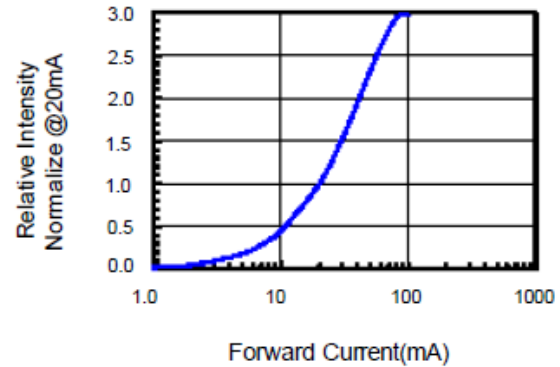


Fig.3 Forward Voltage vs. Temperature

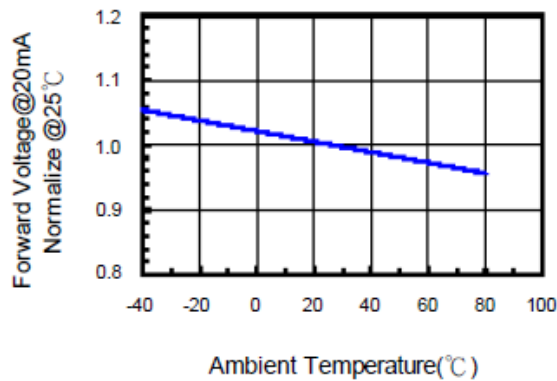


Fig.4 Relative Intensity vs. Temperature

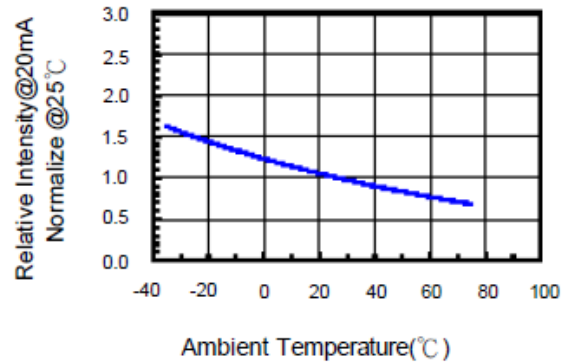
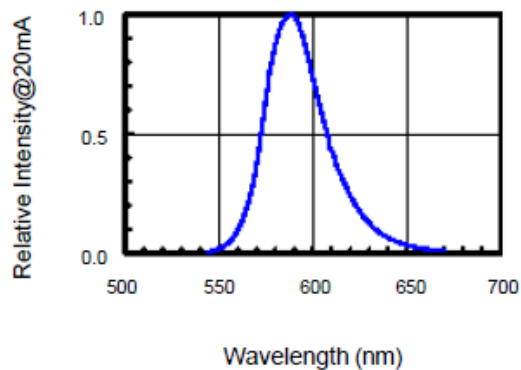


Fig.5 Relative Intensity vs. Wavelength





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SOLDERING CONDITIONS (Pb-Free)

1. Iron:

Soldering Iron: 30W max

Temperature: 350°C max

Soldering Time: 3 Seconds max (one time)

Distance: 2mm min (from solder joint to case)

2. Wave Soldering:

Dip Soldering

Preheat: 120°C max

Preheat time: 60 seconds max

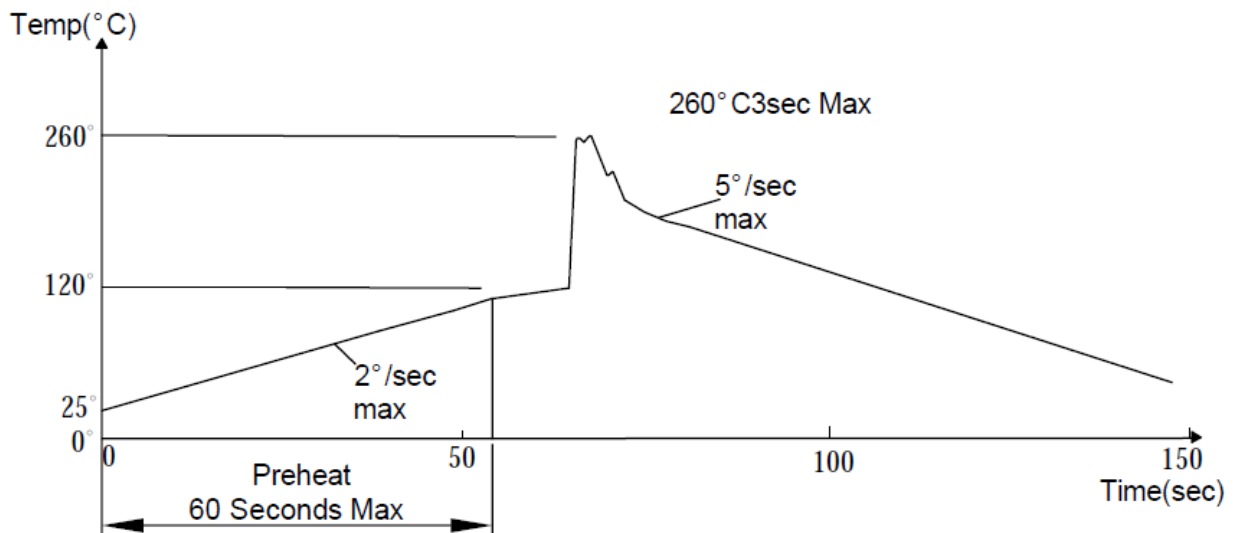
Ramp-up: 2°C/sec (max)

Ramp-down: -5°C/sec (max)

Solder Bath: 260°C max

Dipping time: 3 seconds max

Distance: 2mm min (from solder joint to case)





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RELIABILITY TEST

Test Item	Test Condition	Description	Reference Standard
Operating Life Test	1.Under Room Temperature 2.If=20mA 3.t=1000 hrs (-24hrs, +72hrs)	This test is conducted for the purpose of determining the resistance of a part in electrical and thermal stressed.	MIL-STD-750: 1026 MIL-STD-883: 1005 JIS C 7021: B-1
High Temperature Storage Test	1.Ta=105 °C±5 °C 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of high temperature for hours.	MIL-STD-883:1008 JIS C 7021: B-10
Low Temperature Storage Test	1.Ta=-40 °C±5 °C 2.t=1000 hrs (-24hrs, +72hrs)	The purpose of this is the resistance of the device which is laid under condition of low temperature for hours.	JIS C 7021: B-12
High Temperature High Humidity Test	1.Ta=65 °C±5 °C 2.RH=90%~95% 3.t=240hrs ±2hrs	The purpose of this test is the resistance of the device under tropical for hours.	MIL-STD-202:103B JIS C 7021: B-11
Thermal Shock Test	1.Ta=105 °C±5 °C & -40 °C±5 °C (10min) (10min) 2.total 10 cycles	The purpose of this is the resistance of the device to sudden extreme changes in high and low temperature.	MIL-STD-202: 107D MIL-STD-750: 1051 MIL-STD-883: 1011
Solder Resistance Test	1.T.Sol=260 °C±5 °C 2.Dwell time= 10 ±1sec.	This test intended to determine the thermal characteristic resistance of the device to sudden exposures at extreme changes in temperature when soldering the lead wire.	MIL-STD-202: 210A MIL-STD-750: 2031 JIS C 7021: A-1
Solderability Test	1.T.Sol=230 °C±5 °C 2.Dwell time=5 ±1sec	This test intended to see soldering well performed or not.	MIL-STD-202: 208D MIL-STD-750: 2026 MIL-STD-883: 2003 JIS C 7021: A-2