

# PD2500006 Datasheet



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DiGi Electronics Part Number	PD2500006-DG
Manufacturer	<a href="#">Diodes Incorporated</a>
Manufacturer Product Number	PD2500006
Description	XTAL OSC XO 25.0000MHZ LVPECL
Detailed Description	25 MHz XO (Standard) LVPECL Oscillator 3.3V



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DiGi is a global authorized distributor of electronic components.

## Purchase and inquiry

Manufacturer Product Number:

PD2500006

Series:

SaRonix-eCera™ PD

Base Resonator:

Crystal

Frequency:

25 MHz

Voltage - Supply:

3.3V

Operating Temperature:

-40°C ~ 85°C

Manufacturer:

Diodes Incorporated

Product Status:

Active

Type:

XO (Standard)

Output:

LVPECL

Absolute Pull Range (APR):

-

Size / Dimension:

0.197" L x 0.126" W (5.00mm x 3.20mm)

## Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8542.39.0001

Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99



A Product Line of  
Diodes Incorporated



**SPECIFICATION FOR APPROVAL**

CUSTOMER	_____
NOMINAL FREQUENCY	25.000000 MHz
PRODUCT TYPE	TYPE PD 5.0x3.2 SEAM SEALED CRYSTAL CLOCK OSCILLATOR
SPEC. NO. ( P/N )	PD2500006
CUSTOMER P/N	_____
ISSUE DATE	May 26, 2019
VERSION	B

APPROVED	PREPARED	QA

**Diodes Incorporated**

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TEL: 886-3-451-8888  
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<https://www.diodes.com>

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

# TYPE PD 5.0x3.2 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

***PD2500006***

VER. B 26-May-19

## VERSION HISTORY

Version No.	Version Date	Description	Notes
A	Apr.17,2014	Initial Release	
B	May.26,2019	Updated logo	



**TYPE PD 5.0x3.2 SEAM SEALED CRYSTAL CLOCK OSCILLATOR****PD2500006**

VER. B 26-May-19

**ELECTRICAL SPECIFICATIONS****SRe Part Number : PD2500006**

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	Fo	25.000000	MHz	
Frequency Stability	FT	± 25	ppm	**See note
Operating Temperature Range	TR	-40 to +85	°C	
Supply Voltage	V <sub>CC</sub>	+3.3 ± 10.0%	V	
Logic Type	LT	LVPECL		
Supply Current, Output Enabled	I <sub>CC/OE</sub>	80	mA	Max.
Supply Current, Output Disabled	I <sub>CC/OD</sub>	30	uA	Max.
Duty Cycle (Symmetry)	DC/SY	45 / 55	%	Measured 50% of Waveform
Rise / Fall Time	T <sub>R</sub> /T <sub>F</sub>	1	ns	Max. measured 20/80% of Waveform
Output Voltage "0" Level	V <sub>OL</sub>	V <sub>CC</sub> -1.620V	V	Max.
Output Voltage "1" Level	V <sub>OH</sub>	V <sub>CC</sub> -1.025V	V	Min.
Output Load		50Ω to V <sub>CC</sub> -2V		
Jitter, Phase	RMS	1	ps	Max. 12KHz ~ 5MHz Frequency Band
Jitter, Accumulated	RMS(1-σ)	4	ps	Typ. 20,000 Consecutive Periods
Jitter, Peak to Peak	Pk-Pk	40	ps	Max. 100,000 Random Periods
Start Up Time		10	ms	Max.
Storage Temperature Range		-55 to +125	°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 (Pin2), Output Enable	0.7V <sub>CC</sub>			V	Or Open
Input Voltage (Pin2), Output Disable (low power standby)			0.3V <sub>CC</sub>	V	Output is Hi-Z
Internal Pullup Resistance		50		KΩ	
Output Disable Delay			200	ns	
Output Enable Delay			2	ms	

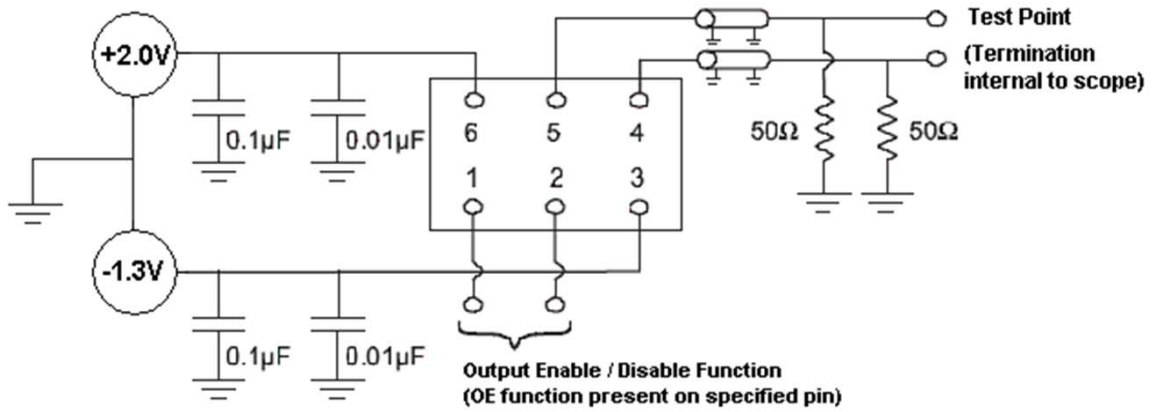


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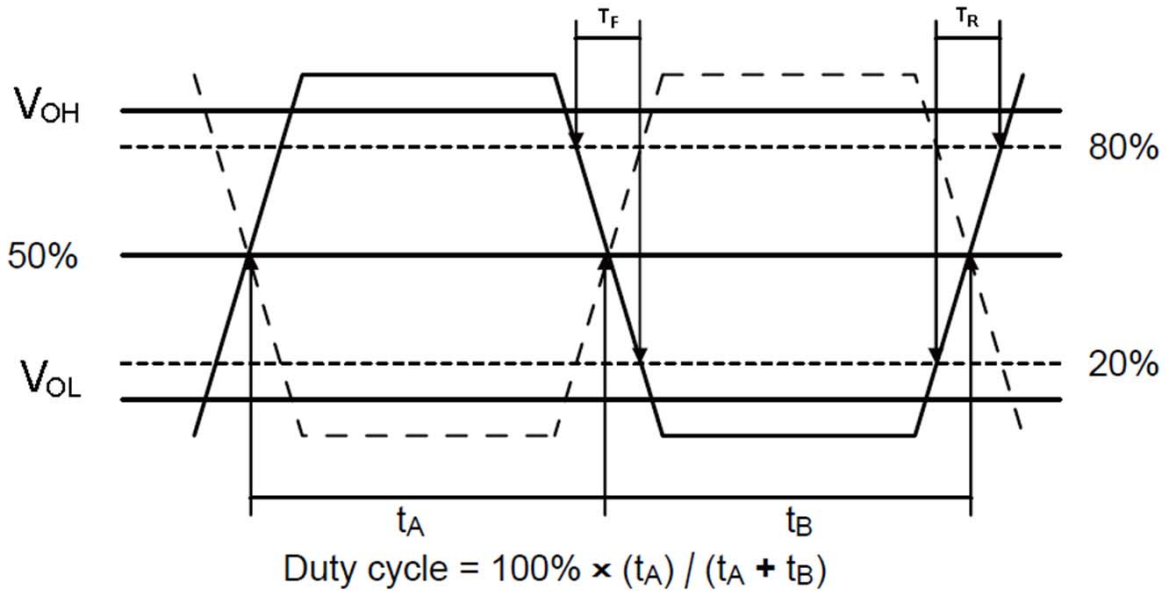
**PD2500006**

VER. B 26-May-19

## TEST CIRCUIT



## OUTPUT WAVEFORM



**TYPE PD 5.0x3.2 SEAM SEALED CRYSTAL CLOCK OSCILLATOR****PD2500006**

VER. B 26-May-19

**RELIABILITY SPECIFICATIONS****ENVIRONMENTAL:**

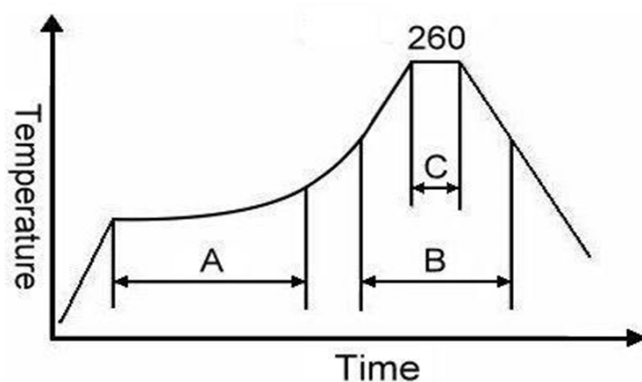
- a) THERMAL SHOCK: MIL-STD-883, Method 1011, Condition A
- b) MOISTURE RESISTANCE: MIL-STD-883, Method 1004
- c) VIBRATION: MIL-STD-883, Method 2007, Condition A
- d) RESISTANCE TO SOLDERING HEAT: J-STD-020D Table 5-2 Pb-free devices  
(except 2 cycles max)
- e) HAZARDOUS SUBSTANCE: Pb - free and RoHS/Green 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,  $R1=2 \times 10^{-8}$  atm cc/s
- f) SOLVENT RESISTANCE: MIL-STD-202, Method 215

**SUGGESTED IR REFLOW PROFILE**

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



Note:

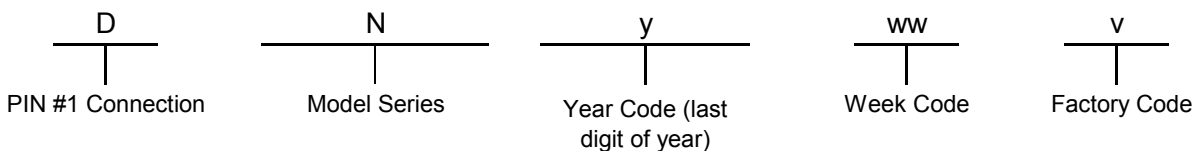
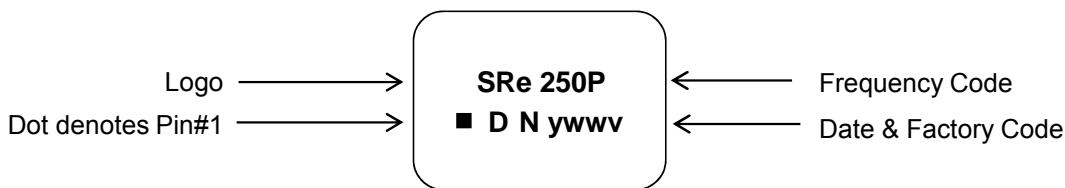
	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

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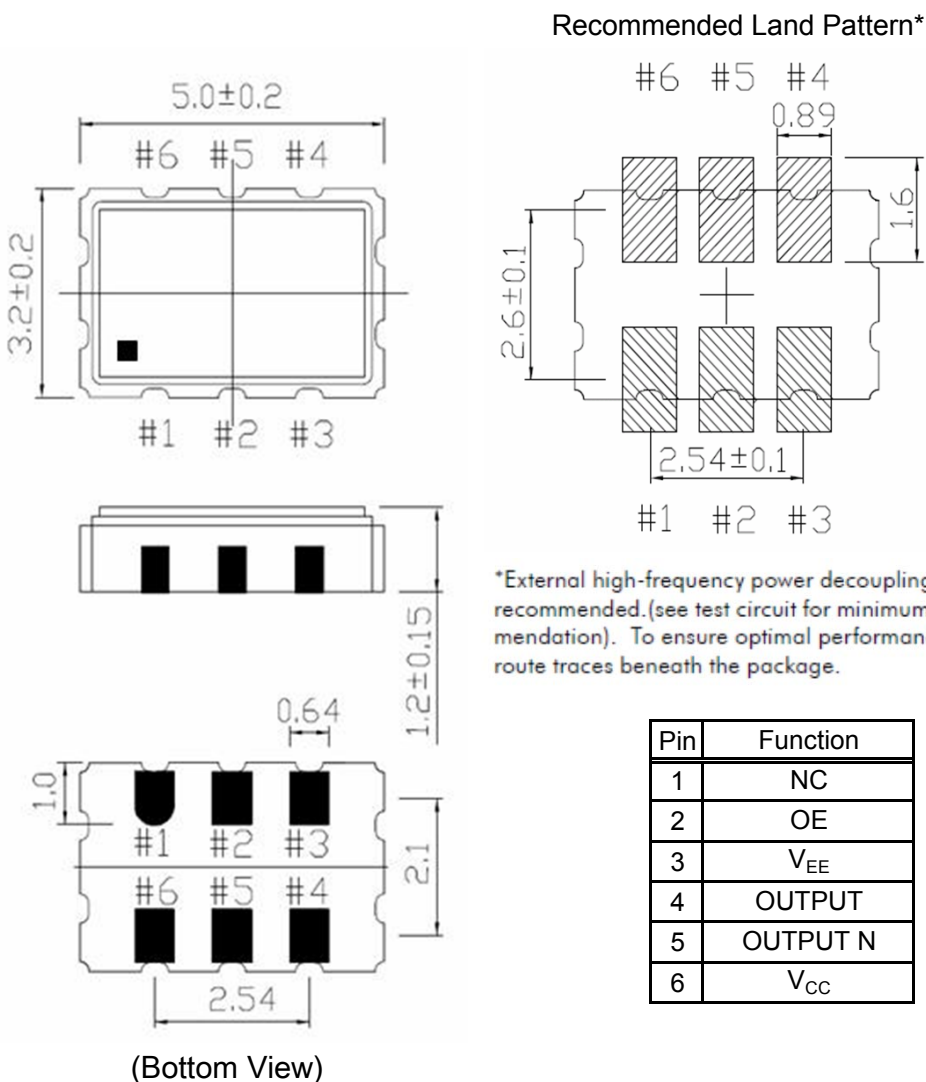
**PD2500006**

VER. B 26-May-19

## MARKING



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



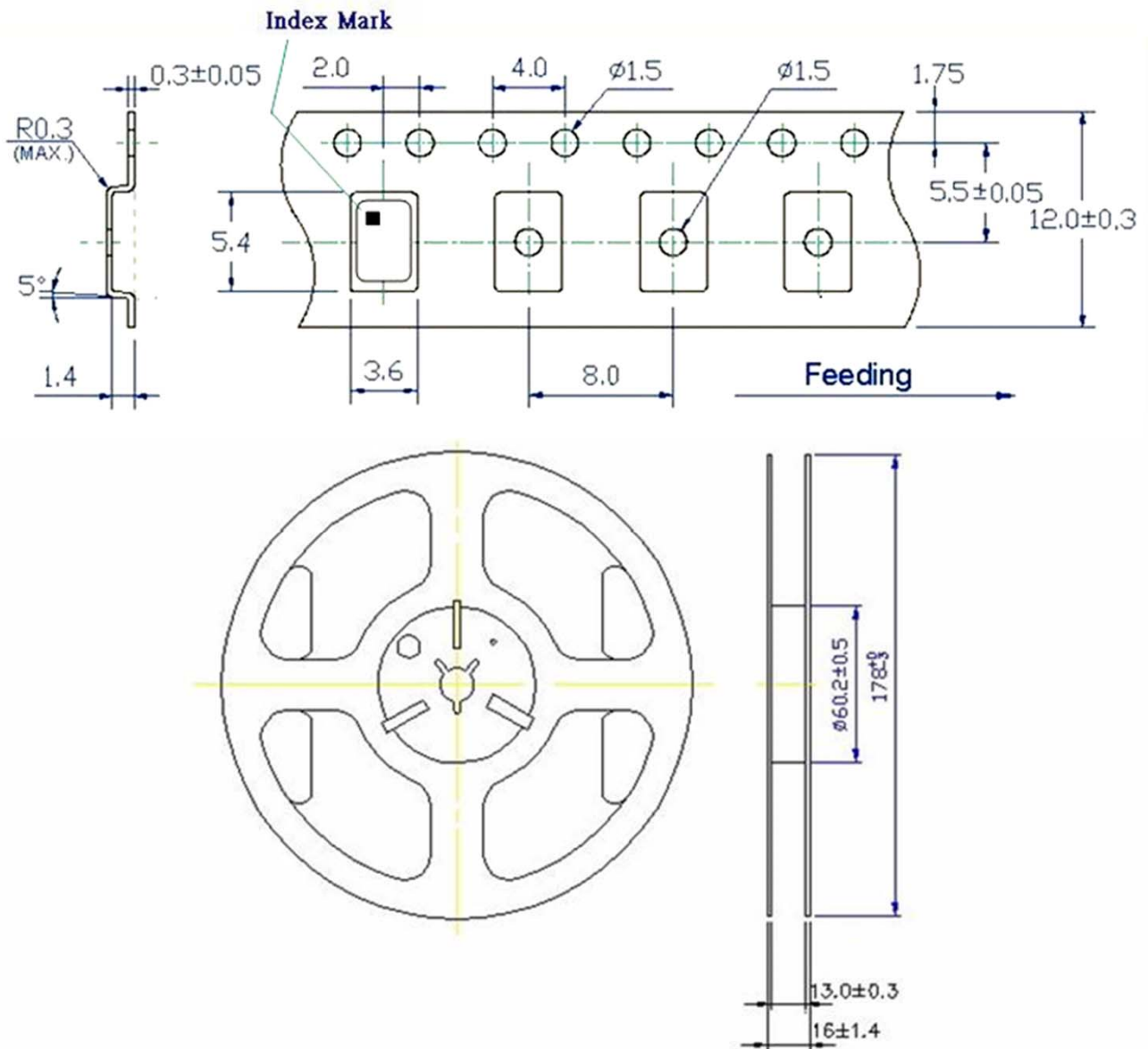


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## PD2500006

VER. B 26-May-19

### TAPE&REEL



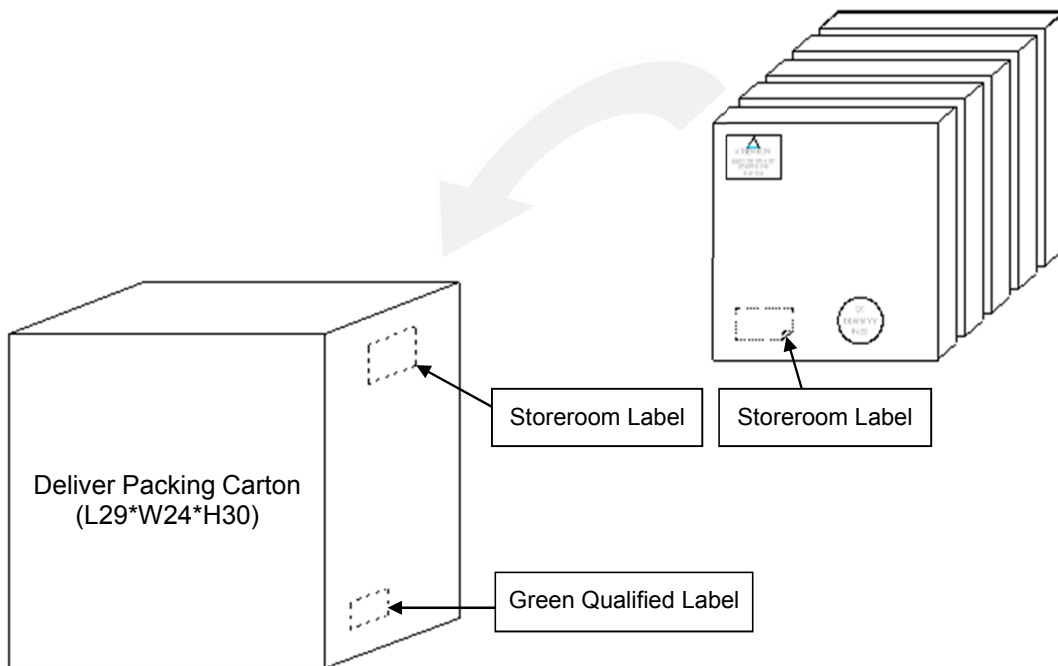
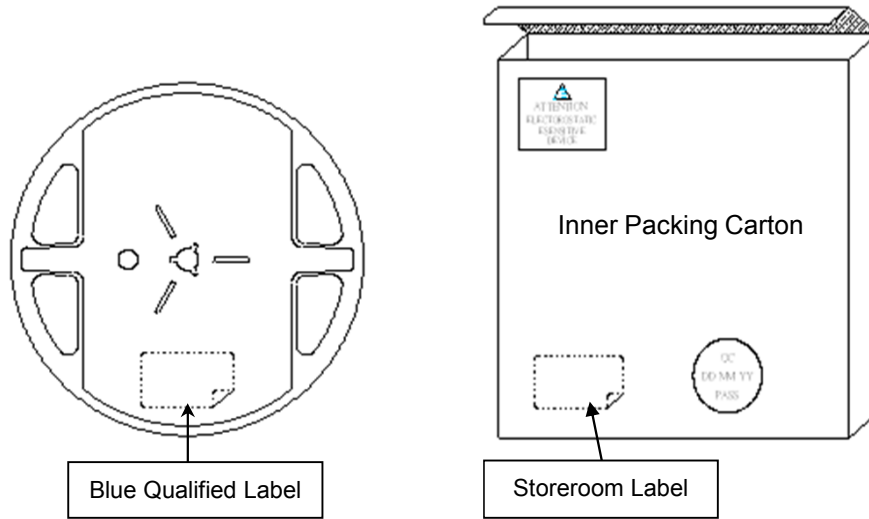
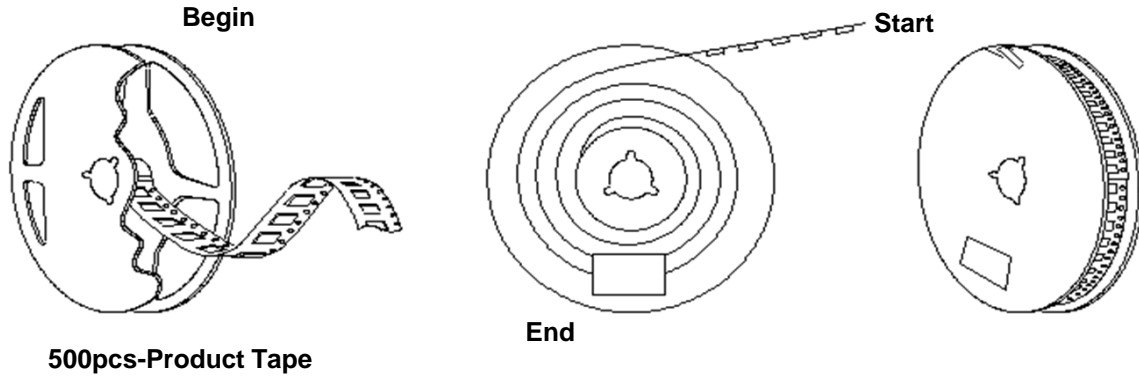
1. 230mm minimum leader which consist of carrier and/or tape followed by a minimum of 160mm of empty carrier tape sealed with cover tape.
2. 160mm minimum trailer of empty carrier tape sealed with cover tape.

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## PD2500006

VER. B 26-May-19

### PACKING



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