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SPECIFICATION

PART NO. : LP6KL3-6K-1UTV8-GY02

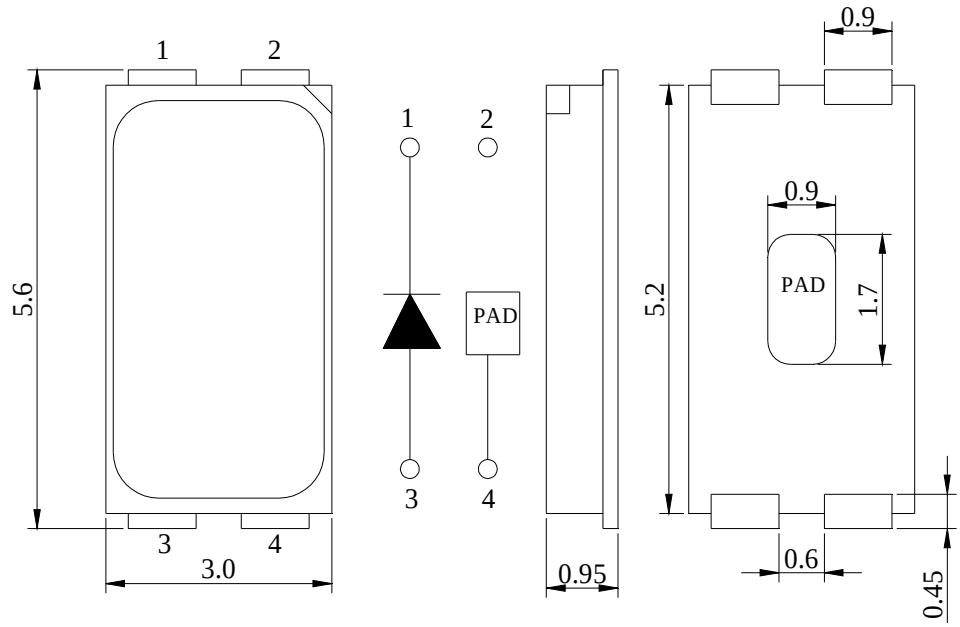
5.6 x 3.0mm SMD TYPE

CUSTOMER	LEDTECH
Confirmed by	Confirmed by
Date	Date

ATTENTION
OBSERVE PRECAUTION
FOR HANDLING
ELECTRO STATIC
SENSITIVE
DEVICES

Approved by	Checked by	Prepared by
Yue	*Lian*	*Liang Dai*

Package Dimensions



Description

Part No.	LED Chip		Lens Color
	Material	Emitting Color	
LP6KL3-6K-1UTV8-GY02	InGaN	White	Yellow Diffused

Absolute Maximum Ratings at Ta=25℃

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	580	mW
Reverse Voltage	Vr	5	V
D.C. Forward Current	If	180	mA
Peak Current(1/10Duty Cycle,0.1ms Pulse Width.)	If(Peak)	220	mA
Junction Temperature	Tj	115	℃
Operating Temperature Range	Topr.	-40 to +85	℃
Storage Temperature Range	Tstg.	-40 to +100	℃
Soldering Temperature	Tsld.	Reflow Soldering: 260℃ for 10 sec. Hand Soldering: 350℃ for 3 sec.	
Electric Static Discharge Threshold (HBM)	ESD	2000	V

Electrical and Optical Characteristics:

Parameter		Symbol	Condition	Min.	Typ.	Max.	Unit
Luminous Flux		Φv	If=150mA	55		65	lm
Forward Voltage		Vf	If=150mA	3.0		3.4	V
Correlated Colour Temperature	WO	CCT	If=150mA	9000		9500	K
	WP			9500		10000	
	WQ			10000		11000	
	WR			11000		12000	
	WS			12000		13000	
Color Rendering Index(Ra)		CRI	If=150mA	70	-	-	Ra
Reverse Current		Ir	Vr=5V			10	μA
Viewing Angle		2θ 1/2	If=150mA		120		deg

Notes: 1.Tolerance of Luminous Intensity is ±15%

2.Tolerance of Forward Voltage is ±0.1V

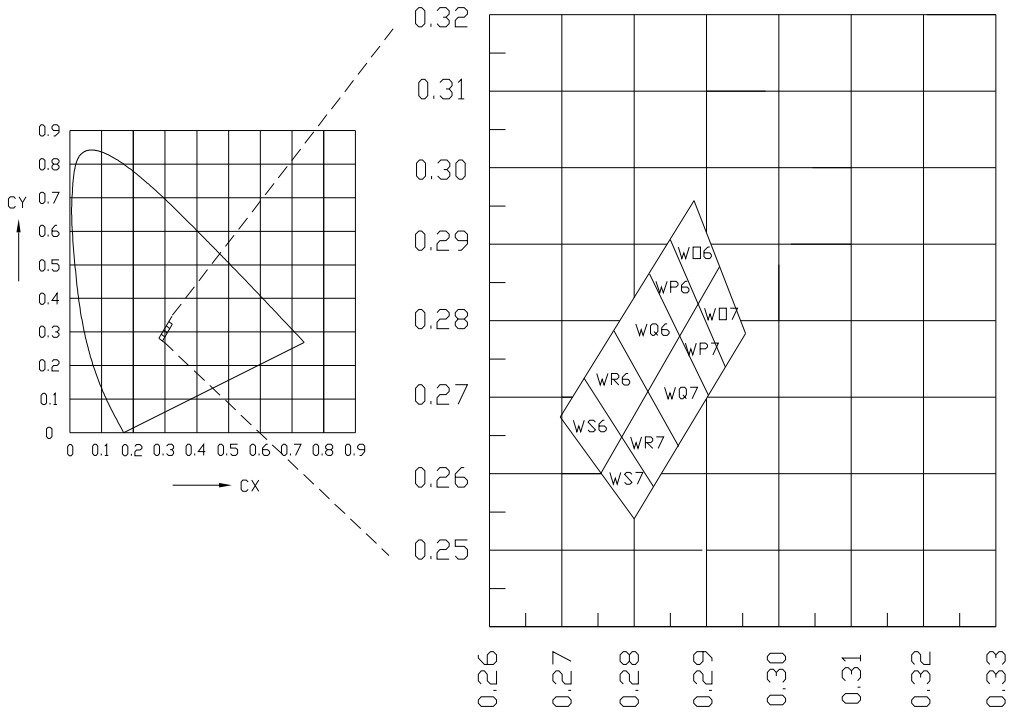
Chromaticity Coordinates Specifications for Bin Grading:

COLOR RANKS(IF=150mA.Ta=25℃)

BiN	RANK					BiN	RANK				
WO6	X	0.2841	0.2872	0.2905	0.2877	WO7	X	0.2877	0.2905	0.2939	0.2913
	Y	0.2892	0.294	0.2859	0.2813		Y	0.2813	0.2859	0.2777	0.2735
WP6	X	0.2814	0.2841	0.2877	0.2852	WP7	X	0.2852	0.2877	0.2913	0.2891
	Y	0.285	0.2892	0.2813	0.2775		Y	0.2775	0.2813	0.2735	0.27
WQ6	X	0.2768	0.2814	0.2852	0.2811	WQ7	X	0.2811	0.2852	0.2891	0.2852
	Y	0.278	0.285	0.2775	0.2707		Y	0.2707	0.2775	0.27	0.2638
WR6	X	0.2729	0.2768	0.2811	0.2778	WR7	X	0.2778	0.2811	0.2852	0.2819
	Y	0.2722	0.278	0.2707	0.265		Y	0.265	0.2707	0.2638	0.2589
WS6	X	0.2698	0.2729	0.2778	0.2751	WS7	X	0.2751	0.2778	0.2819	0.2794
	Y	0.2674	0.2722	0.265	0.2605		Y	0.2605	0.265	0.2589	0.2549

Notes:X.Y Tolereanceeach Bin limit is±0.01.

Chromaticity Coordinates & Bin grading diabram:



Typical Electrical/Optical Characteristic Curves

(25℃ Ambient Temperature Unless Otherwise Noted)

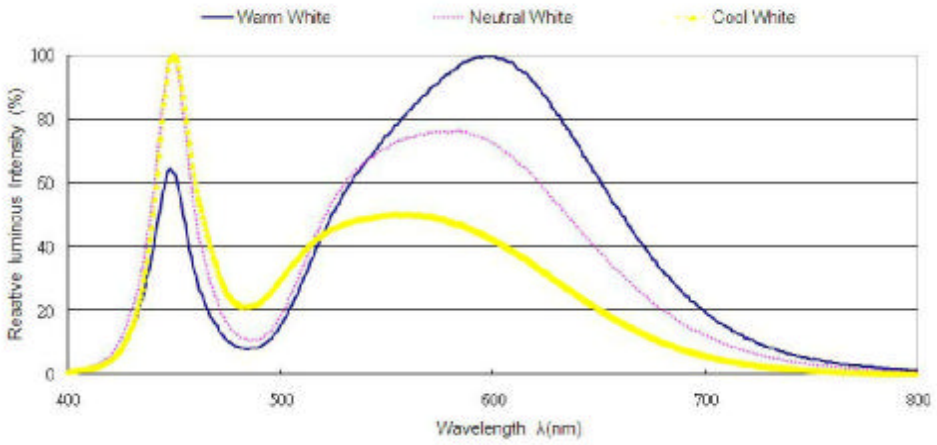
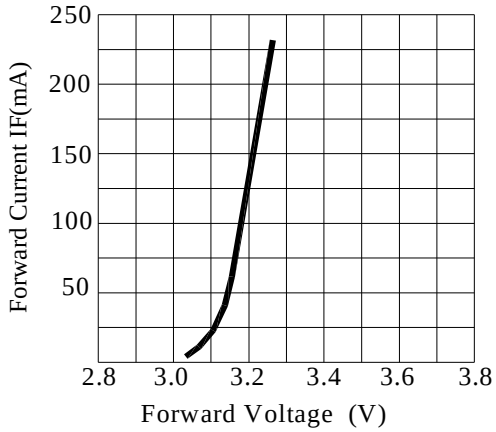
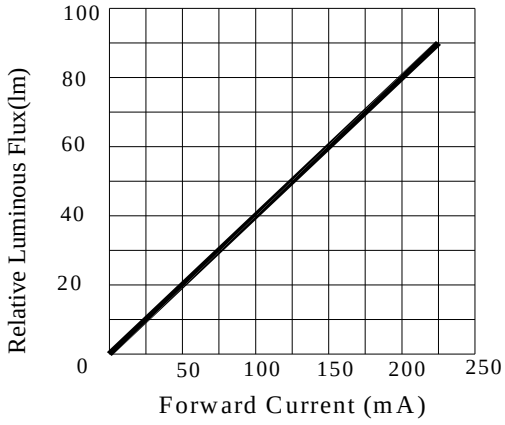


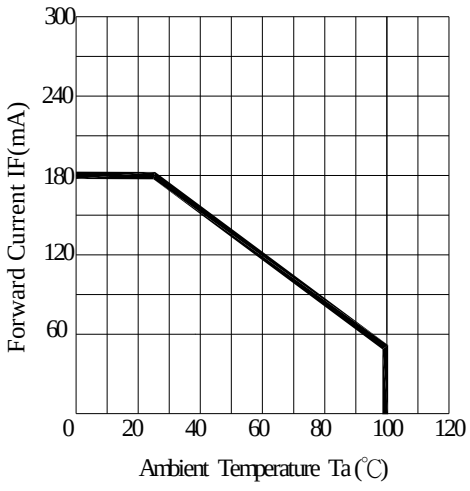
Fig.1 WHITE LED Spectrum VS. WAVELENGTH



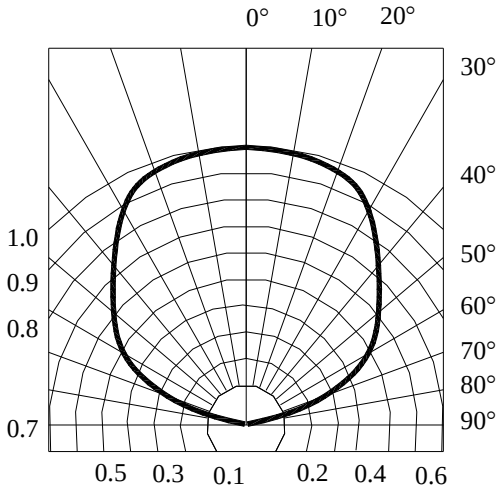
Forward Current VS. Applied Voltage



Forward Current VS. Luminous Flux



Ambient Temperature VS. Forward Current



Radiation Diagram

Forward Voltage Bin Code List (IF=150mA)

Forward Voltage(v)		
Bin Code	MIN	MAX
b5	3.0	3.1
b6	3.1	3.2
b7	3.2	3.3
b8	3.3	3.4

Luminous Intensity Bin Code List (IF=150mA)

Luminous Flux(lm)		
Bin Code	MIN	MAX
F2	55	60
F3	60	65

PRECAUTION IN USE

Storage

Recommended storage environment

Temperature: **5oC ~ 30oC (41oF ~ 86oF)**

Humidity: **60% RH Max.**

Moisture measures: Please refer to Moisture-sensitive label on reels package bags.

If unused LEDs remain, they should be stored in moisture proof packages, such as sealed container with packages of moisture absorbent material (silica gel). It is also recommended to return the LEDs to the original moisture proof bag and to reseal the moisture proof bag again.

Fold the opened bag firmly and keep in dry environment.

Soldering

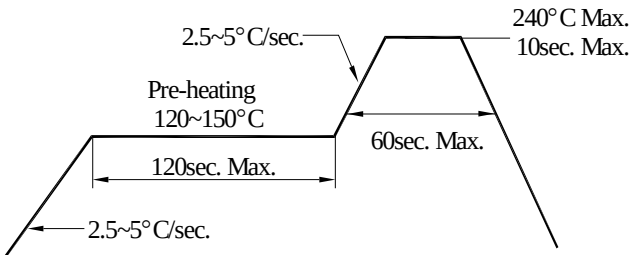
Reflow Soldering			Hand Soldering	
	Lead Solder	Lead – free Solder		
Pre-heat	120~150℃	180~200℃	Temperature	350℃ Max.
Pre-heat time	120sec. Max.	120sec. Max.	Soldering time	3sec. Max. (one time only)
Peak temperature	240℃ Max.	260℃ Max.		
Soldering time	10sec. Max.	10sec. Max.		
Condition	refer to Temperature-profile 1	refer to Temperature-profile 2		

***After reflow soldering rapid cooling should be avoided.**

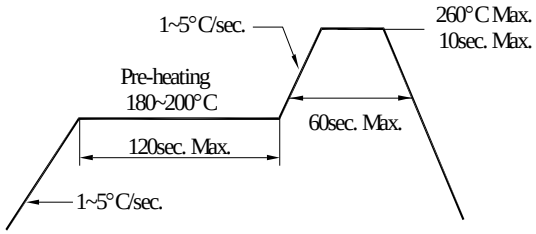
[Temperature-profile (Surface of circuit board)]

Use the conditions shown to the under figure.

＜1 : Lead Solder＞

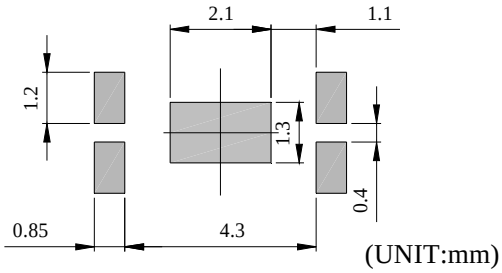


＜2 : Lead-free Solder＞



[Recommended soldering pad design]

Use the following conditions shown in the figure.



(UNIT:mm)

Sulfur-sensitive

- **There is silver-plated metal part on the inner/outer side of the outer package. If exposed to the condition with corrosive gas, the silver plating surface may go bad, which will affect soldering strength and optical properties. Therefore, after opening it must be kept in a sealed container, etc.**
- **Materials contain sulfur component (gasket, adhesive, etc.) may have bad effects on the surface of the coating, so please do not use such materials in the product.**
- **In cardboard boxes and rubber, even in the atmosphere may contain minute amount of corrosive gases; In addition, the resin material may also contain halogen which has a bad effect on the surface of the coating.**
- **Even if the soldering installation and product assembly finished, by the effect of corrosive gas generated by relative materials of LED and external injected, the coating surface may go bad, so it is necessary to design the product taking into account the above factors.**
- **If requires, it is best to use a silicone washer, but be aware that low molecular silicone may cause the product poor contact.**
- **Keep the product in location where has less temperature change, because moisture condensation would be generated under a condition of strong temperature change.**

DISCLAIMER

1. Our department reserves the right(s) on the adjustment of product material mix for the specification.

2.The product meets our department published specification for a period of twelve (12) months from date of shipment.

3.The graphs shown in this datasheet are representing typical data only and do not show guaranteed values.

4.When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. Our department assumes no responsibility for any damage resulting from the use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.

5.These specification sheets include materials protected under copyright of our department. Reproduction in any form is prohibited without obtaining our department's prior consent.

6.This product is not intended to be used for military, aircraft, automotive, medical, life sustaining or life saving applications or any other application which can result in human injury or death. Please contact authorized our department sales agent for special application request.

Handling of Silicone Resin LEDs

Handling Indications

During processing, mechanical stress on the surface should be minimized as much as possible. Sharp objects of all types should not be used to pierce the sealing compound

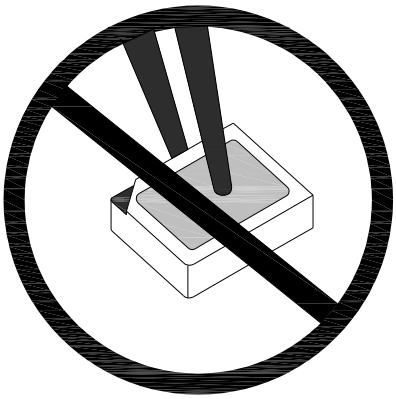


Figure 1

In general, LEDs should only be handled from the side. By the way, this also applies to LEDs without a silicone sealant, since the surface can also become scratched.

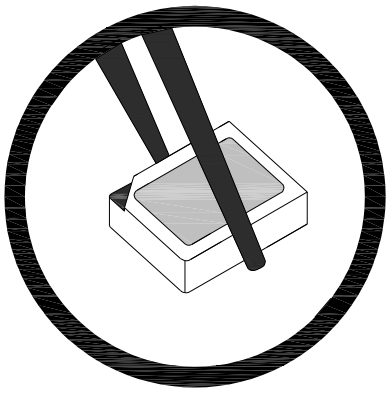
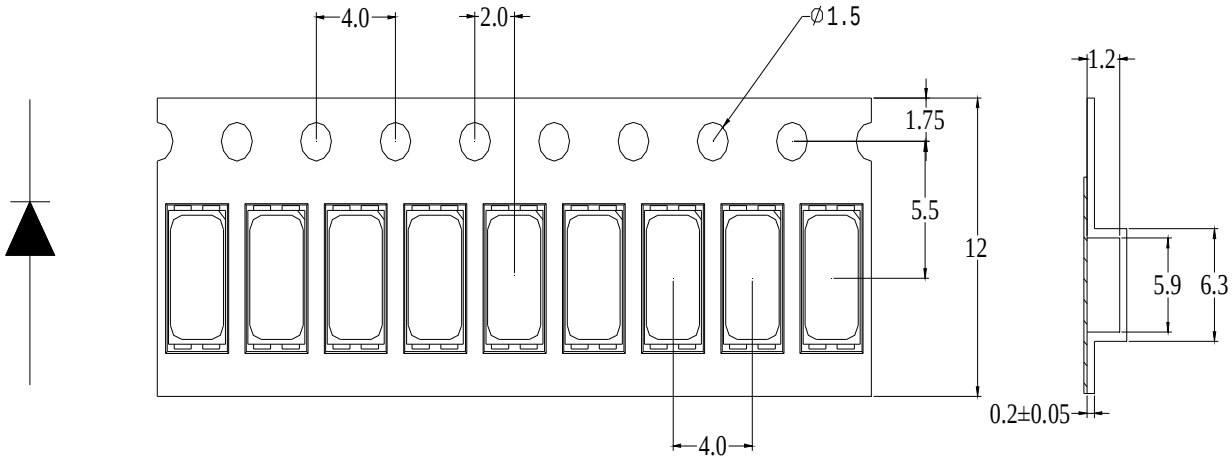


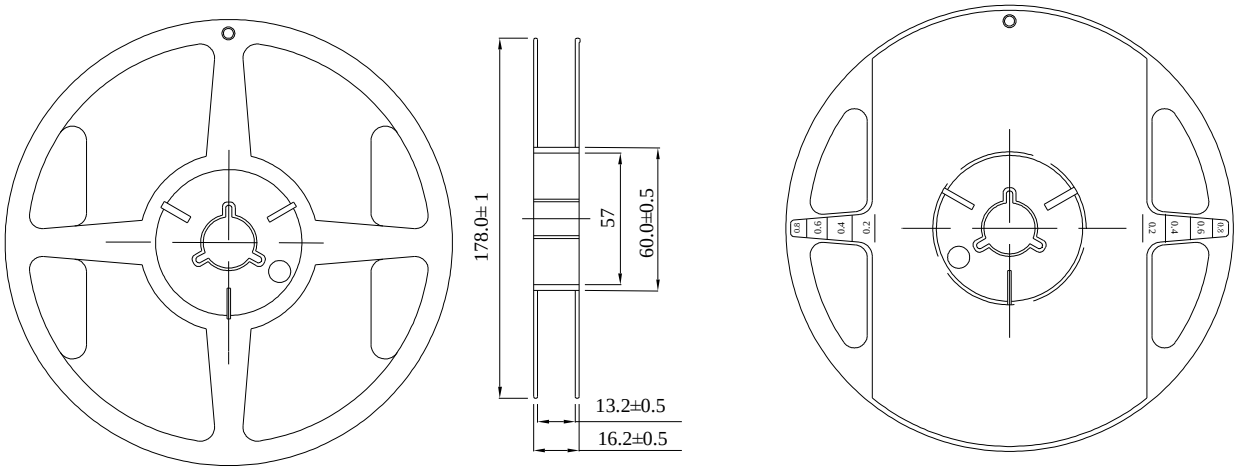
Figure 2

When populating boards in SMT production, there are basically no restrictions regarding the form of the pick and place nozzle, except that mechanical pressure on the surface of the resin must be prevented.
This is assured by choosing a pick and place nozzle which is larger than the LED's reflector area.

Dimensions for Tape (mm)



Dimensions for Reel



Notes:

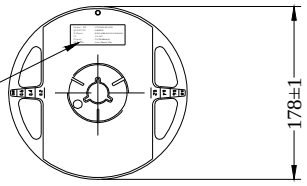
1.All dimensions are in mm, tolerance is±2.0mm unless otherwise noted.

2.Specifications are subject to change without notice.

Packing

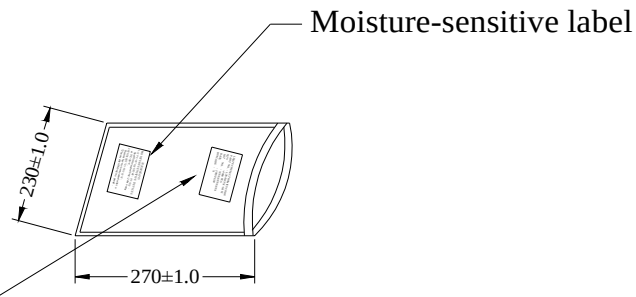
REEL
QUANTITY: 3,000 PCS

LEDTECH ELECTRONICS CORP.
PART NO :LTXXXX-XX
Q'TY : PCS
LOT NO :XXXXXXXXX
DATE :
BIN CODE:



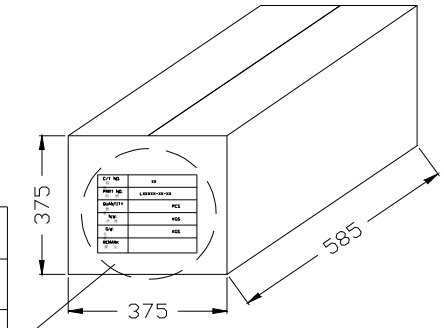
BAG
QUANTITY: 3,000 PCS

LEDTECH ELECTRONICS CORP.
PART NO :LTXXXX-XX
Q'TY : PCS
LOT NO :XXXXXXXXX
DATE :
BIN CODE:



OUTER CARTON:
QUANTITY: 56 BAGS
TOTAL: 168,000PCS

C/T NO. 箱 號	XX
PART NO. 料 號	XXXXXXXXXXXXX
QUANTITY 數 量	PCS
N.W. 淨 重	KGS
G.W. 毛 重	KGS
REMARK 備 註	



Notes:

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