PSE Technology Corporation

SPECIFICATION FOR APPROVAL

CUSTOMER	
NOMINAL FREQUENCY	33.333000 MHz
PRODUCT TYPE	TYPE FN 7.0x5.0 SEAM SEALED CRYSTAL CLOCK OSCILLATOR
SPEC. NO. (P/N)	FN3330078
CUSTOMER P/N	
ISSUE DATE	April 28, 2011
VERSION	C

APPROVED	PREPARED	QA
Brenda	Nikki Lu	Jenny Jang
APPROVED BY CUSTOMER :		**AVL Status**
Please return one copy with approval to PSE-TW		

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*Pb-free
*RoHS Compliant
*HF-Halogen Free
*REACH Compliant

*** *A company of* PERICOM *Semiconductor Corporation* ***

VERSION HISTORY

Version No.	Version Date	Customer Receipt Date	Supplier Receipt Date	Description	Notes
A	Jul.3,2009			Initial Release	
B	Apr.22,2010			Change Output Wave form T_R/T_F to T_F/T_R Position	
C	Apr.28,2011			Added Start Up Time: 10ms max & Updated Suggested IR Reflow Profile & Changed Logo	

TYPE FN 7.0x5.0 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

FN3330078

VER. C 28-Apr-11

ELECTRICAL SPECIFICATIONS

SRe Part Number : FN3330078

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	Fo	33.333000	MHz	
Frequency Stability	FT	± 30	ppm	**See note
Operating Temperature Range	TR	-40 to +85	°C	
Supply Voltage	V_{DD}	+3.3 ± 10.0%	V	
Logic Type	LT	LVCMOS		
Supply Current, Output Enabled	I_{DD}/OE	25	mA	Max.
Supply Current, Output Disabled	I_{DD}/OD	10	µA	Max.
Duty Cycle (Symmetry)	DC/SY	45 / 55	%	Measured 50% of Waveform
Rise / Fall Time	T_R/T_F	7	ns	Max. measured 20/80% of Waveform
Output Voltage "0" Level	V_{OL}	10% V_{DD}	V	Max.
Output Voltage "1" Level	V_{OH}	90% V_{DD}	V	Min.
Output Load	CL	15	pF	Max
Jitter, Phase	RMS(1-σ)	1.5	ps	Max, 12KHz ~ 5MHz Frequency Band
Jitter, Accumulated	RMS(1-σ)	5	ps	Max, 20,000 Consecutive Periods
Jitter, Peak to Peak	Pk-Pk	50	ps	Max, 100,000 Random Periods
Start Up Time		10	ms	Max
Storage Temperature Range		-55°C to +125°C	°C	

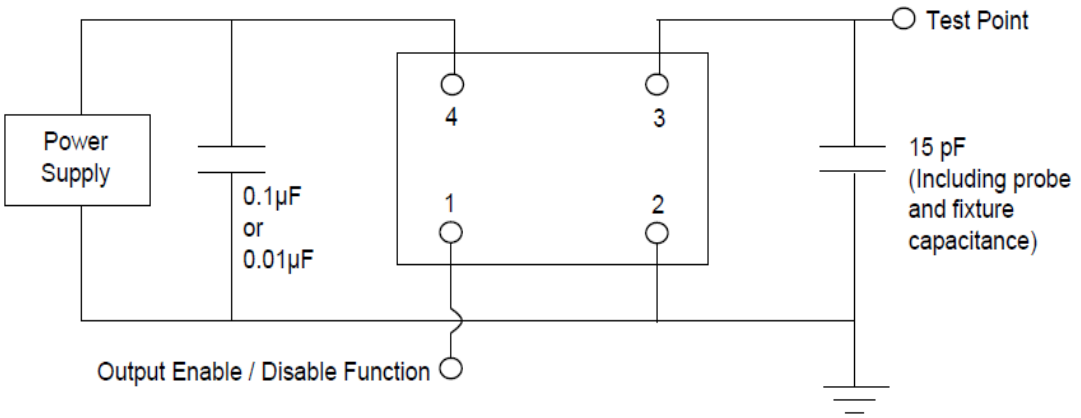
※ This product doesn't include harmful substance that stipulated by SONY SS-00259 Level 1 and S-AT2-001 Level 1 standard. RoHS Compliant (Pb - Free).

****Stability includes all combinations of Operating Temperature, Load changes, rated Input (Supply) Voltage changes, Initial Calibration Tolerance (25°C), Aging (1 year at 25°C Average Effective Ambient Temperature), Shock and Vibration.**

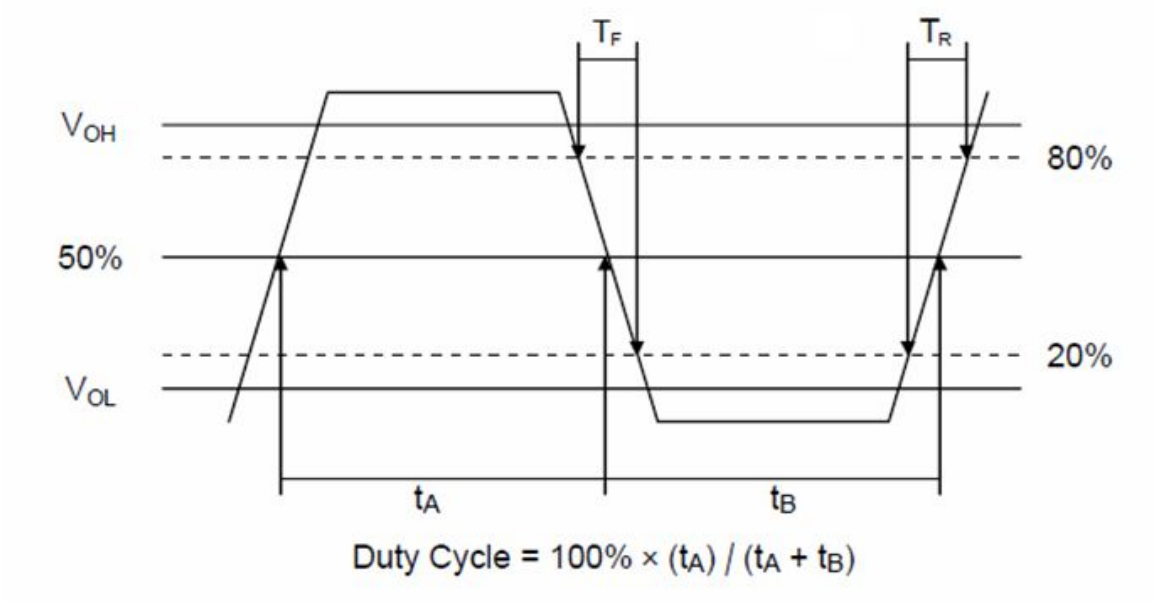
Output Enable / Disable Function

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (Pin1), Output Enable	$0.7V_{DD}$			V	Or Open
Input Voltage (Pin1), Output Disable (low power standby)			$0.3V_{DD}$	V	Output is Hi-Z
Internal Pullup Resistance	30			KΩ	
Output Disable Delay			50	ns	

TEST CIRCUIT



OUTPUT WAVEFORM



RELIABILITY SPECIFICATIONS

ENVIRONMENTAL:

a) THERMAL SHOCK: MIL-STD-883, Method 1011, Condition A

b) MOISTURE RESISTANCE: MIL-STD-883, Method 1004

c) VIBRATION: MIL-STD-883, Method 2007, Condition A

d) RESISTANCE TO SOLDERING HEAT: J-STD-020D Table 5-2 Pb-free devices (except 2 cycles max)

e) HAZARDOUS SUBSTANCE: Pb - free and RoHS Compliant.

MECHANICAL:

a) SHOCK: MIL-STD-883, Method 2002, Condition B

b) SOLDERABILITY: JESD22-B102-D Method 2 (Preconditioning E)

c) TERMINAL STRENGTH: MIL-STD-883, Method 2004, Test Condition D

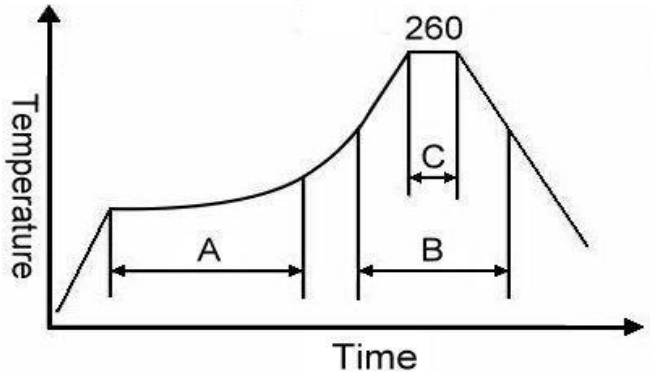
d) GROSS LEAK: MIL-STD-883, Method 1014, Condition C

e) FINE LEAK: MIL-STD-883, Method 1014, Condition A2, R1=2x10^{-8} atm cc/s

f) SOLVENT RESISTANCE: MIL-STD-202, Method 215

SUGGESTED IR REFLOW PROFILE

*As per IPC-JEDEC J-STD-020D

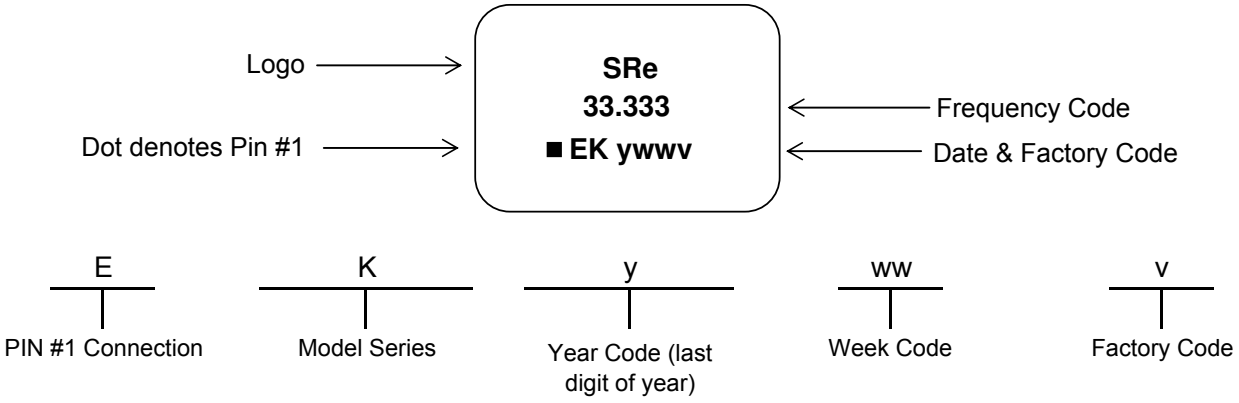


Note:

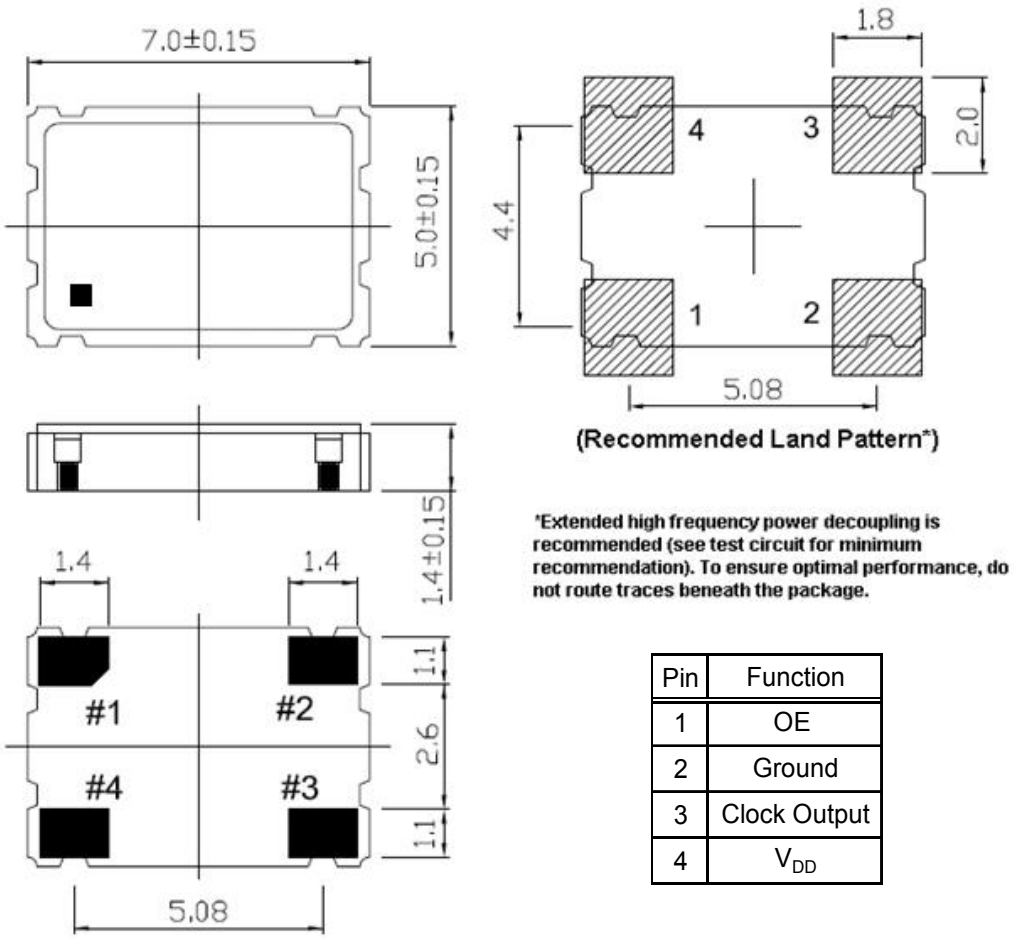
	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

For soldering reflow profile and reliability test ratings go to: http://www.pericom.com/pdf/sre/reflow.pdf

MARKING



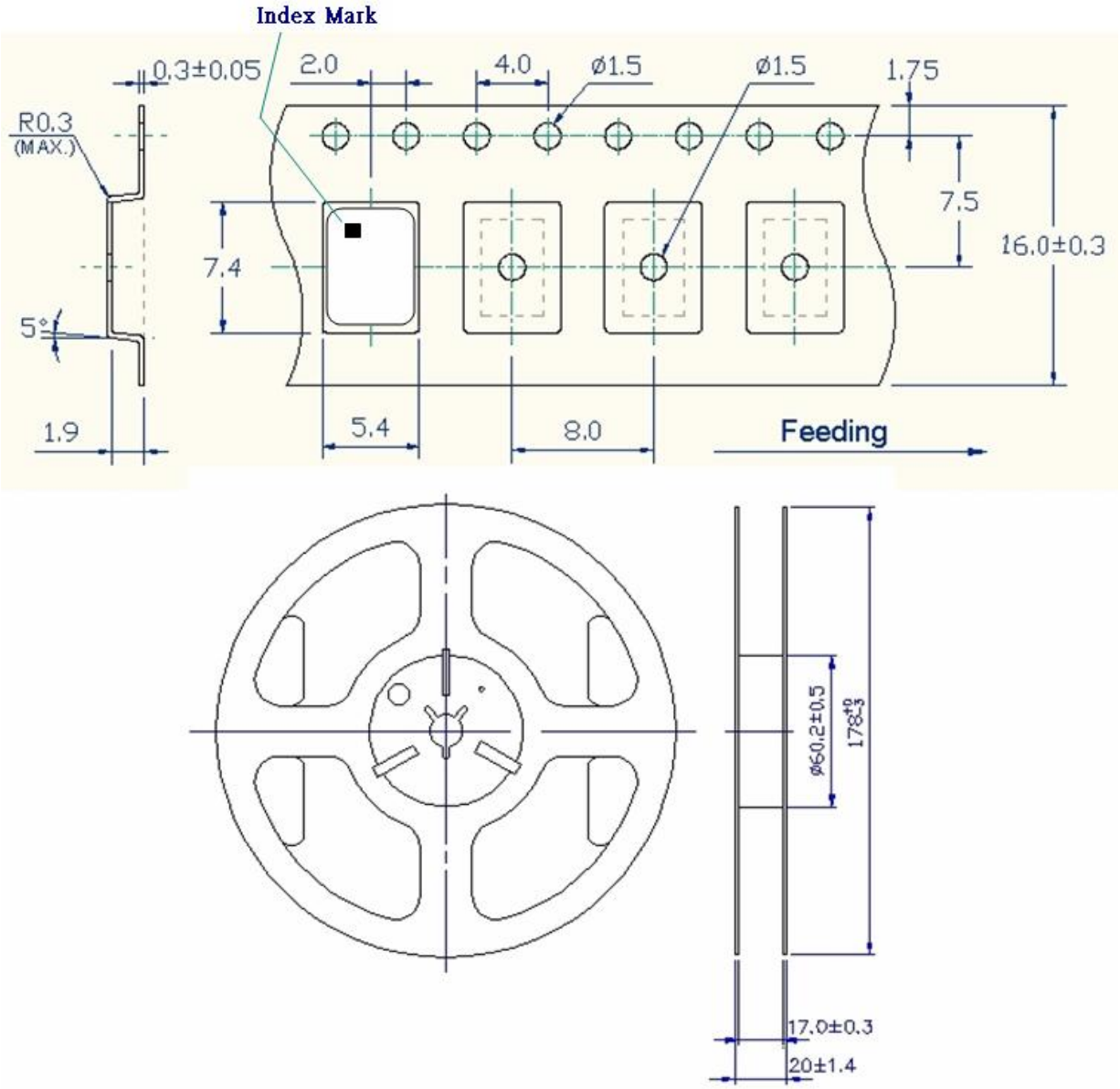
MECHANICAL DRAWINGS (Scale:None. Dimensions are in mm.)



*Extended high frequency power decoupling is recommended (see test circuit for minimum recommendation). To ensure optimal performance, do not route traces beneath the package.

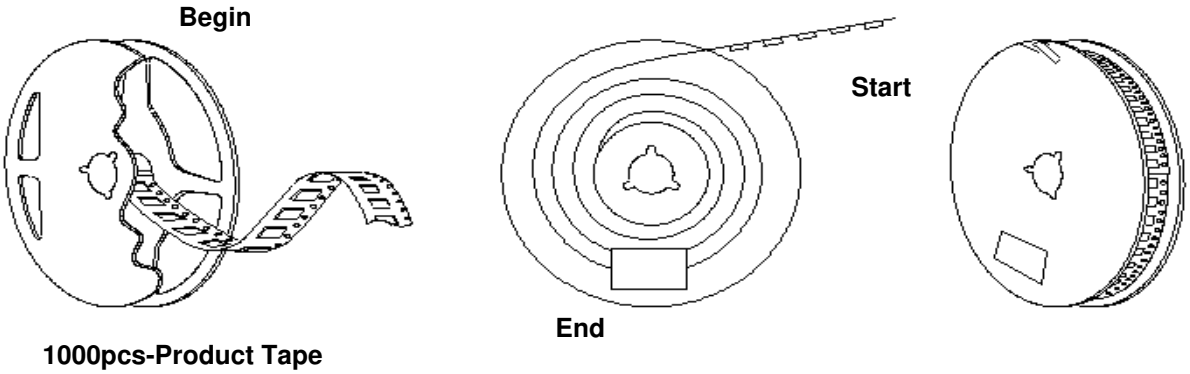
Pin	Function
1	OE
2	Ground
3	Clock Output
4	V_{DD}

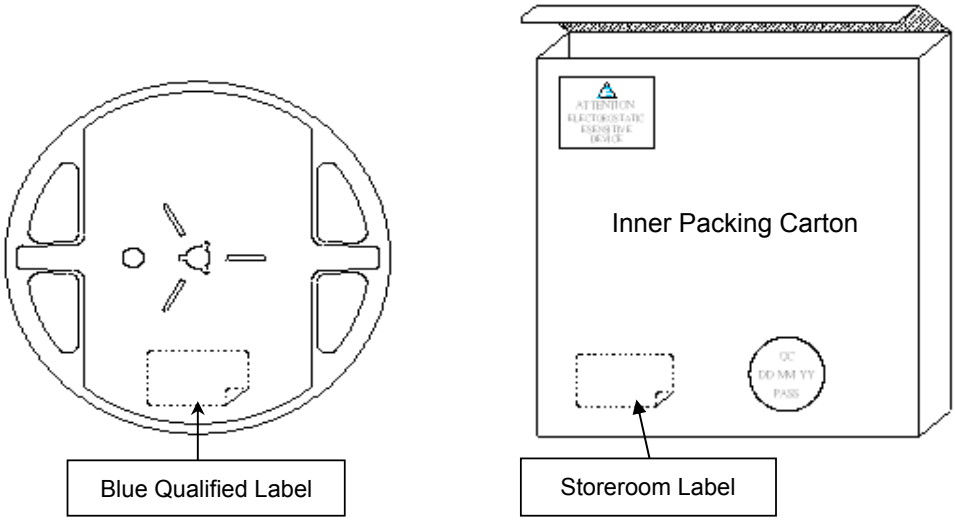
TAPE&REEL

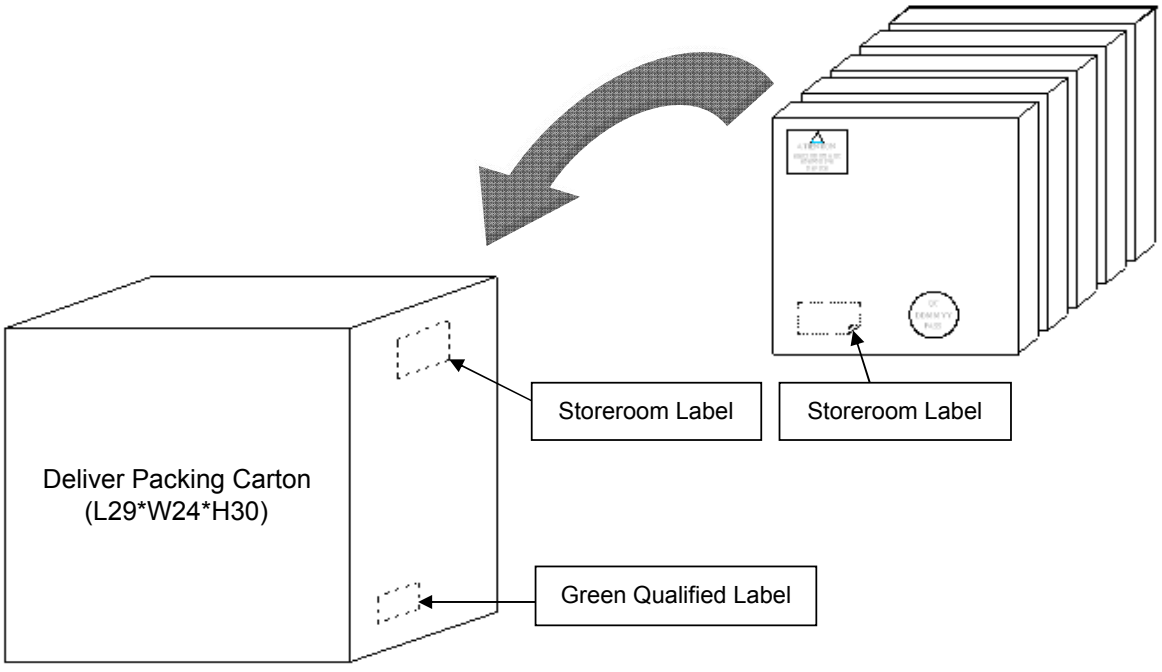


1. 230mm minimum leafer which consist of carrier and/or tape followed by a minimum of 160mm of empty carrier tape sealed with cover tape.
2. 160mm minimum trailer of empty carrier tape sealed with cover tape.

PACKING


Begin
Start
End
1000pcs-Product Tape


Inner Packing Carton
Blue Qualified Label
Storeroom Label


Deliver Packing Carton
(L29*W24*H30)
Storeroom Label
Storeroom Label
Green Qualified Label