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## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





# LITE-ON TECHNOLOGY CORPORATION

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LED DISPLAY

## LTP-3363CKR-P DATA SHEET

<u>ITEM</u>	<u>Description</u>	<u>By</u>	<u>DATE</u>
1	New Spec	Reo Lin	2011/07/15

**FEATURES**

- \* 0.3 inch (7.62 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
- \* SMD DISPLAY
- \* LEAD-FREE PACKAGE (ACCORDING TO RoHS)

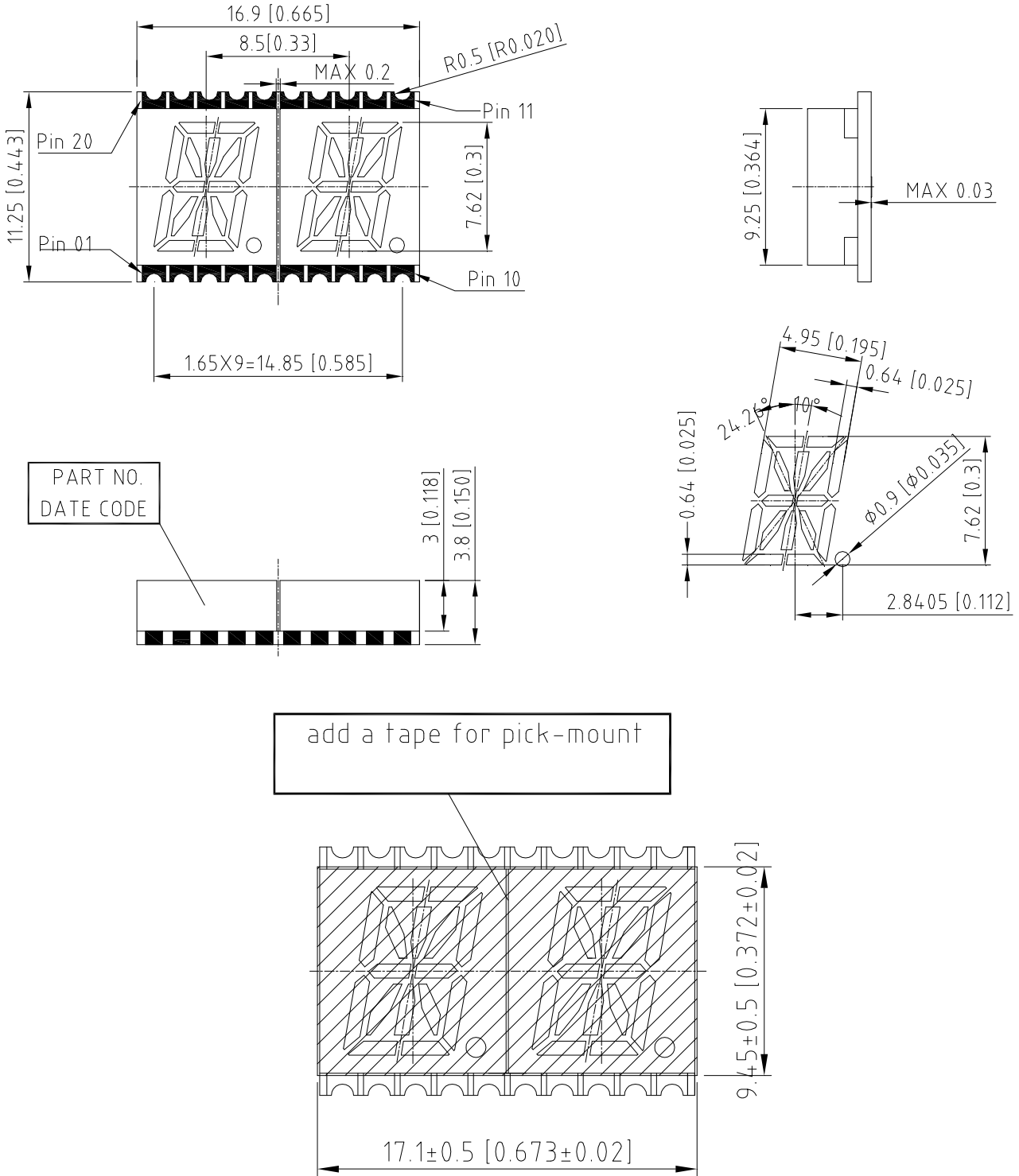
**DESCRIPTION**

The LTP-3363CKR-P is a 0.3 inch (7.62 mm) digit height dual digit 17-segment alphanumeric display. This device uses AS-AllnGaP SUPER RED LED chips (AllnGaP epi on GaAs substrate). The display has black face and white segments.

**DEVICE**

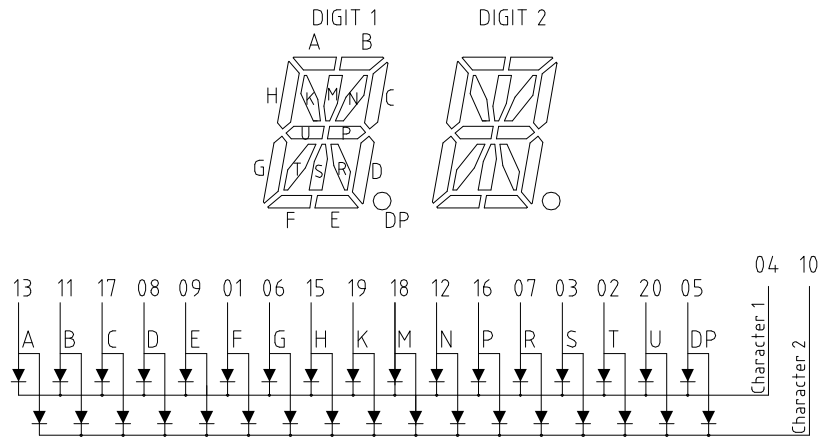
<b>PART NO.</b>	<b>DESCRIPTION</b>
AllnGaP RED	Multiplex Common Cathode
LTP-3363CKR-P	Rt. Hand Decimal

## PACKAGE DIMENSIONS



NOTES: 1.All dimensions are in millimeters. Tolerances are  $\pm 0.25\text{mm}$  (0.01") unless otherwise noted.

## INTERNAL CIRCUIT DIAGRAM



### PIN CONNECTION

No.	CONNECTION
1	ANODE F
2	ANODE T
3	ANODE S
4	COMMON CATHODE (Digit 1)
5	ANODE DP
6	ANODE G
7	ANODE R
8	ANODE D
9	ANODE E
10	COMMON CATHODE (Digit 2)
11	ANODE B
12	ANODE N
13	ANODE A
14	NO CONNECTION
15	ANODE H
16	ANODE P
17	ANODE C
18	ANODE M
19	ANODE K
20	ANODE U

**ABSOLUTE MAXIMUM RATING**

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation Per Segment	70	mW
Peak Forward Current Per Segment ( Frequency 1Khz, 18% duty cycle)	90	mA
Continuous Forward Current Per Segment	25	mA
Forward Current Derating from 25 <sup>0</sup> C	0.27	mA/ <sup>0</sup> C
Operating Temperature Range	-35 <sup>0</sup> C to +105 <sup>0</sup> C	
Storage Temperature Range	-35 <sup>0</sup> C to +105 <sup>0</sup> C	
Soldering Conditions : 1/16 inch below seating plane for 3 seconds at 260 <sup>0</sup> C		

**ELECTRICAL / OPTICAL CHARACTERISTICS**

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Average Luminous Intensity Per Segment	I <sub>v</sub>	T.B.D	T.B.D		μcd	I <sub>F</sub> =1mA
			T.B.D			I <sub>F</sub> =10mA
Peak Emission Wavelength	λ <sub>p</sub>		639		nm	I <sub>F</sub> =20mA
Spectral Line Half-Width	Δλ		20		nm	I <sub>F</sub> =20mA
Dominant Wavelength	λ <sub>d</sub>		631		nm	I <sub>F</sub> =20mA
Forward Voltage Per Segment	V <sub>F</sub>		2.0	2.6	V	I <sub>F</sub> =20mA
Reverse Current Per Segment	I <sub>R</sub>			100	μA	V <sub>R</sub> =5V
Luminous Intensity Matching Ratio	I <sub>v</sub> -m			2:1		I <sub>F</sub> =1mA

Note: Luminous intensity is measured with a light sensor and filter combination that approximates the CIE (Commision Internationale De L'Eclairage) eye-response curve.

**TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES**

(25°C Ambient Temperature Unless Otherwise Noted)

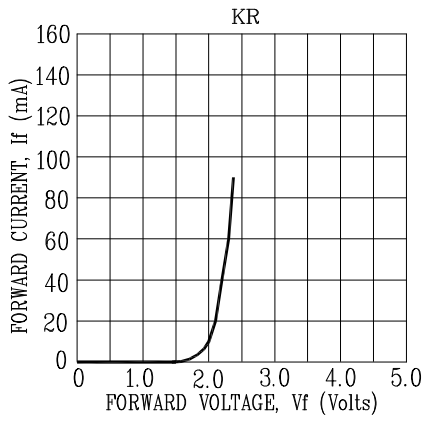
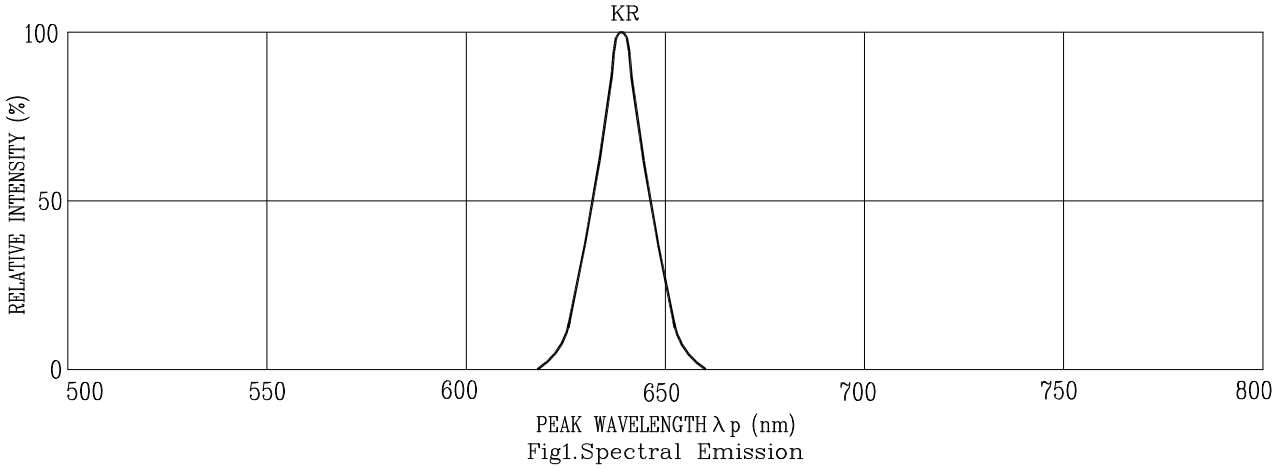


Fig2. Forward Current vs. Forward Voltage

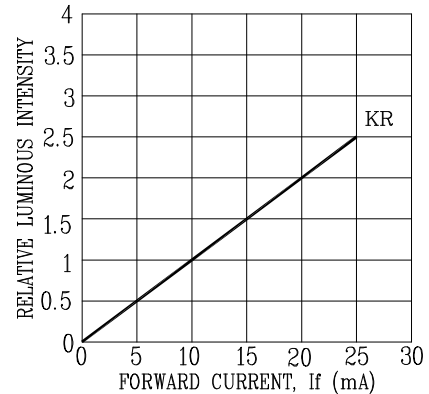


Fig3. Relative Luminous Intensity vs. DC Forward Current

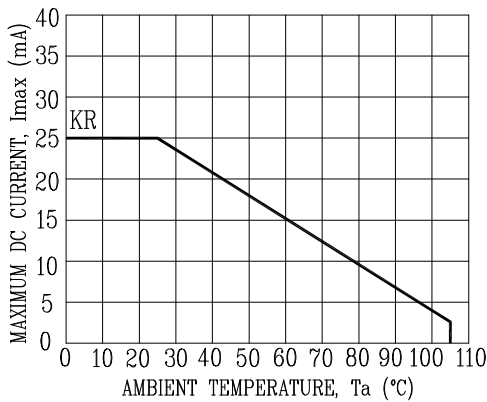


Fig4. Maximum Allowable DC Current vs. Ambient Temperature

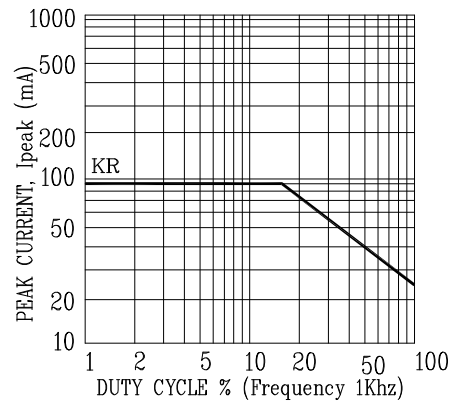
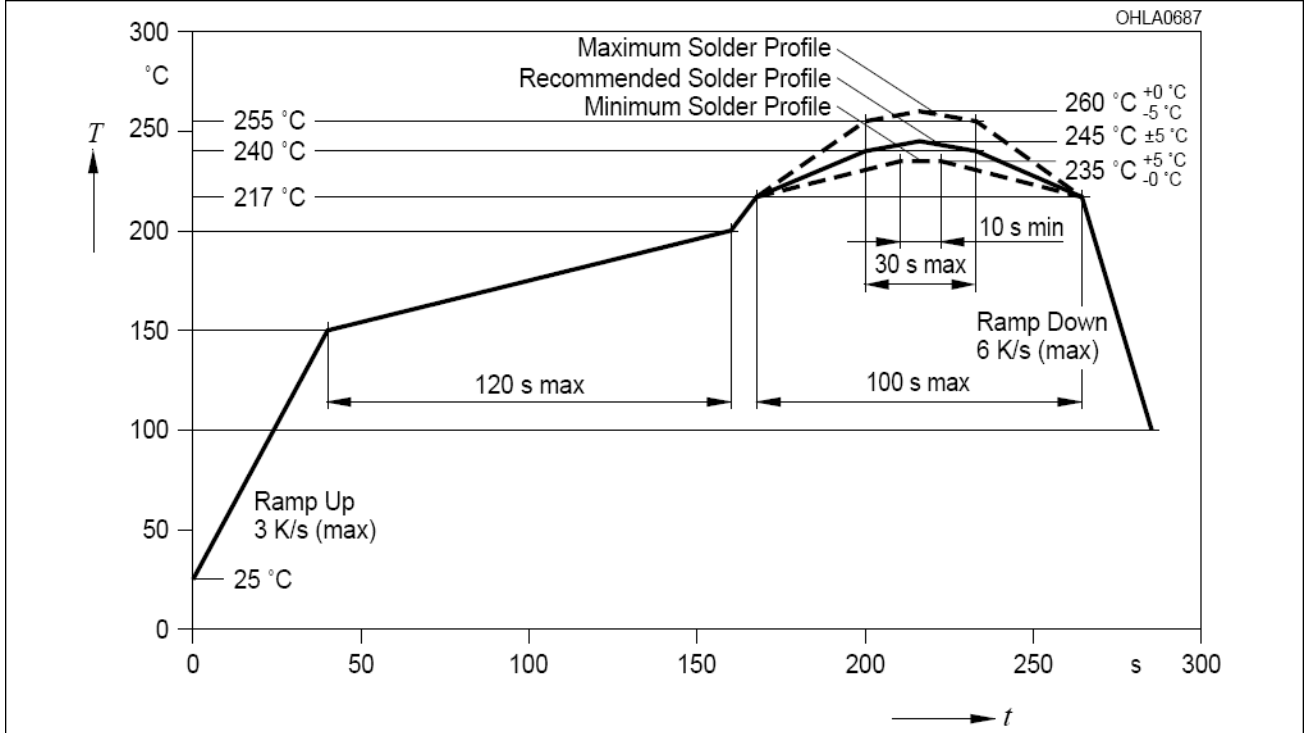


Fig5. Maximum Peak Current vs. Duty Cycle %

**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:

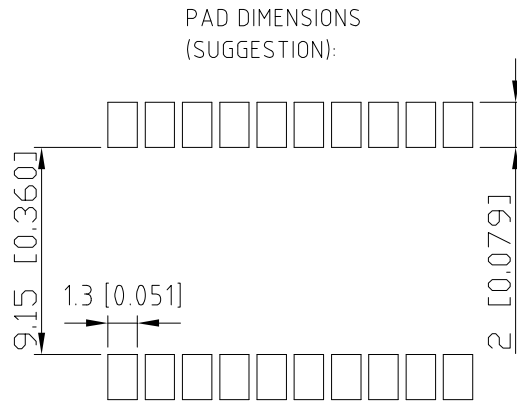
1. Recommended soldering condition:

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

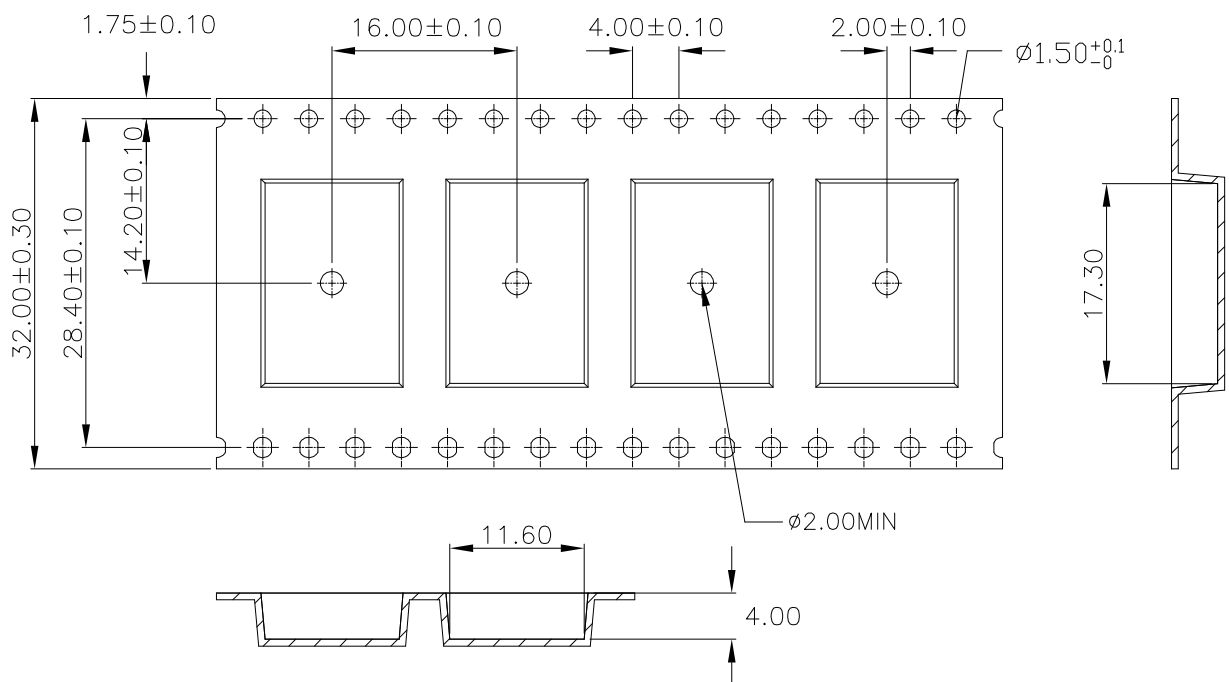
2. Number of reflow process shall be less than 2 times, and cooling process to normal temperature is required between the first and the second soldering process.



**RECOMMENDED SOLDERING PATTERN (UNIT: mm)**

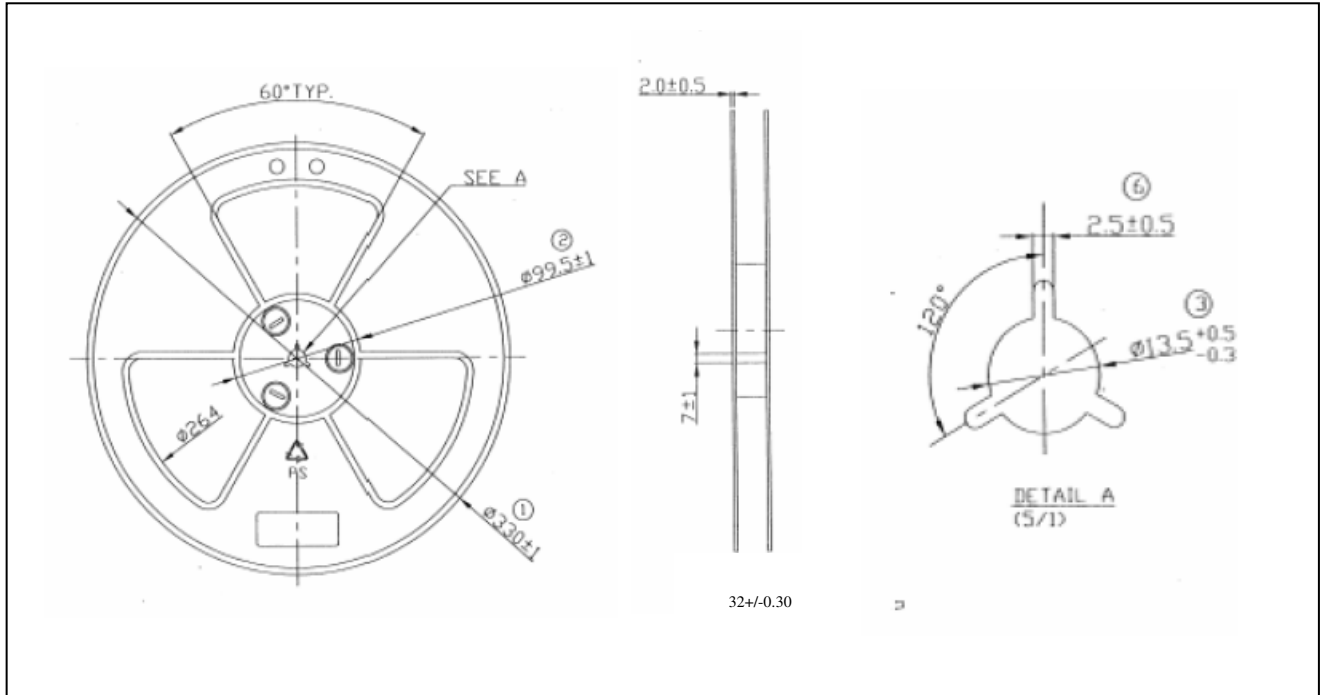


**PACKING MODE**



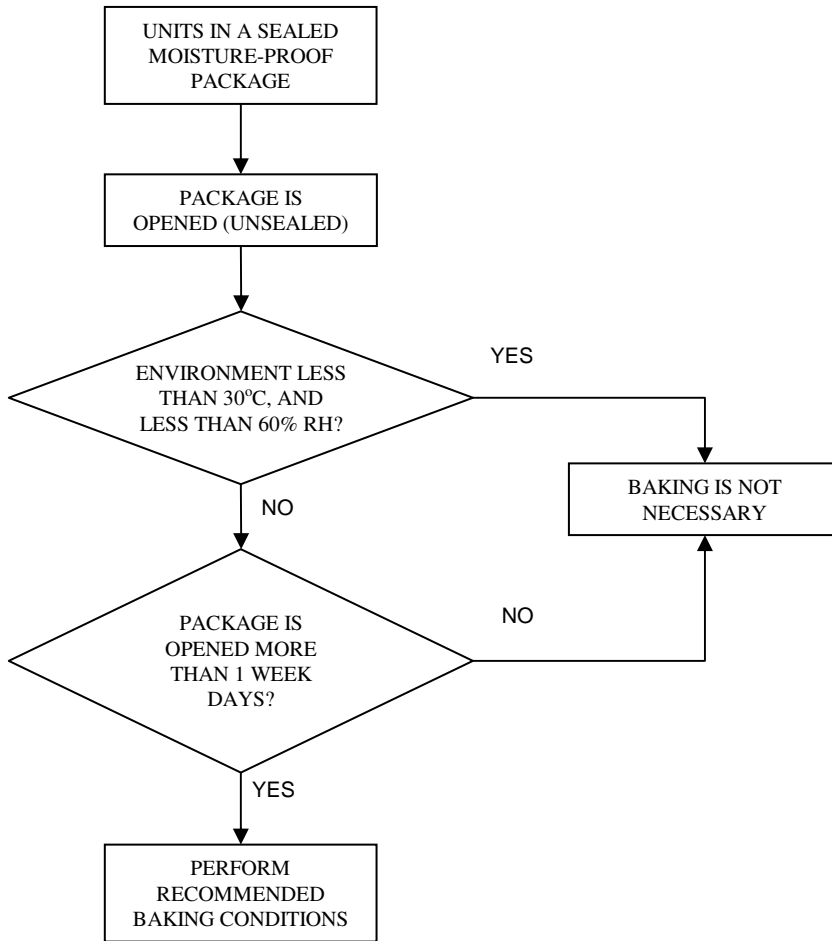
**PACKING REEL DIMENSIONS**

NOTE : packing qty 950 PCS/REEL



**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.**