

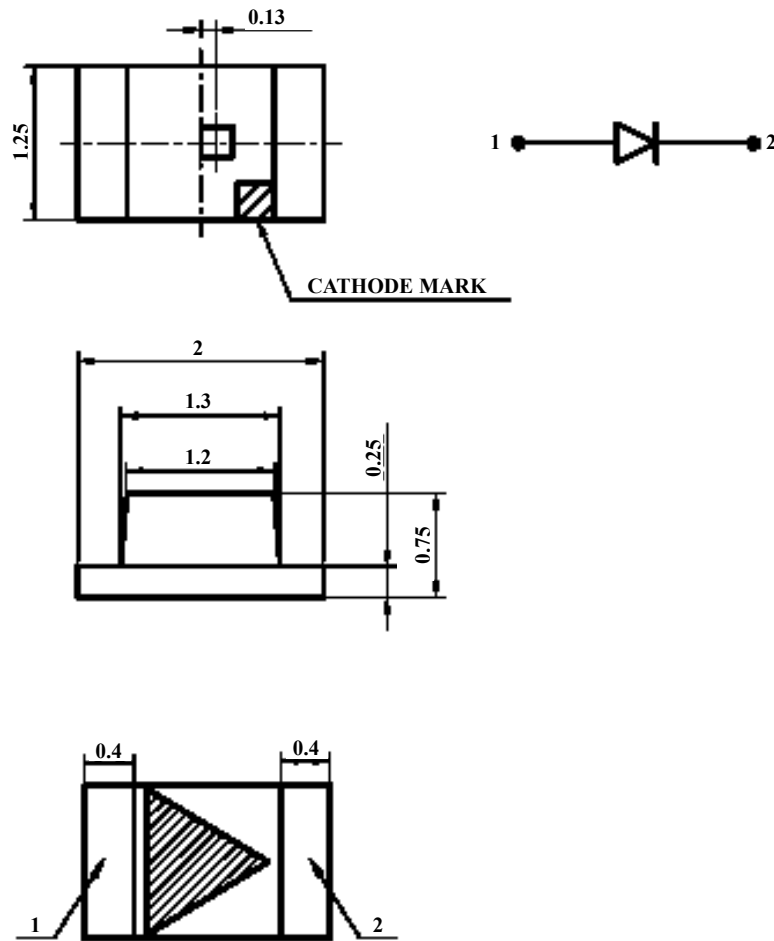
PRODUCT SPECIFICATION

DATE: 05/20/2004

cosmo ELECTRONICS CORPORATION	SMD LED : KL-170DXX	NO. 61L20003	REV. 1
		SHEET 1 OF 9	

UNIT:MM

TOLERANCE: ± 0.15



Part No.	Emitting Color	Material	Lens Type	I _v (I _F =20mA)		Viewing Angle 2θ 1/2
				MIN (mcd)	TYP (mcd)	
KL-170DXX	Orange	GaAsP	Water Clear	5	12	120°

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	KL-170DXX	SHEET 2 OF 9	

Absolute maximum ratings (TA=25°C)		E Orange (GaAsP)	Unit
Reverse voltage	V _R	5	V
Forward current	I _F	30	mA
Forward current(Peak) <small>1/10 Duty Cycle,0.1ms Pulse Width</small>	I _{FP}	100	mA
Power dissipation	P _d	50	mW
LED LAMPS:			
Operating temperature	T _{OP}	-40~+85	°C
Storage temperature	T _{ST}	-40~+85	°C
LED DISPLAYS:			
Operating temperature	T _A	-40~+85	°C
Storage temperature	T _{STG}	-40~+85	°C

Operating characteristics (TA=25°C)		E Orange (GaAsP)	Unit
Forward voltage(typ.) I _F =20mA	V _F	2.0	V
Forward voltage(max.) I _F =20mA	V _F	2.5	V
Reverse current(max.) V _R =5V	I _R	10	uA
Wavelength at dominant emission(typ.) I _F =20mA	λ _D	620	nm
Wavelength at peak emission(typ.) I _F =20mA	λ _P	630	nm
Spectral line half-width I _F =20mA	Δλ	45	nm
Capacitance V _F =0V,f=1MHz	C	12	pF

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ELECTRONICS CORPORATION

SMD LED :

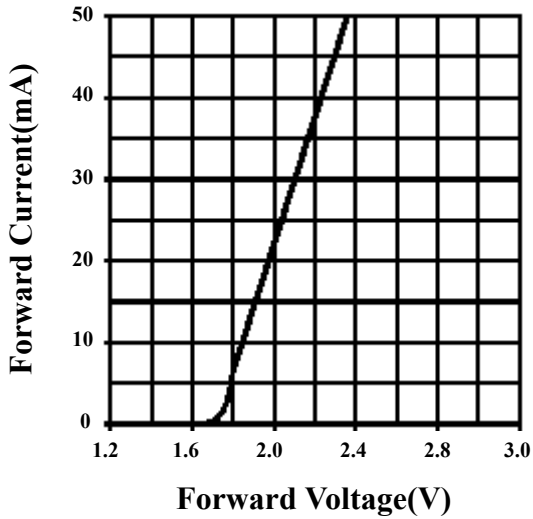
KL-170DXX

NO.61L20003

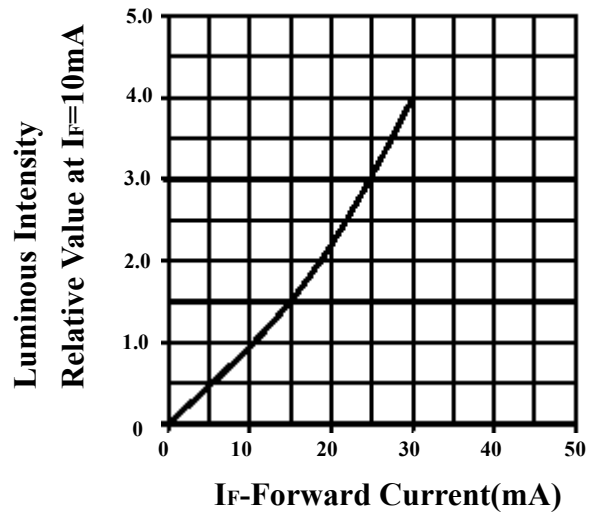
SHEET 3 OF 9

REV.

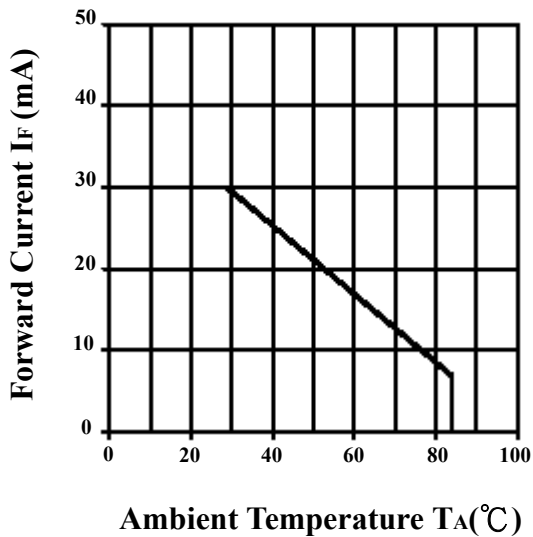
1



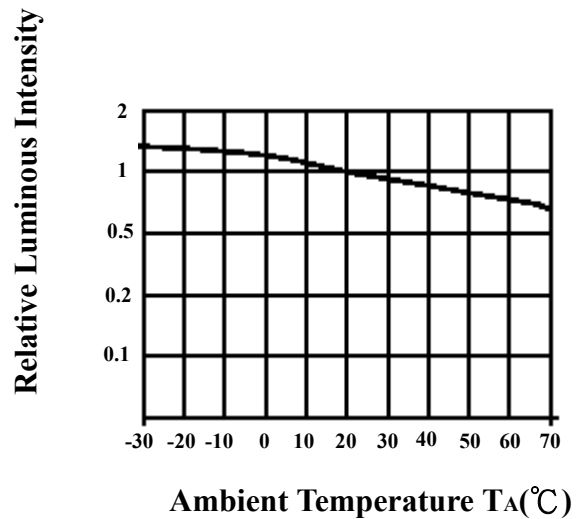
**Forward Current Vs.
Forward Voltage**



**Luminous Intensity Vs.
Forward Current**



**Forward Current
Derating Curve**

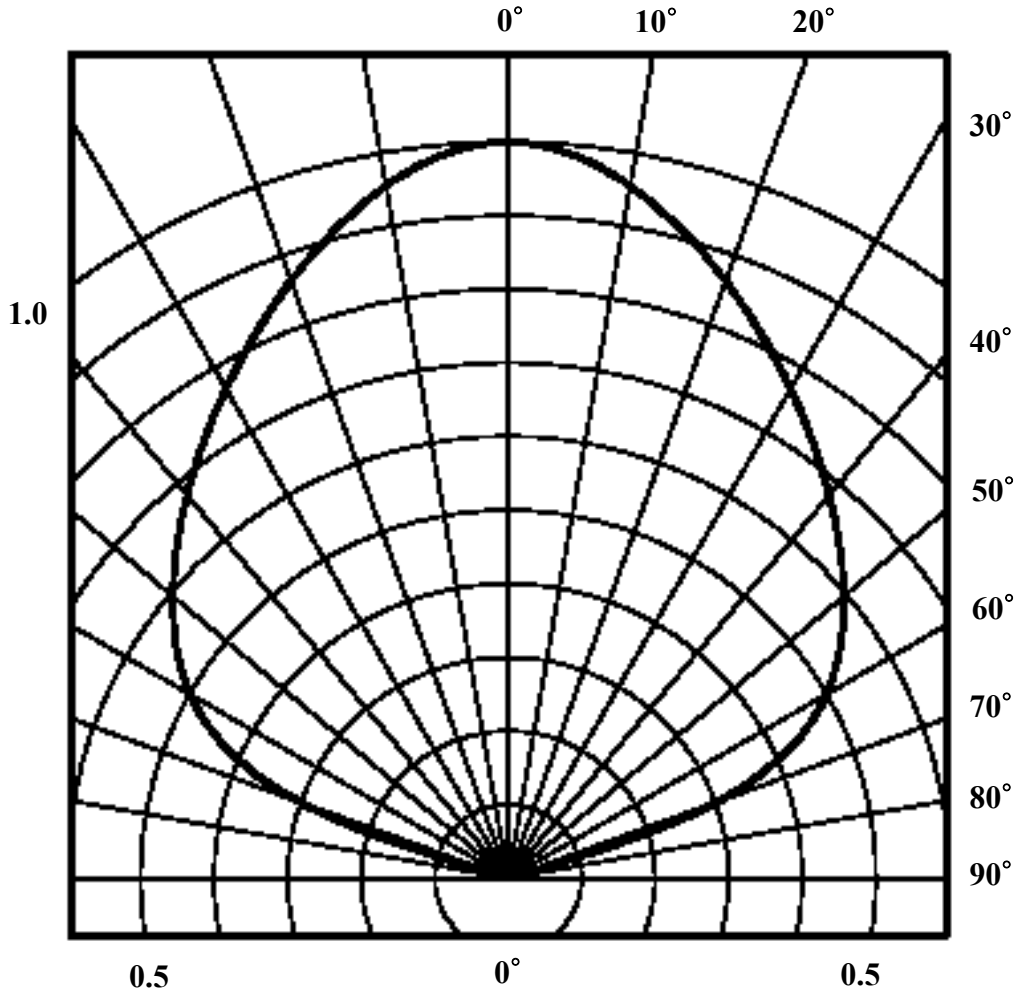


**Luminous Intensity Vs.
Ambient Temperature**

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	KL-170DXX	SHEET 4 OF 9	1



View Angle $2 \theta_{1/2} = 120^\circ$

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cosmo ELECTRONICS CORPORATION	SMD LED : KL-170DXX	NO. 61L20003	REV. 1
		SHEET 5 OF 9	

UNIT:MM

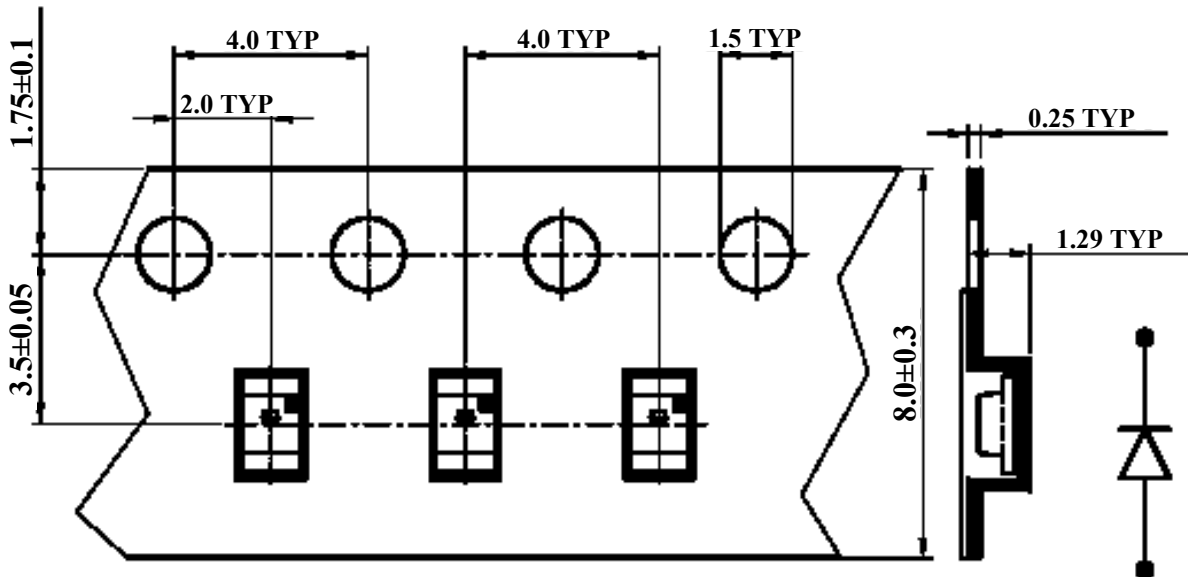
TOLERANCE: ± 0.25

TYPE



PACKAGE:2000 OR 1000PCS/REEL

REEL "T":14mmTYP



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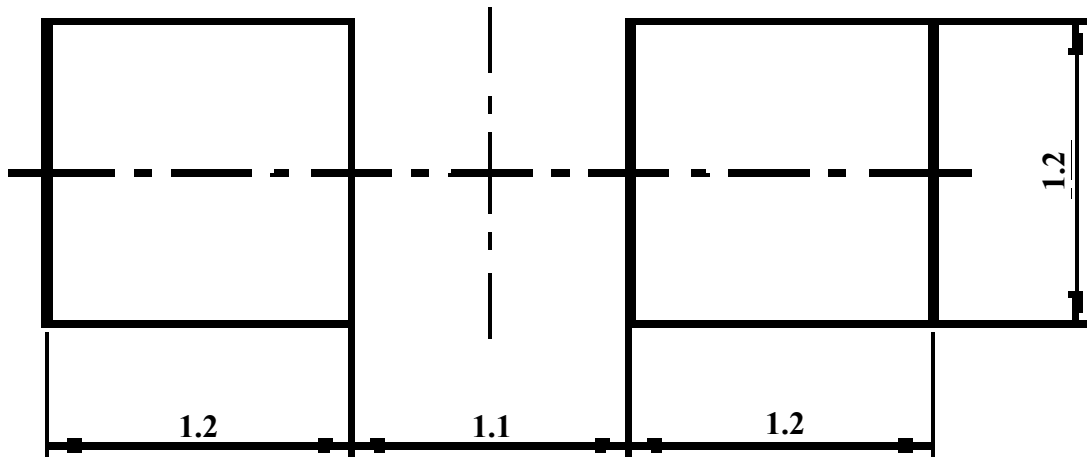
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UNIT:MM

The following soldering patterns are recommended for reflow-soldering:

For reflow soldering



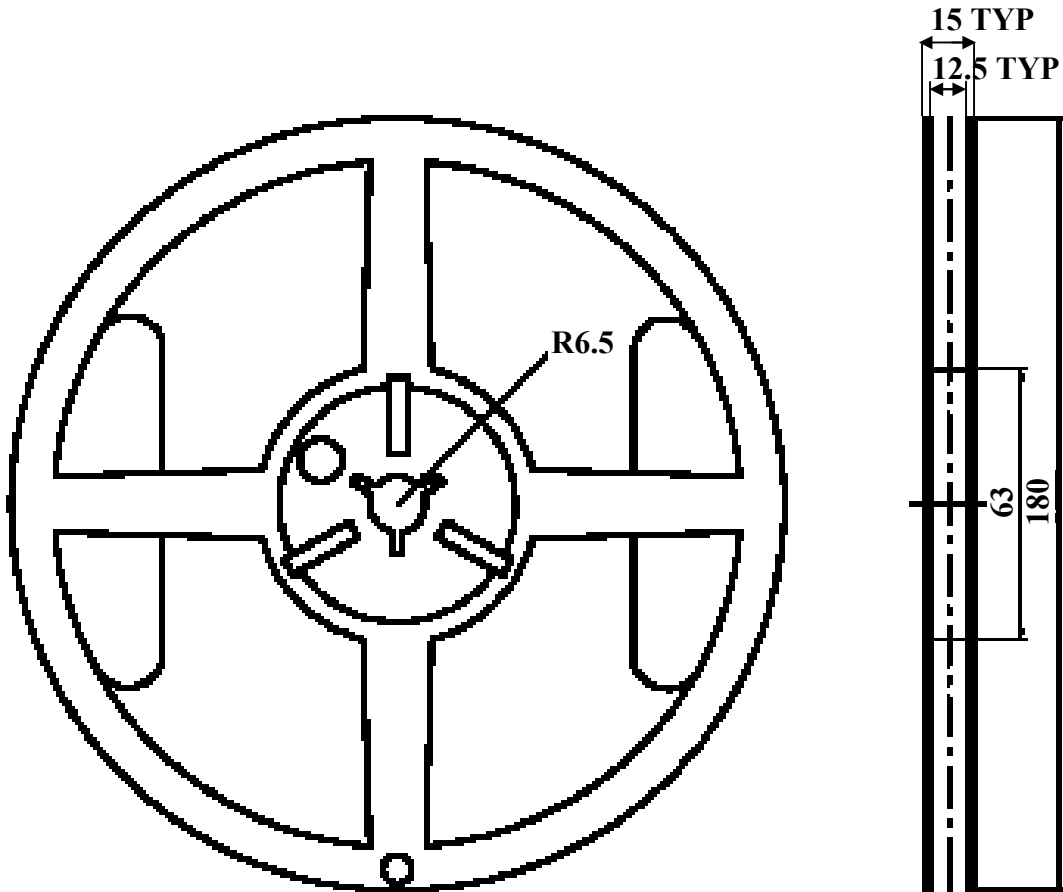
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		SHEET 7 OF 9	

UNIT:MM

TOLERANCE: ± 0.25



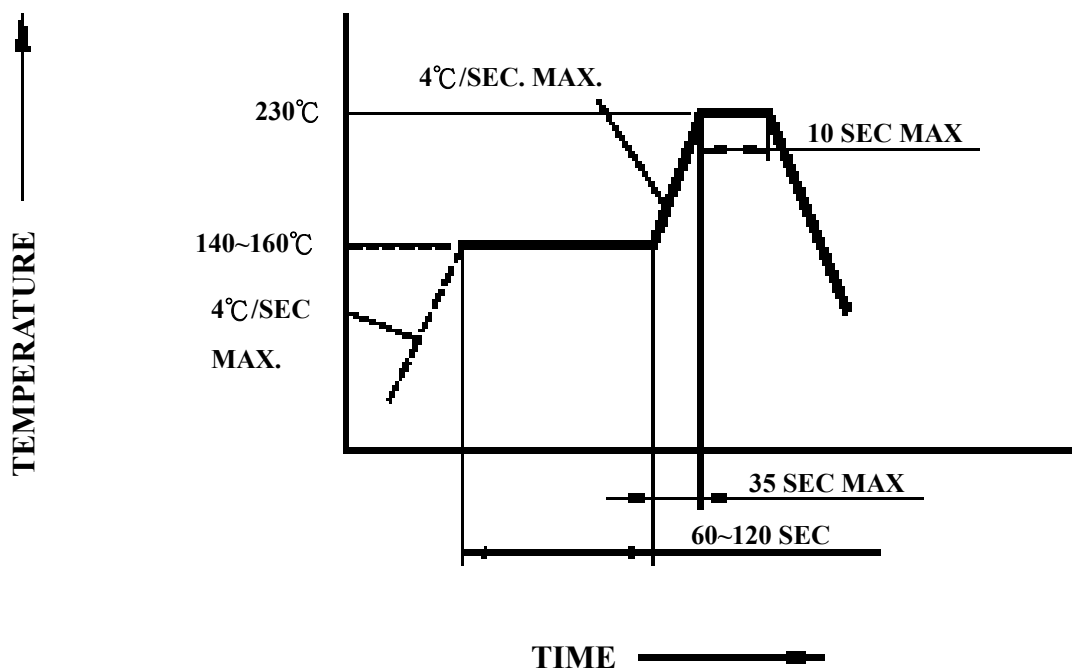
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	KL-170DXX	SHEET 8 OF 9	1

SOLDERING

SMT REFLOW SOLDERING INSTRUCTIONS



SOLDERING INSTRUCTIONS

TYPES	DIP AND WAVE SOLDERING			IRON SOLDERING(WITH 1.5mm IRON TIP)		
	TEMPERATURE OF THE SOLDERING BATH	MAXIMUM SOLDERING TIME	DISTANCE FROM SOLDER JOINT TO CASE	TEMPERATURE OF SOLDERING IRON	MAXIMUM SOLDERING TIME	DISTANCE FROM SOLDER JOINT TO CASE
LEDS	≤260°C	3S	>2mm	≤260°C	3S	>2mm
	≤260°C	5S	>4mm	≤260°C	5S	>4mm
DISPLAYS	≤260°C	3S	>2mm	≤260°C	3S	>2mm

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		SHEET 9 OF 9	1

SMD HANDLING AND APPLICATION PRECAUTIONS

STORAGE

(1.1) It is recommended to store the devices in accordance with the following conditions:

Humidity: 60%RH Max.

Temperature: 5°C~30°C (41°F~86°F)

(1.2) Shelf life in sealed bag: 12 month at <5°C~30°C and <30%RH.

After the package is opened, the products should be used within 72hrs.

Or they should be kept at $\leq 20\%$ RH in zip -locked sealed bags.

DRY PACK AND BAKING

SMD LEDs are MOISTURE SENSITIVE devices. Avoid absorbing moisture at any time during transportation and/or storage. It is recommended to bake before soldering when the pack is unsealed after 72 hrs, or any suspicious moisture being found. Bake devices in accordance with the following conditions:

(a) 60±3°C x (12~24hrs) and <5%RH, taped reel type

(b) 100±3°C x (45min~1hr), loose packing type, or

(c) 130±3°C x (15~30min), loose packing type

ELECTRIC STATIC DISCHARGE(ESD) PROTECTION

Materials with GaN, InGaN, AlInGaP are STATIC SENSITIVE devices. They will be packed in anti-static bags. ESD protection must be deliberately observed from the initial design stage. The static -electric discharge may result in severe malfunction of the devices. In the events of manual working in process, make sure the devices are well protected from ESD at any time. Surge before and during handling products.