LITEON®
OPTOELECTRONICS

LED Display

Product Data Sheet

LTS-5825CKR-PR

Spec No.: DS30-2013-0125

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Revision: -

LITE-ON DCC

RELEASE

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LED DISPLAY

LTS-5825CKR-PR
DATA SHEET

ITEM	Description	By	DATE
1	New Spec	Reo Lin	2013/10/29
2	Modify Recommended Soldering Pattern in Page 8	Reo Lin	2013/11/01

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

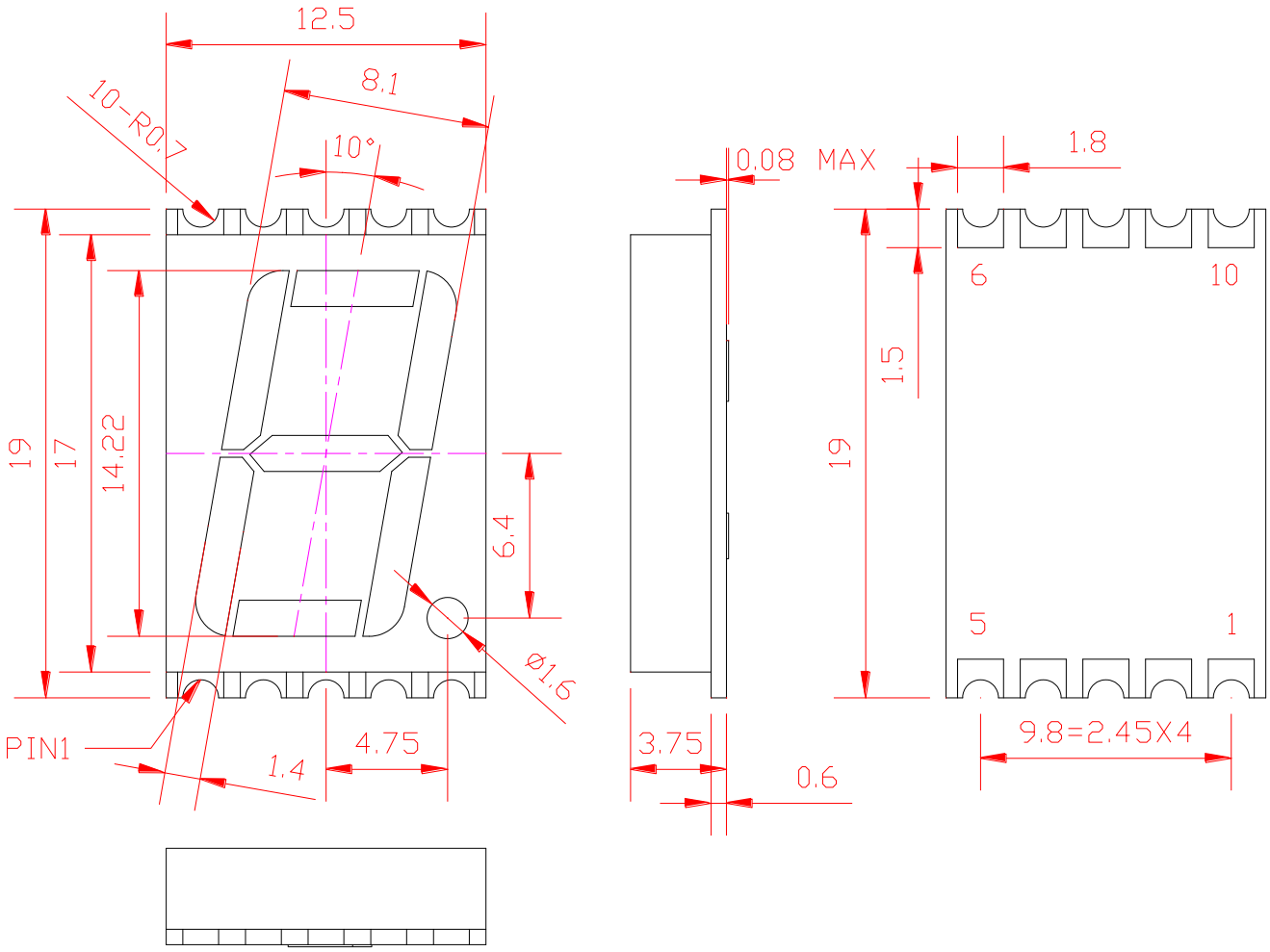
DESCRIPTION

The LTS-5825CKR-PR is a 0.56 inch (14.22 mm) digit height single digit SMD display. This device utilizes AllnGaP SUPER RED LED chips which are made from AlInGaP on a non-transparent GaAs substrate. The display has gray face and white segments.

DEVICE

PART NO.	DESCRIPTION
AllnGaP SUPER RED	Common Anode
LTS-5825CKR-PR	

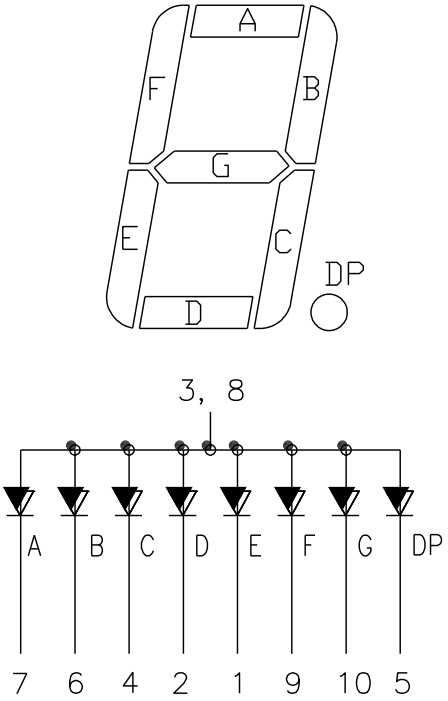
PACKAGE DIMENSIONS



NOTES:

1. All dimensions are in millimeters. Tolerances are ± 0.25 mm (0.01“) unless otherwise noted.
2. Foreign material on segment ≦10mils
3. Ink contamination (surface) ≦20mils
4. Bending≦1% of reflector length
5. Bubble in segment ≦10mils
6. Plastic pin’s burr max is 0.08 mm

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	-35˚C to +105˚C	
Storage Temperature Range	-35˚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	321	1050		μcd	I_F=1mA
			13650			I_F=10mA
Peak Emission Wavelength	λp		639		nm	I_F=20mA
Spectral Line Half-Width	Δλ		20		nm	I_F=20mA
Dominant Wavelength	λd		631		nm	I_F=20mA
Forward Voltage Per Segment	V_F		2.0	2.6	V	I_F=20mA
Reverse Current Per Segment(2)	I_R			100	uA	V_R=5V
Luminous Intensity Matching Ratio	I_{V}-m			2:1		I_F=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 ≦ 2.5 %

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

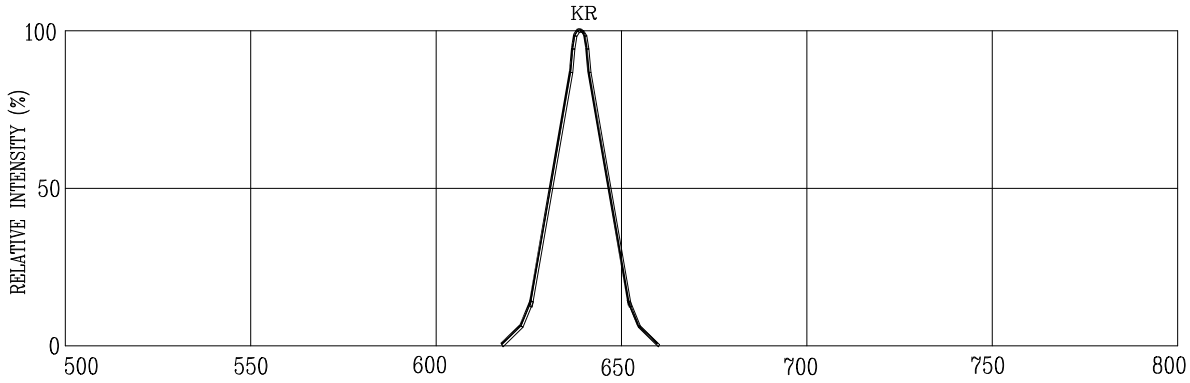


Fig1.Spectral Emission

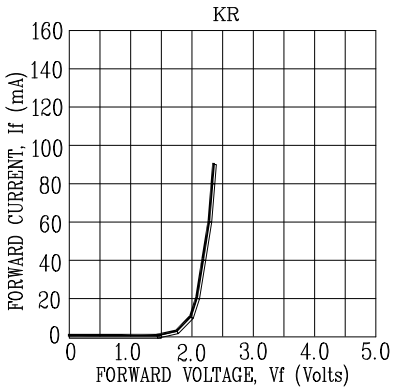


Fig2. Forward Current vs. Forward Voltage

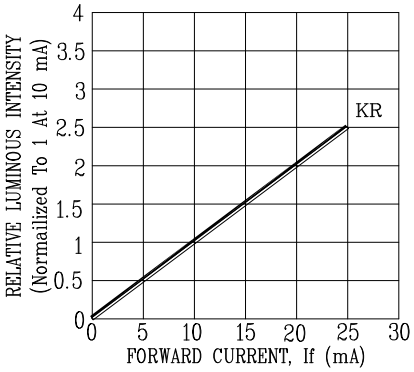


Fig3. Relative Luminous Intensity vs. DC Forward Current

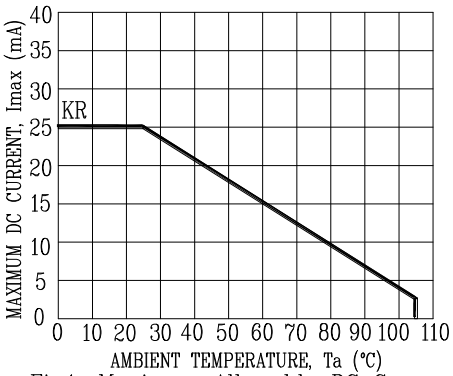


Fig4. Maximun Allowable DC Current vs. Ambient Temperature

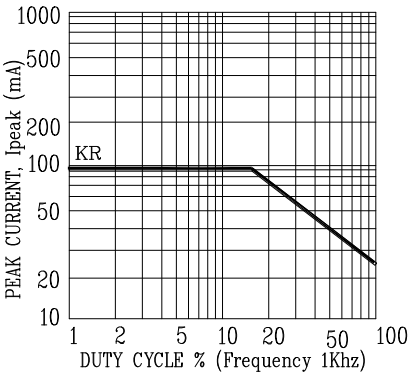
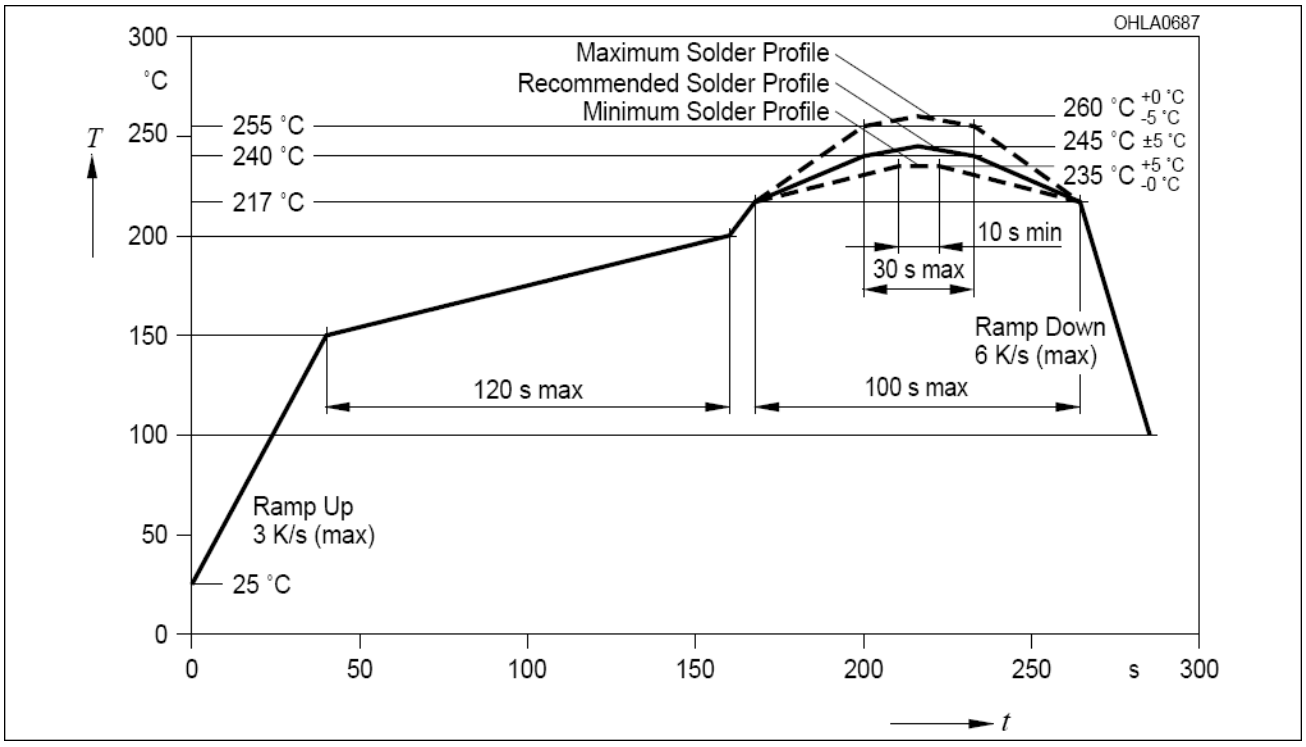


Fig5. Maximum Peak Current vs. Duty Cycle %

NOTE : KR=AlInGaP SUPER RED

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)



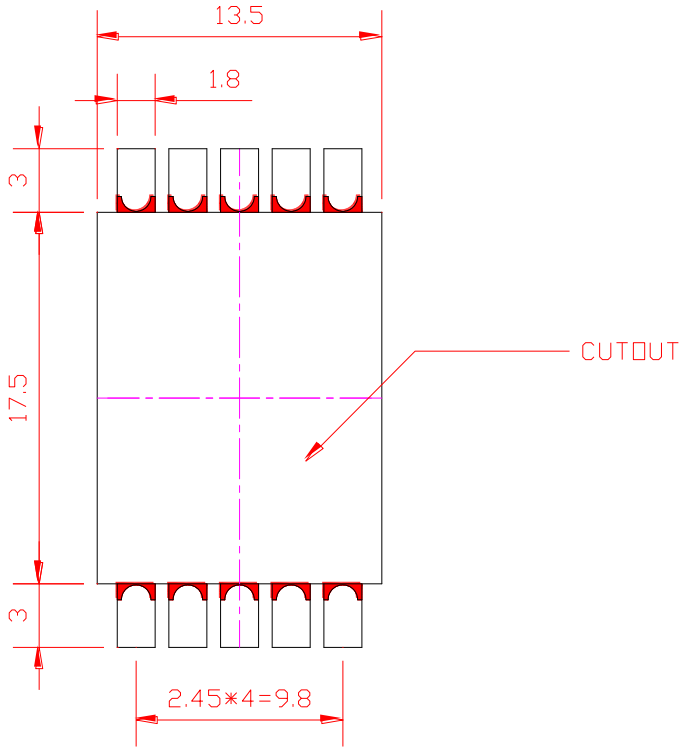
Note:

1. Recommended soldering condition:

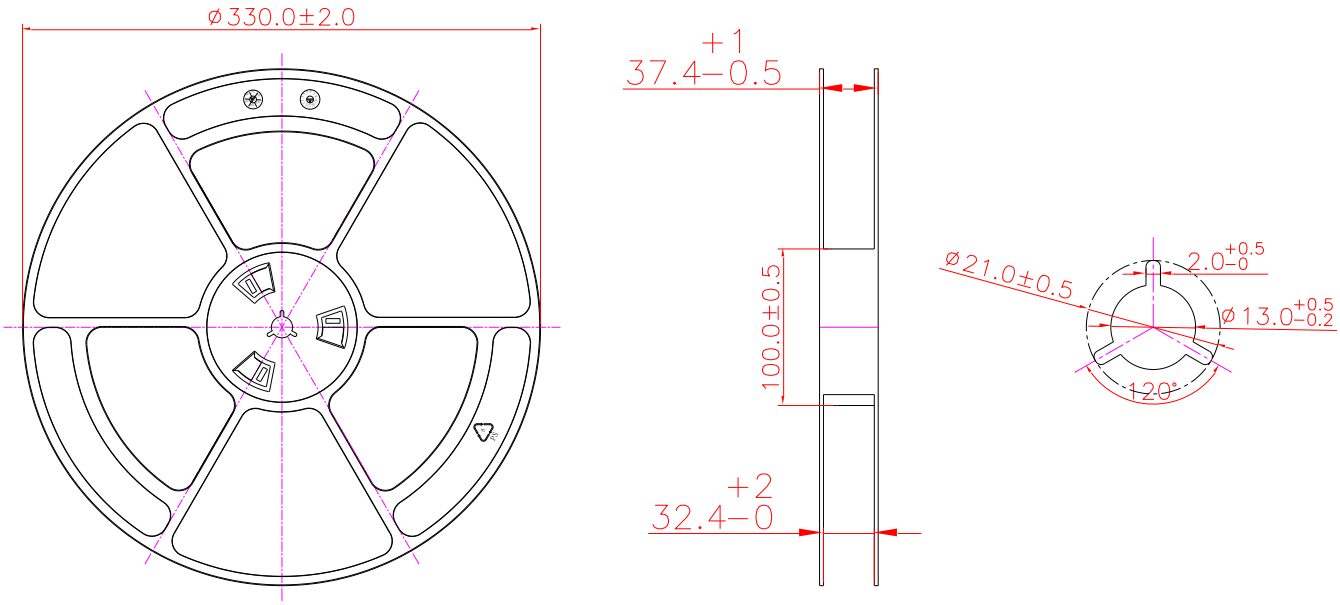
Reflow Soldering (Two times only)		**Soldering Iron (One time only)**	
Pre-heat: Pre-heat time: Peak temperature: Soldering time:	120~150°C 120sec. Max. 260°C Max. 5sec. Max.	Temperature Soldering time	300℃ Max. 3sec. Max.

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)

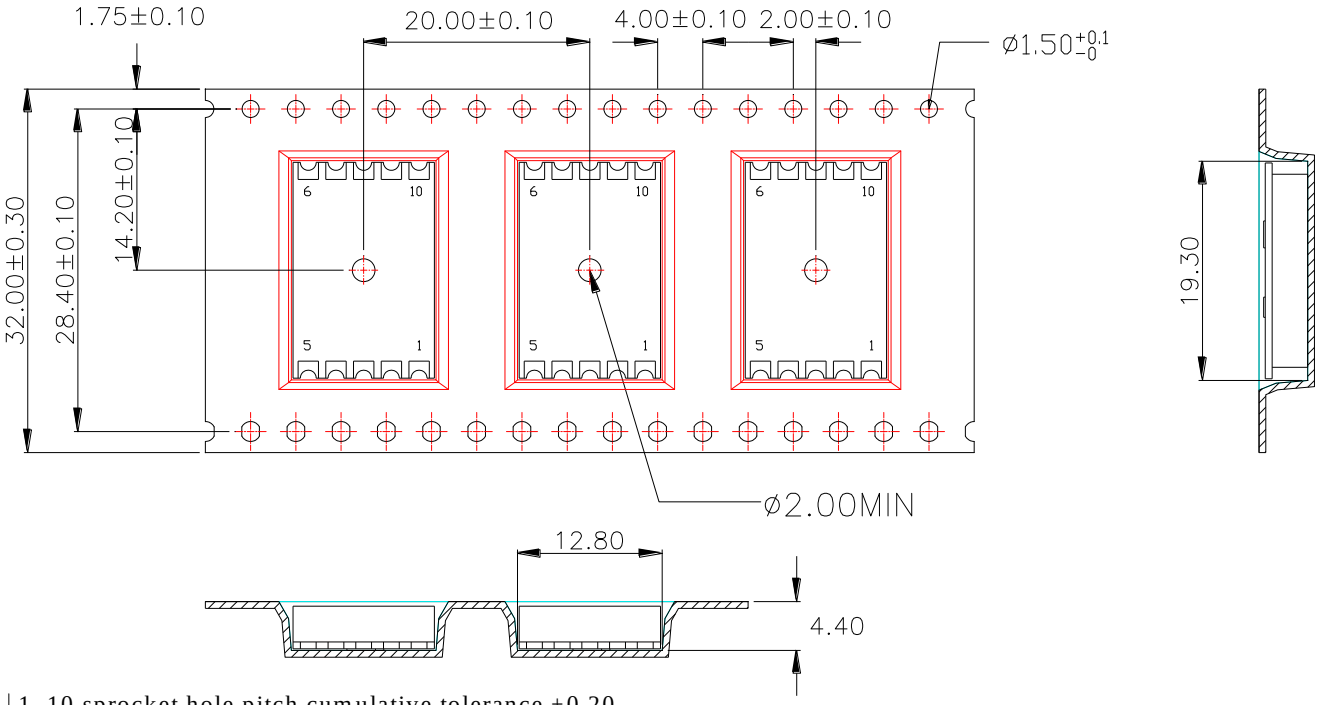


PACKING REEL DIMENSIONS



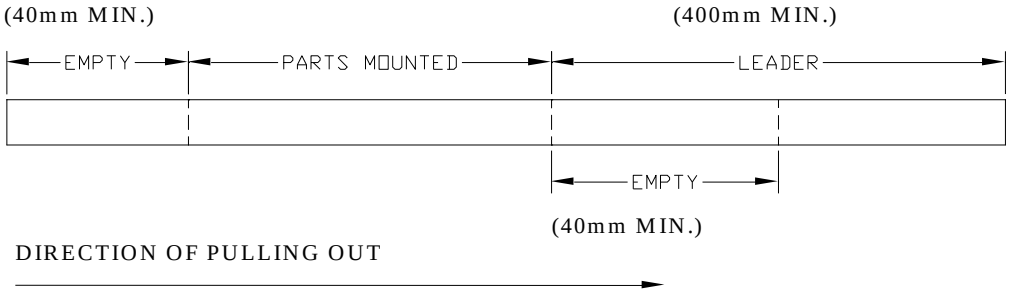
PACKING CARRIER DIMENSIONS

1. Taping parts:



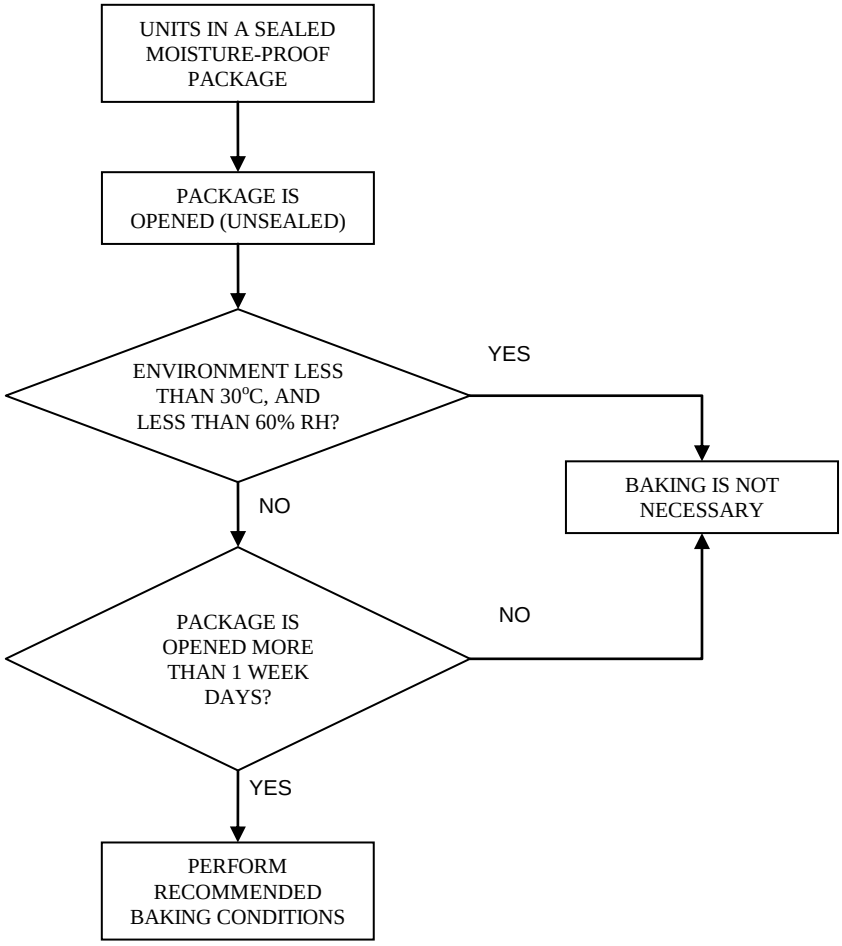
1. 10 sprocket hole pitch cumulative tolerance ±0.20.
2. Carrier camber is within 1 mm in 250 mm.
3. Material : Black Conductive Polystyrene Alloy.
4. All dimensions meet EIA-481-D requirements.
5. Thickness : 0.30±0.05mm.
6. Packing length per 22" reel : 44.5 Meters.(1:3)
7. Component load per 13" reel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

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℃ 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.