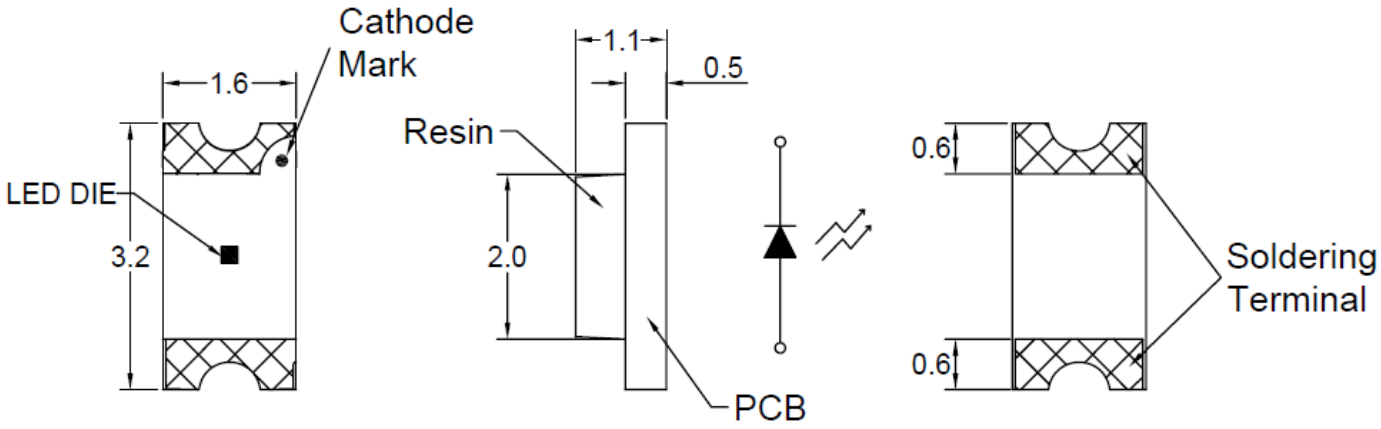
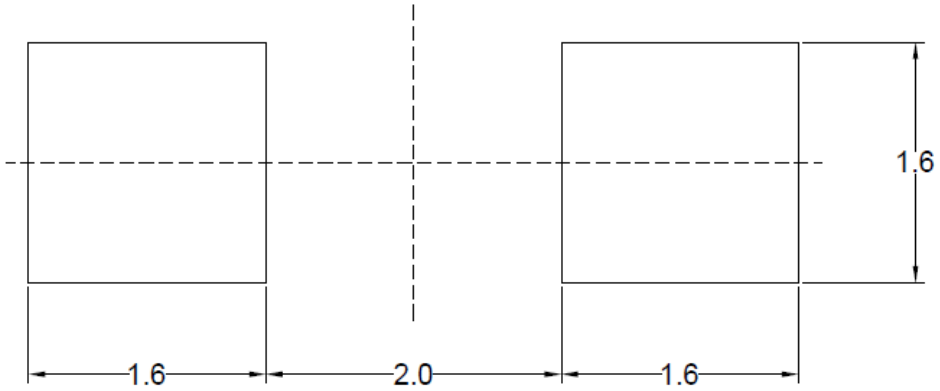
American Opto Plus LED Corp.
L152L-YC-TR
3.2 x 1.6 x 1.1mm YELLOW SMD LED

PACKAGE OUTLINES



RECOMMENDED SOLDER PATTERN



Notes:
1. All dimensions are in millimeters (mm).
2. Tolerances are ±0.1mm unless otherwise noted.

Part Number	Material	Color	
		Emitted	Lens
L152L-YC-TR	GaAsP/GaP	Yellow	Water Clear

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Parameter	Symbol	Value	Unit
Power Dissipation	P_D	52	mW
Peak Pulse Current Duty 1/10@10KHz	I_{FP}	80	mA
Forward Current Per Chip	I_F	20	mA
Reverse Current @ 5V	I_R	10	V
Electrostatic Discharge	ESD	2000	V
Operating Temperature	T_{OPR}	-40~+85	°C
Storage Temperature	T_{STG}	-40~+100	°C

OPTICAL-ELECTRICAL CHARACTERISTICS (Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Luminous Intensity	I_V	I_F = 20mA	5	12.5	--	mcd
Dominant Wavelength	λ_D		--	588	--	nm
Spectral Line Half-Width	$\Delta\lambda$		--	35	--	nm
Forward Voltage	V_F		1.7	--	2.6	V
Viewing Angle	$2\theta_{1/2}$		--	140	--	deg

Notes:
1. Forward voltage data did not include ±0.1V testing tolerance.
2. Luminous intensity data did not included ±15% testing tolerance.
3. Dominant Wavelength data did not include ±1nm testing tolerance.

LUMINOUS INTENSITY CLASSIFICATION

BIN CODE	I_V (lm) at 20mA	
	Min.	Max.
J	5	8
K	8	12.5
L	12.5	20
M	20	32

DOMINANT WAVELENGTH CLASSIFICATION

BIN CODE	λ_D (nm) at 20mA	
	Min.	Max.
14	583	585
15	585	587
16	587	589
17	589	592
18	592	595

OPTICAL-ELECTRICAL CHARACTERISTICS CURVE

Fig.1 Forward current vs. Forward Voltage

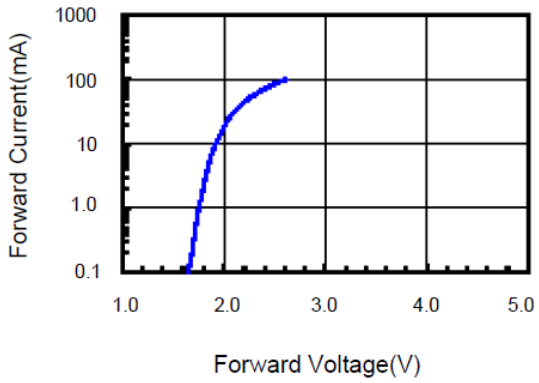


Fig.2 Relative Intensity vs. Forward Current

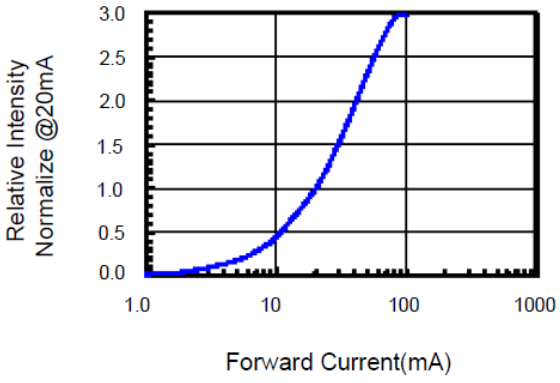


Fig.3 Forward Voltage vs. Temperature

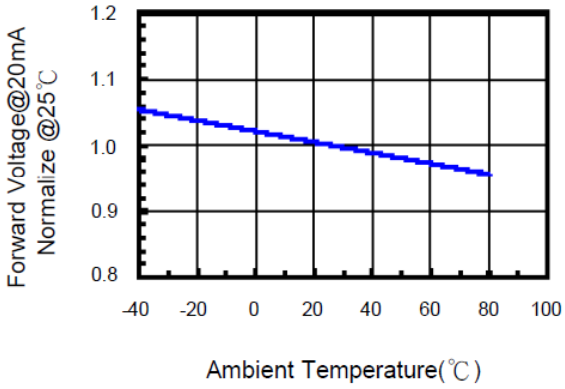


Fig.4 Relative Intensity vs. Temperature

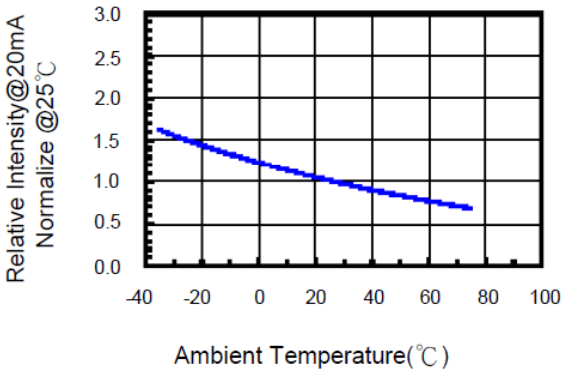


Fig.5 Relative Intensity vs. Wavelength

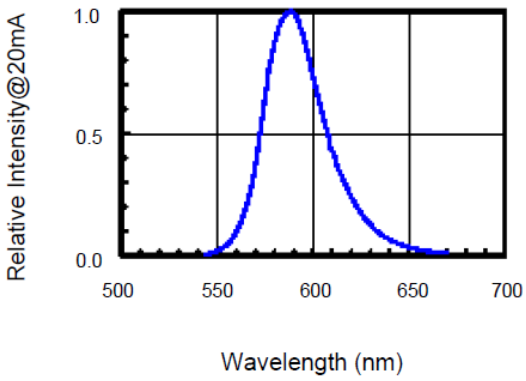
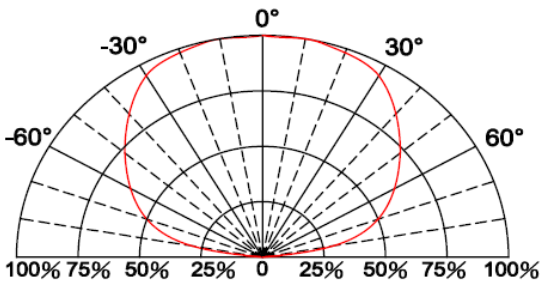
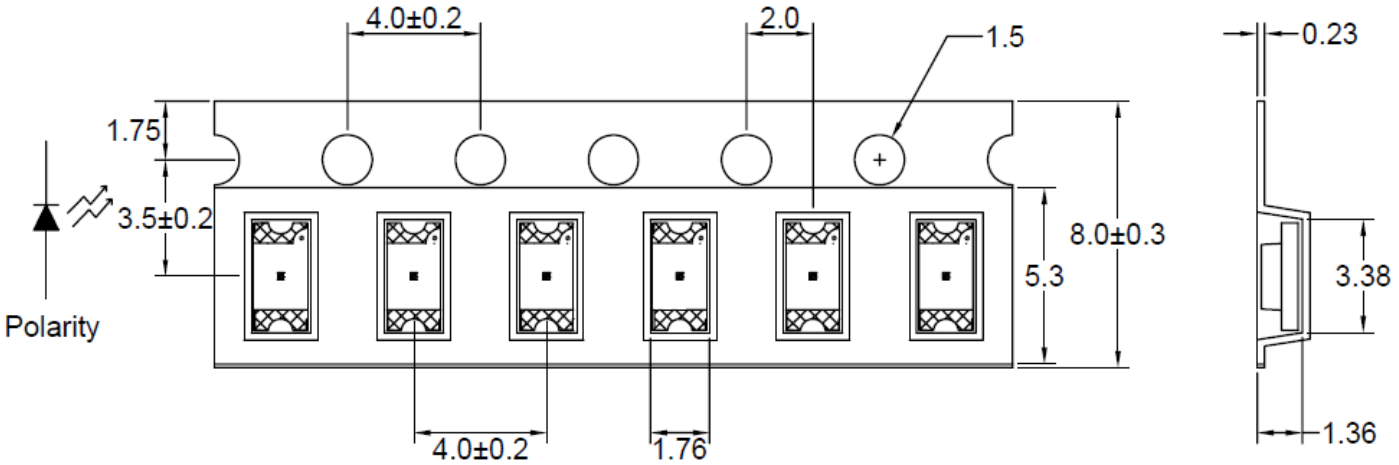
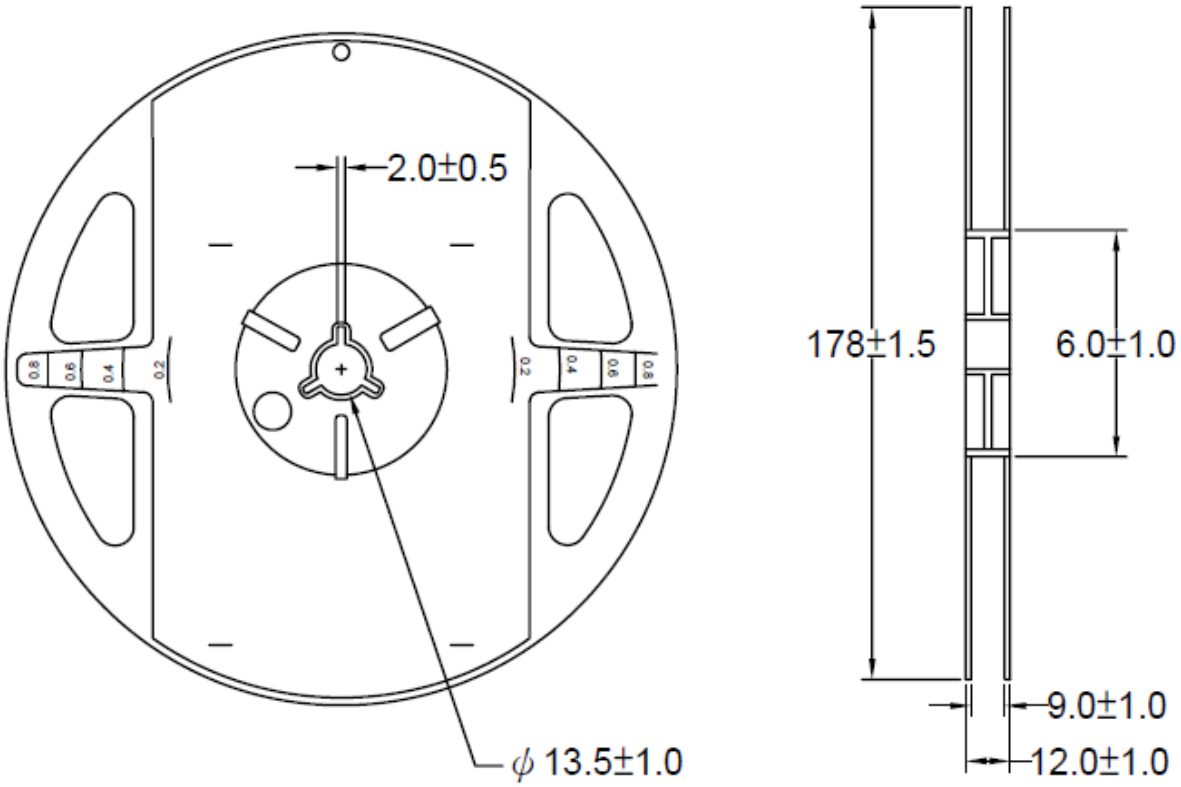


Fig.6 Directive Radiation



PACKAGING DIMENSION





Notes:

1. Tolerance unless mentioned is ±0.1mm, Angle ±0.5, Unit=mm.
2. 3000pcs / 7” Reel; 8.0mm Tape

PRECAUTION FOR USE:

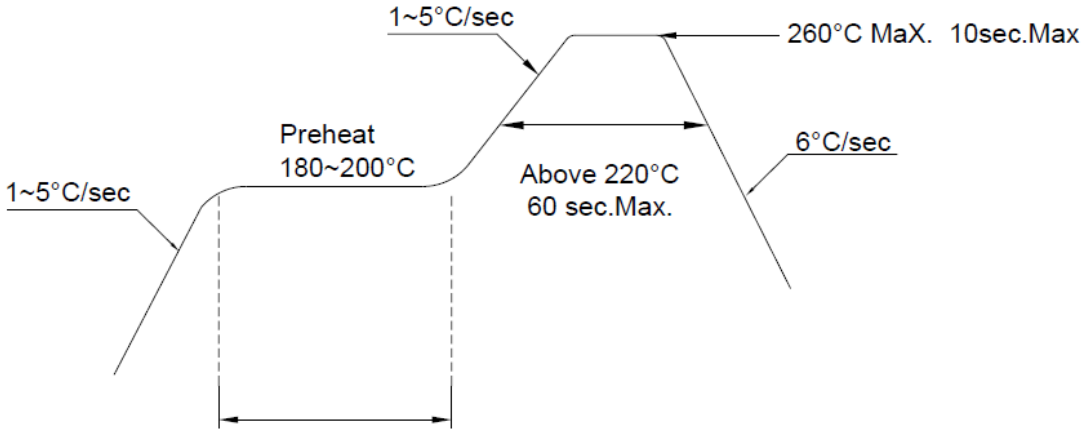
Storage time:

1. Don't open the moisture-resistant bag before LEDs are ready to use.
2. Before use: LEDs should be kept at 30°C or less and 90% RH or less.
3. After use: LEDs floor life is 1 year under 30°C or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture-resistant package.
4. If the LEDs have exceeded the storage time or the moisture absorbent material (silica gel) has faded, the baking treatment of 60±5°C for 24 hrs should be performed.

Over Current-Protection

The LEDs are sensitive parts, slight voltage shift will cause big current change and will cause burn out. Customer must apply resistors for protection.

LED SOLDERING

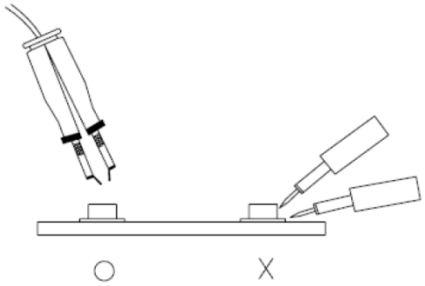


Notes:

1. Reflow soldering should not be done more than two times.
2. When soldering, do not put stress on the LEDs during heating.
3. After soldering, do not warp circuit board.

REPAIRING

In principle repair should not be done after the LEDs have been soldered. When repairing is unavoidable, it should be confirmed beforehand not to be damaged whether the characteristics of the LEDs by repairing and a double-head soldering iron should be used.



RELIABILITY TEST:

Classification	Test Item	Test Condition	Reference Standard
Endurance Test	Operating Life Test	1.Ta=Under Room Temperature As Per Data Sheet Maximum Rating. 2.If=20mA 3.t=1000 hrs (-24hrs, +72hrs)	MIL-STD-750D: 1026 MIL-STD-883D: 1005 JIS C 7021: B-1
	High Temperature Storage Test	1.Ta=105℃±5℃ 2.t=1000 hrs (-24hrs, +72hrs)	MIL-STD-883D:1008 JIS C 7021: B-10
	Low Temperature Storage Test	1.Ta=-40℃±5℃ 2.t=1000 hrs (-24hrs, +72hrs)	JIS C 7021: B-12
	High Temperature High Humidity Storage Test	1.Ta=65℃±5℃ 2.RH=90%~95% 3.t=1000hrs¡Ó2hrs	MIL-STD-202F:103B JIS C 7021: B-11
Environmental Test	Thermal Shock Test	1.Ta=105℃±5℃&-40℃±5℃ (10min) (10min) 2.total 10 cycles	MIL-STD-202F: 107D MIL-STD-750D: 1051 MIL-STD-883D: 1011
	Solderability Test	1.T.Sol=235℃±5℃ 2.Immersion time 2±0.5sec 3.Coverage ≧95% of the dipped surface	MIL-STD-202F: 208D MIL-STD-750D: 2026 MIL-STD-883D: 2003 IEC 68 Part 2-20 JIS C 7021: A-2
	Temperature Cycling	1.105℃ ~ 25℃ ~ -55℃ ~ 25℃ 30mins 5mins 30mins 5mins 2.10 Cyeles	MIL-STD-202F: 107D MIL-STD-750D: 1051 MIL-STD-883D: 1010 JIS C 7021: A-4
	IR Reflow	1.T=260°C Max. 10sec.Max. 2. 6 Min	MIL-STD-750D:2031.2 J-STD-020