



# LED Display Product Data Sheet LTS-5825CKG-PST1

Spec No. :DS30-2012-0060  
Effective Date: 01/08/2020  
Revision: B

**LITE-ON DCC**

**RELEASE**

## LED DISPLAY

### LTS-5825CKG-PST1 DATA SHEET

<u>ITEM</u>	<u>Description</u>	<u>By</u>	<u>DATE</u>
1	New Spec	Reo Lin	2012/06/06
2	Revised P/N name from LTS-5825CKG-P-ST1 to LTS-5825CKG-PST1	Reo Lin	2012/06/19
3	Update Packing spec. in page 9	Reo Lin	2019/1125
4	Add Direction of pulling out of packing spec	Anon B	2019/1218

## FEATURES

- \* 0.56 inch (14.22 mm) DIGIT HEIGHT
- \* CONTINUOUS UNIFORM SEGMENTS
- \* LOW POWER REQUIREMENT
- \* EXCELLENT CHARACTERS APPEARANCE
- \* HIGH BRIGHTNESS & HIGH CONTRAST
- \* WIDE VIEWING ANGLE
- \* SOLID STATE RELIABILITY
- \* CATEGORIZED FOR LUMINOUS INTENSITY

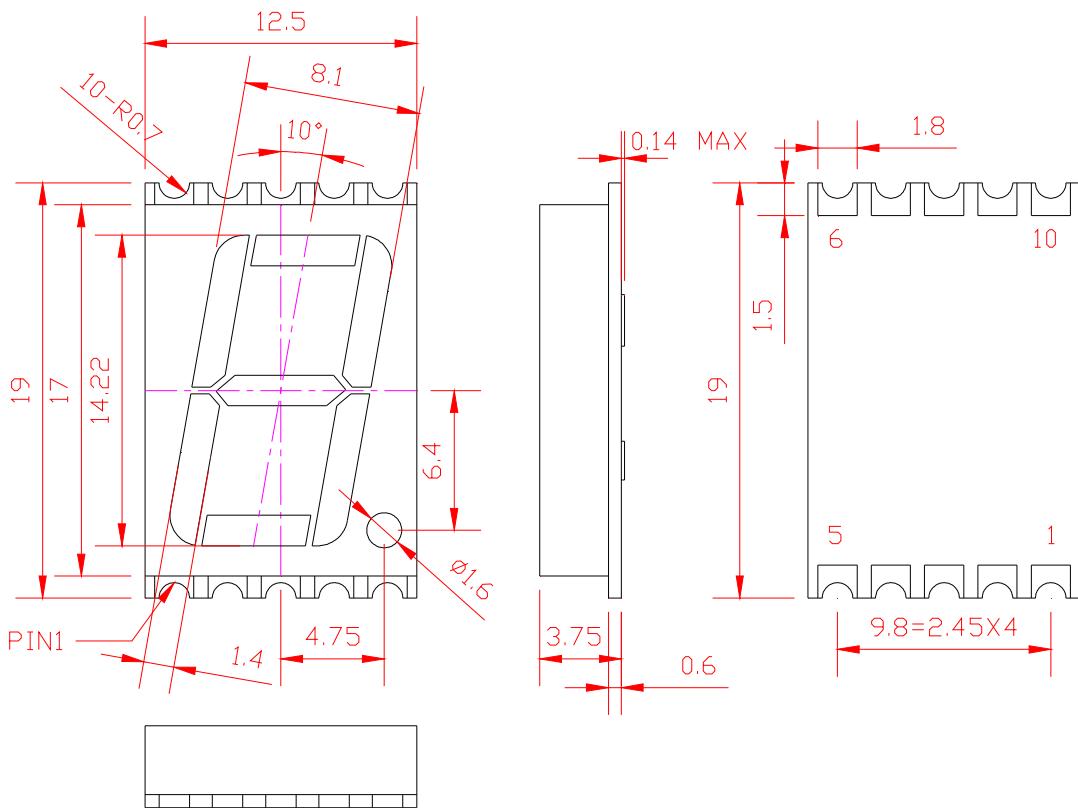
## DESCRIPTION

The LTS-5825CKG-PST1 is a 0.56 inch (14.22 mm) digit height single digit SMD display. The devices utilize AlInGaP Green LED chips, which are made from AlInGaP on a non-transparent GaAs substrate. The display has black face and white segments.

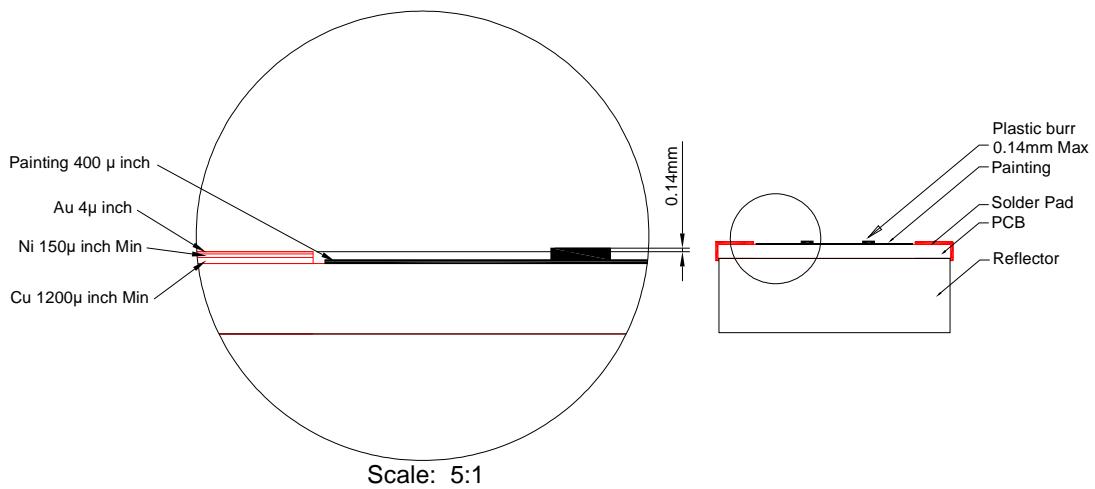
## DEVICE

PART NO.	DESCRIPTION
AlInGaP green	
LTS-5825CKG-PST1	Common Anode

## PACKAGE DIMENSIONS



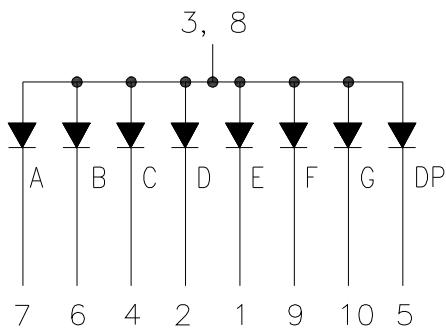
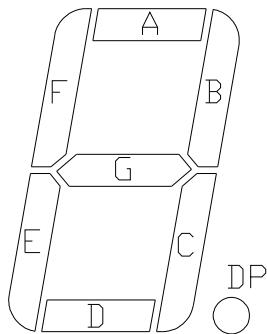
## Solder Pad Vs Painting Diagram



### NOTES:

1. Plastic pins' burr maximum 0.14 mm, warping of PCB maximum 0.06 mm.
2. All dimensions are in millimeters. Tolerances are  $\pm 0.25\text{mm}$  (0.01") unless otherwise noted.
3. Solder pad materials and thickness: Cu:  $1200 \mu \text{ inch}$  Ni: Min  $150 \mu \text{ inch}$  Au:  $4 \mu \text{ inch}$ .

## INTERNAL CIRCUIT DIAGRAM



## PIN CONNECTION

No.	CONNECTION
1	CATHODE E
2	CATHODE D
3	COMMON ANODE
4	CATHODE C
5	CATHODE DP
6	CATHODE B
7	CATHODE A
8	COMMON ANODE
9	CATHODE F
10	CATHODE G

**ABSOLUTE MAXIMUM RATING AT Ta = 25°C**

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	70	mW
Peak Forward Current Per Segment (Frequency 1Khz,10% duty cycle )	60	mA
Continuous Forward Current Per Segment	25	mA
Forward Current Derating from 25°C	0.28	mA/°C
Operating Temperature Range	-40°C to +105°C	
Storage Temperature Range	-40°C to +105°C	
Soldering Conditions: 1/16 inch Below Seating Plane for 3 Seconds at 260°C		

**ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta = 25°C**

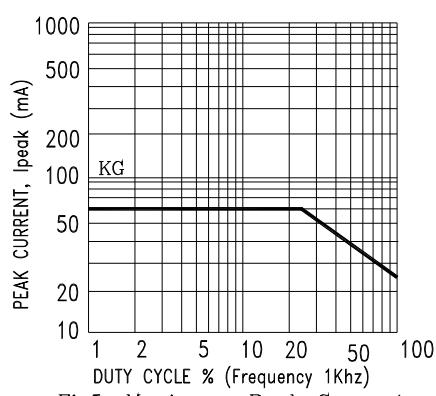
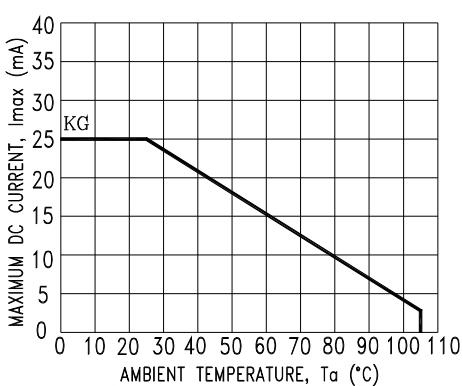
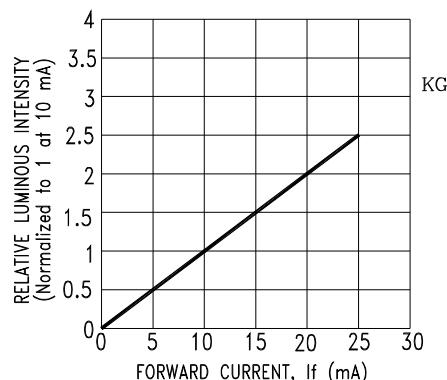
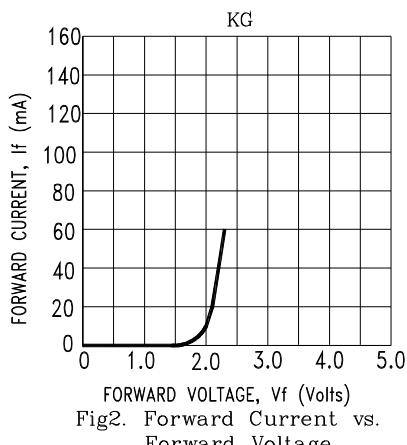
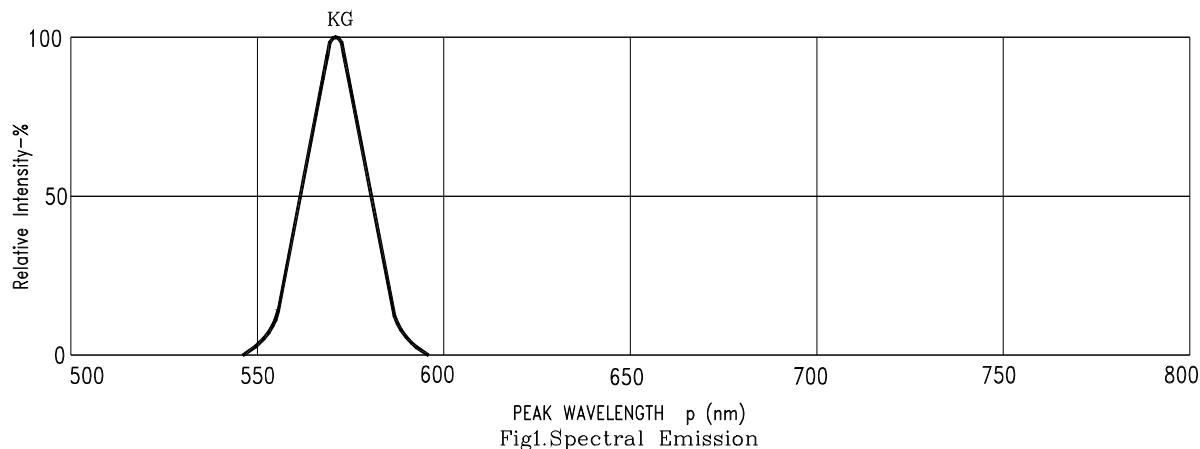
PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Luminous Intensity	IV	501	1700		μ cd	IF=1mA
Peak Emission Wavelength	λp		571		nm	IF=20mA
Spectral Line Half-Width	Δλ		15		nm	IF=20mA
Dominant Wavelength	λd		572		nm	IF=20mA
Forward Voltage Per Segment	V <sub>F</sub>		2.05	2.6	V	IF=20mA
Reverse Current Per Segment <sup>(2)</sup>	I <sub>R</sub>			100	uA	VR=5V
Luminous Intensity Matching Ratio	I <sub>V-m</sub>			2:1		IF=1mA

Note:

1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclairage) eye-response curve.
2. Reverse voltage is only for IR test. It can not continue to operate at this situation.
3. Cross talk specification  $\leq 2.5\%$

## TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

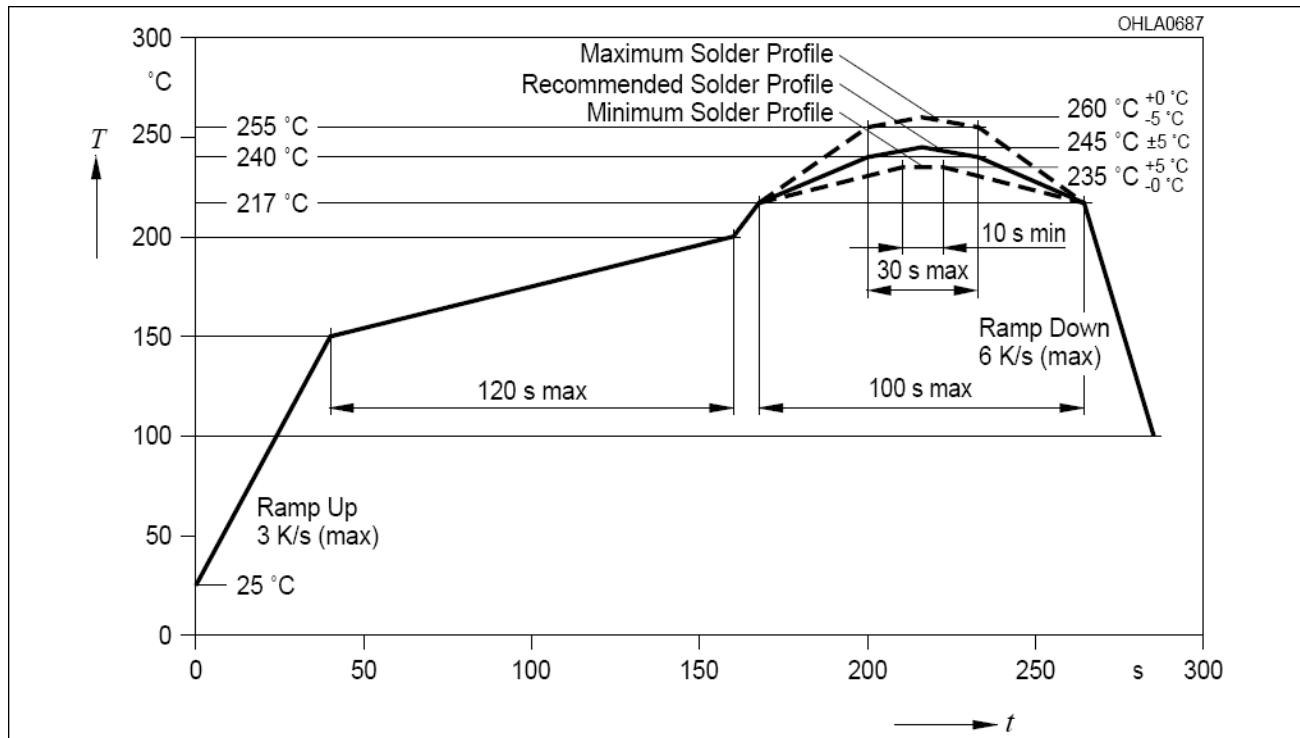
(25°C Ambient Temperature Unless Otherwise Noted)



NOTE : KG=AlInGaP Green

## SMT SOLDERING INSTRUCTION

(Number of reflow process shall be less than 2 times, and cooling process to normal temperature is required between the first and the second soldering process)



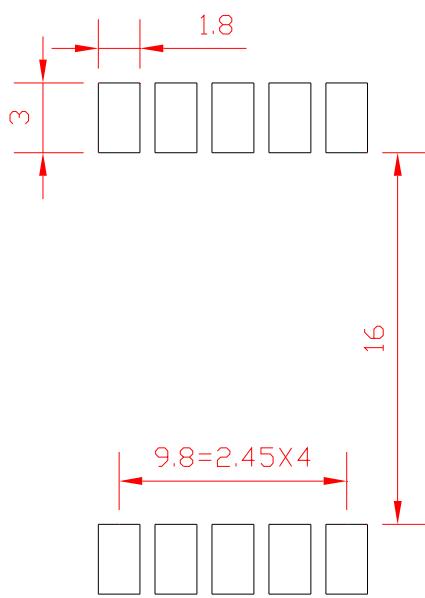
Note:

1. Recommended soldering condition:

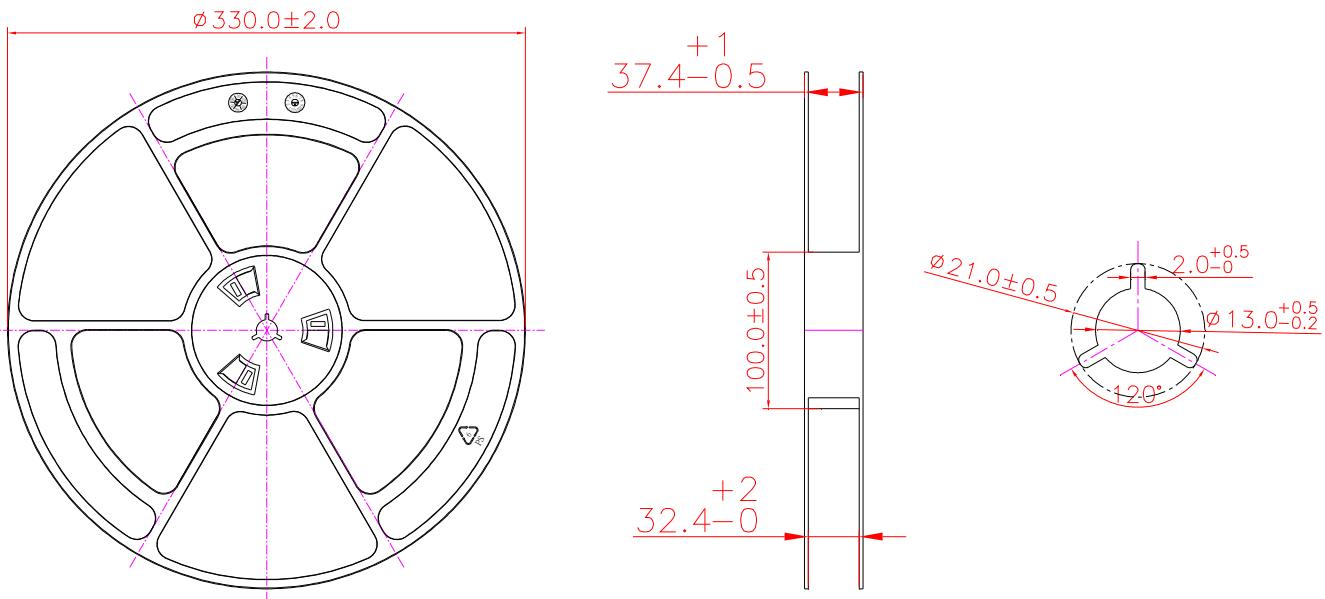
Reflow Soldering (Two times only)		Soldering Iron (One time only)	
Pre-heat:	120~150 $^{\circ}\text{C}$	Temperature	300 $^{\circ}\text{C}$ Max.
Pre-heat time:	120sec. Max.	Soldering time	3sec. Max.
Peak temperature:	260 $^{\circ}\text{C}$ Max.		
Soldering time:	5sec. Max.		

2. Number of reflow process shall be less than 2 times, and cooling process to normal temperature is required between the first and the second soldering process.

## RECOMMENDED SOLDERING PATTERN (UNIT: MM)

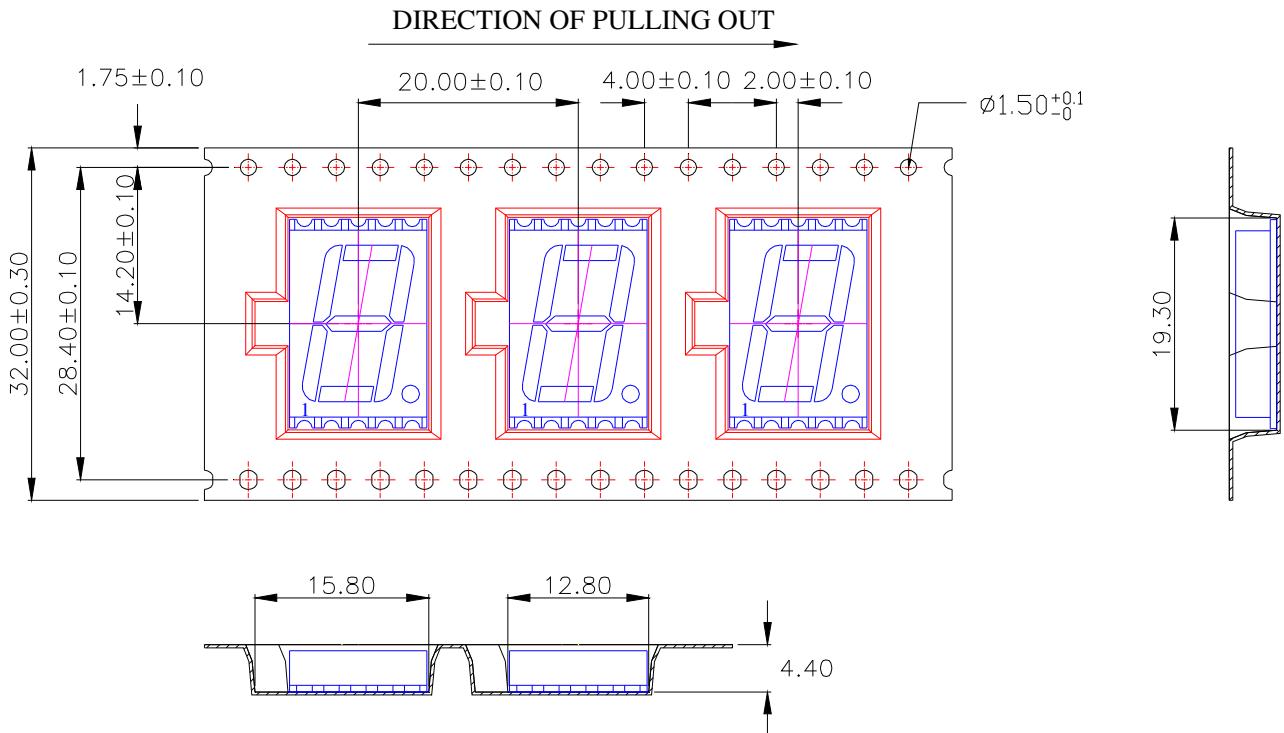


## PACKING REEL DIMENSIONS



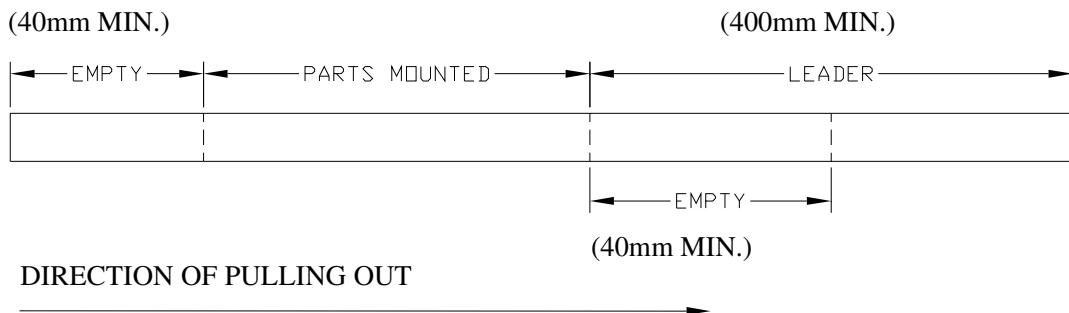
## PACKING CARRIER DIMENSIONS

### 1. Taping parts:



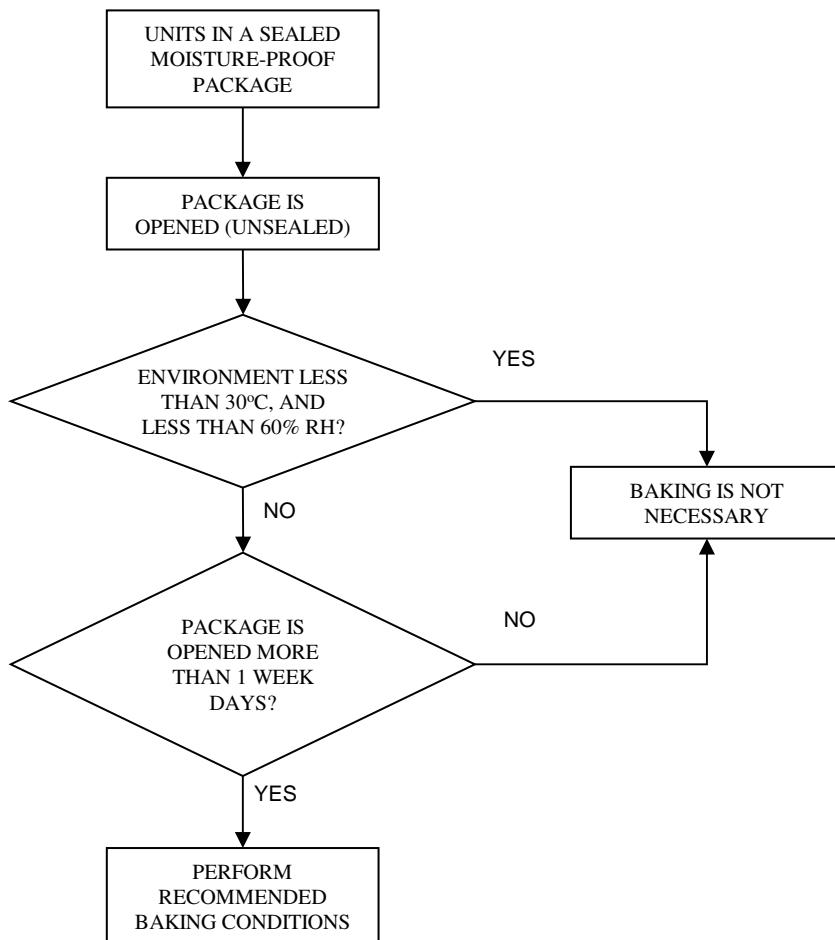
1. 10 sprocket hole pitch cumulative tolerance  $\pm 0.20$ .
2. Carrier camber is within 1 mm in 250 mm.
3. Material : Black Conductive Polystyrene Alloy.
4. All dimensions meet EIA-481-D requirements.
5. Thickness :  $0.30 \pm 0.05$ mm.
6. Packing length per 22" reel : 44.5 Meters.(1:3)
7. Component load per 13" reel : 700 pcs.
8. Minimum packing quantity is 200 pcs for remainders

### 2. Trailer part/ Leader part:



## MOISTURE PROOF PACKAGING

All N/D SMD displays are shipped in moisture proof package. The displays should be stored at 30°C or less and 90% RH or less. Once the package opened, moisture absorption begins.



### Baking Conditions

If the parts are not stored in dry conditions, they must be baked before reflow to prevent damage to the parts.

Package	Temperature	Time
In Reel	60 °C	≥48hours
In Bulk	100 °C	≥4hours
	125 °C	≥2hours

**Baking should only be done once.**