



A Product Line of  
Diodes Incorporated



## ENGINEERING SPECIFICATION FOR REFERENCE

CUSTOMER \_\_\_\_\_

NOMINAL FREQUENCY 156.250000 MHz




HOLDER TYPE TYPE UX 3.2x2.5 SEAM SEALED CRYSTAL CLOCK OSCILLATOR

SPEC. NO. ( P/N ) UX34F6203Z

CUSTOMER P/N \_\_\_\_\_

ISSUE DATE July 27, 2018

VERSION C

APPROVED	PREPARED	QA
		

### Diodes Incorporated

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

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## UX34F6203Z

VER. C

27-Jul-18

### VERSION HISTORY

Version No.	Version Date	Description	Notes
01	Sep.1,2017	Initial Release	
02	Sep.4,2017	Updated output waveform	
03	Feb.6,2018	Updated logo	
04	Apr.25,2018	Reivse output voltage swing and output load	
A	Apr.27,2018	Formal version release	
B	Jun.4,2018	Updated Operating Temperature Range to -40~105°C	
C	Jul.27,2018	Change the word of Vdiff and Vcom ,Updated Test Circuit	



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### ELECTRICAL SPECIFICATIONS

**SRe Part Number : UX34F6203Z**

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	F <sub>0</sub>	156.250000	MHz	
Frequency Stability	FT	± 50	ppm	**See note
Operating Temperature Range	TR	-40 to +105	°C	
Supply Voltage	V <sub>CC</sub>	+3.3 ± 5.0%	V	
Logic Type	LT	HCSL		
Supply Current, Output Enabled	I <sub>CC</sub> /OE	40	mA	Max.
Supply Current, Output Disabled	I <sub>CC</sub> /OD	10	uA	Max.
Duty Cycle (Symmetry)	DC/SY	45 / 55	%	Measured 50% of Waveform
Rise / Fall Time	T <sub>R</sub> /T <sub>F</sub>	40 / 120 / 1000	ps	Min. / Typ. / Max. measured 10% / 90% of waveform.
Differential Output Voltage Swing	V <sub>diff</sub>	400 / 700 / 1200	mV	Min. / Typ. / Max.
Common mode output voltage	V <sub>com</sub>	200 / 350 / 600	mV	Min. / Typ. / Max.
Output Load		Rs=0Ω, Rp=50Ω, CL=2pF		Typ. In HCSL termination
Jitter, Phase	RMS	0.2 / 0.3	ps	Typ./Max. 12KHz ~ 20MHz Frequency Band
Jitter, Accumulated	RMS(1-σ)	4	ps	Max. 20,000 Consecutive Periods
Jitter, Peak to Peak	Pk-Pk	40	ps	Max. 100,000 Random Periods
Phase Noise		-110	dBc/Hz	Max. at 10KHz offset
Phase Noise		-130	dBc/Hz	Max. at 100KHz offset
Phase Noise		-150	dBc/Hz	Max. at 1MHz offset
Phase Noise		-150	dBc/Hz	Max. at 10MHz offset
Phase Noise		-150	dBc/Hz	Max. at 20MHz offset
Phase Noise		-150	dBc/Hz	Max. at 100MHz offset
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

Parameter	Min.	Typ.	Max.	Units	Notes
Input Voltage (Pin1), Output Enable	0.7V <sub>CC</sub>			V	Or Open
Input Voltage (Pin1), Output Disable (low power standby)			0.3V <sub>CC</sub>	V	Output is Hi-Z
Output Disable Delay			200	ns	
Output Enable Delay			2	ms	



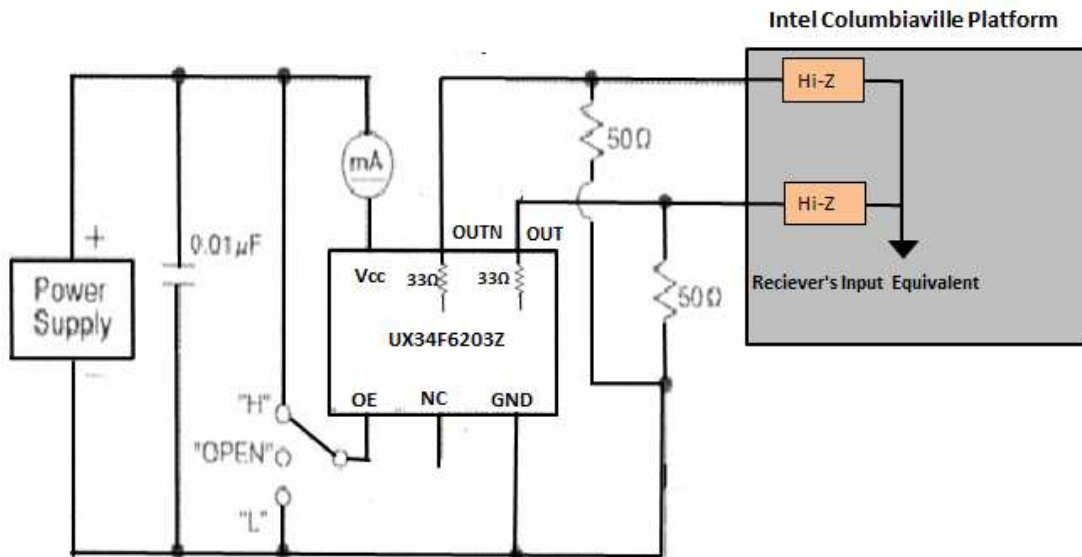
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## UX34F6203Z

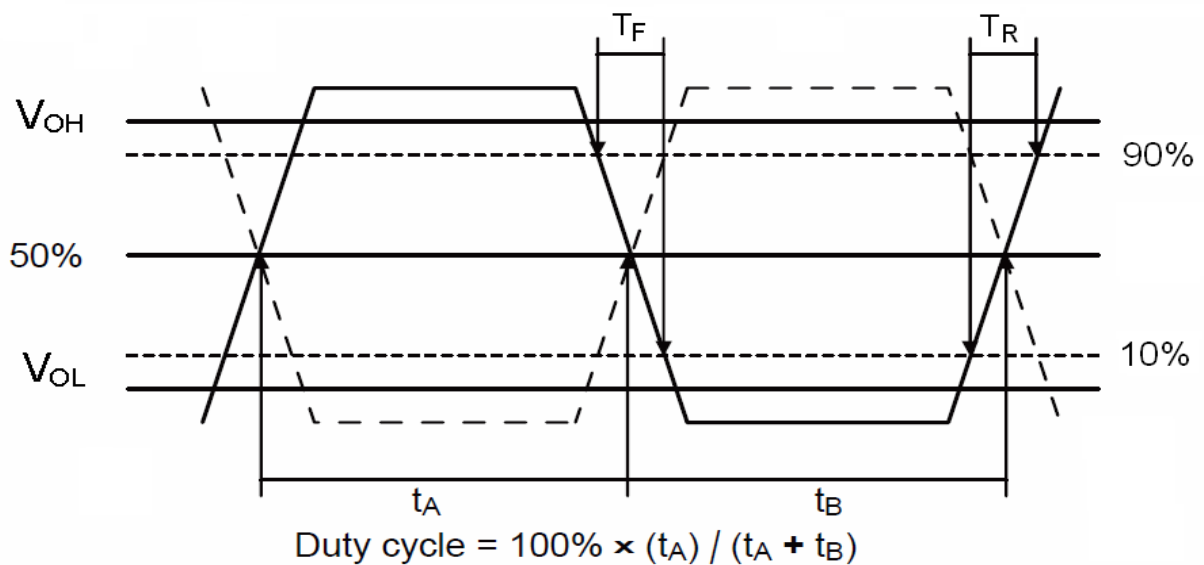
VER. C

27-Jul-18

### TEST CIRCUIT



### OUTPUT WAVEFORM



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## UX34F6203Z

VER. C

27-Jul-18

### RELIABILITY SPECIFICATIONS

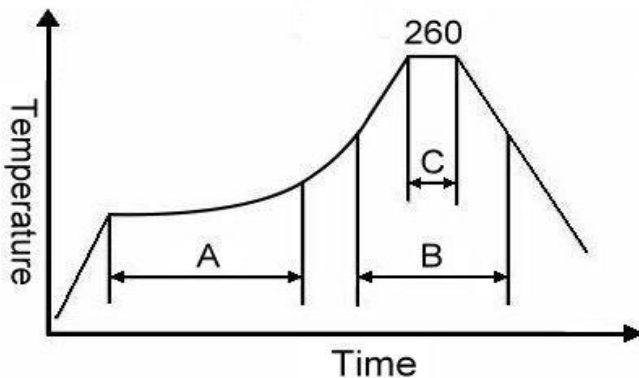
#### ENVIRONMENTAL:

- 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: 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,  $R1=2 \times 10^{-8}$  atm cc/s
- f) SOLVENT RESISTANCE: MIL-STD-202, Method 215

### SUGGESTED IR REFLOW PROFILE



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

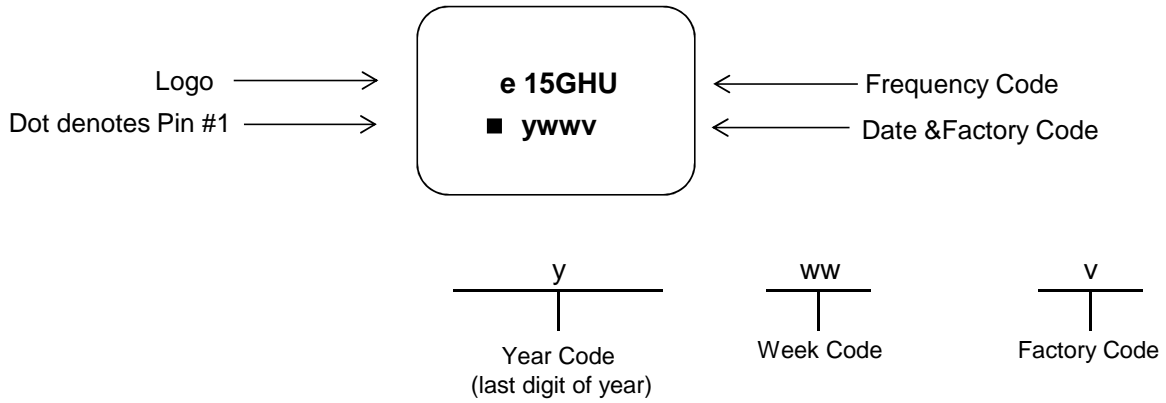
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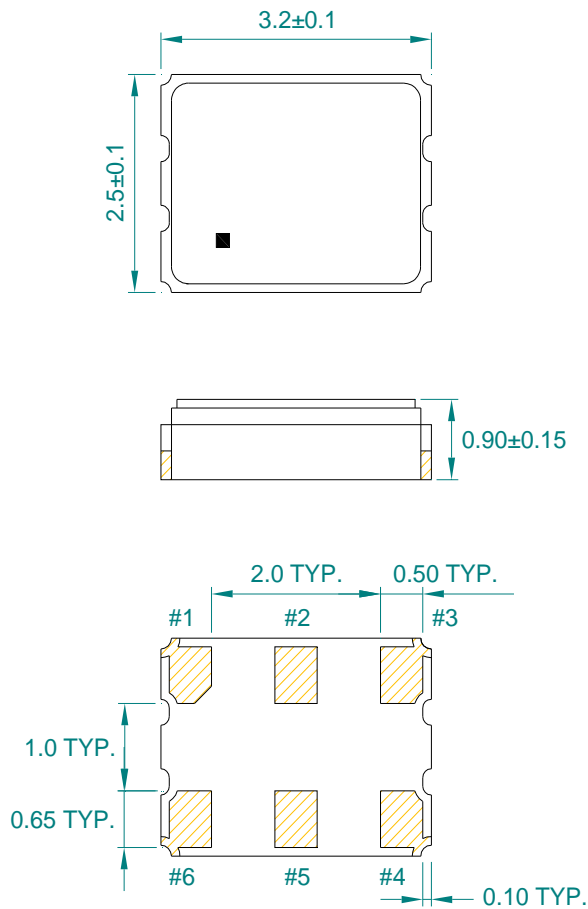
VER. C

27-Jul-18

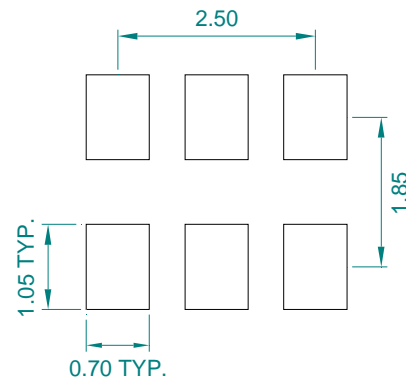
### MARKING



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



#### Recommended Land Pattern\*



\*External 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	NC
3	V <sub>EE</sub>
4	OUTPUT
5	OUTPUT N
6	V <sub>CC</sub>

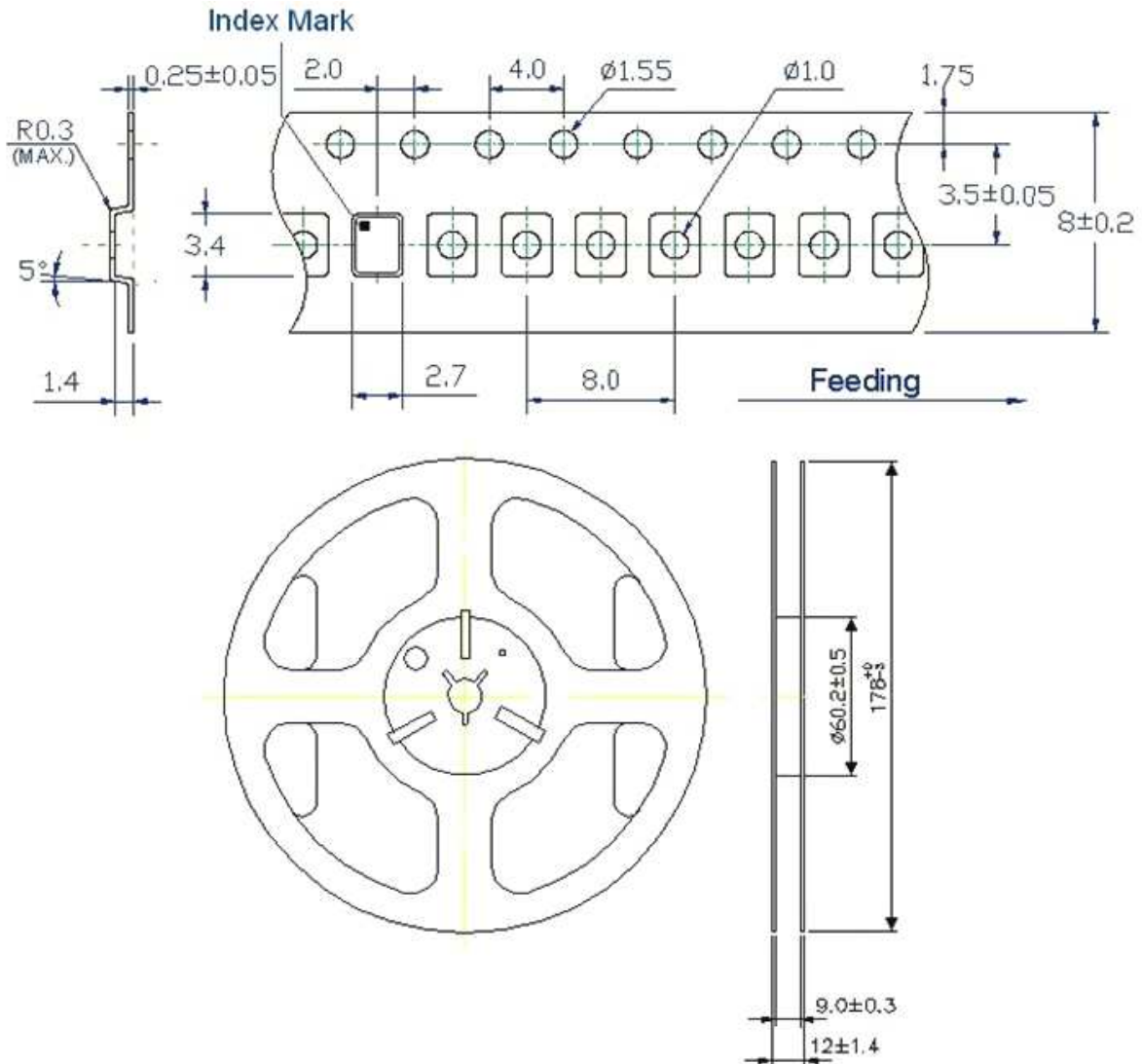
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## UX34F6203Z

VER. C

27-Jul-18

### 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.

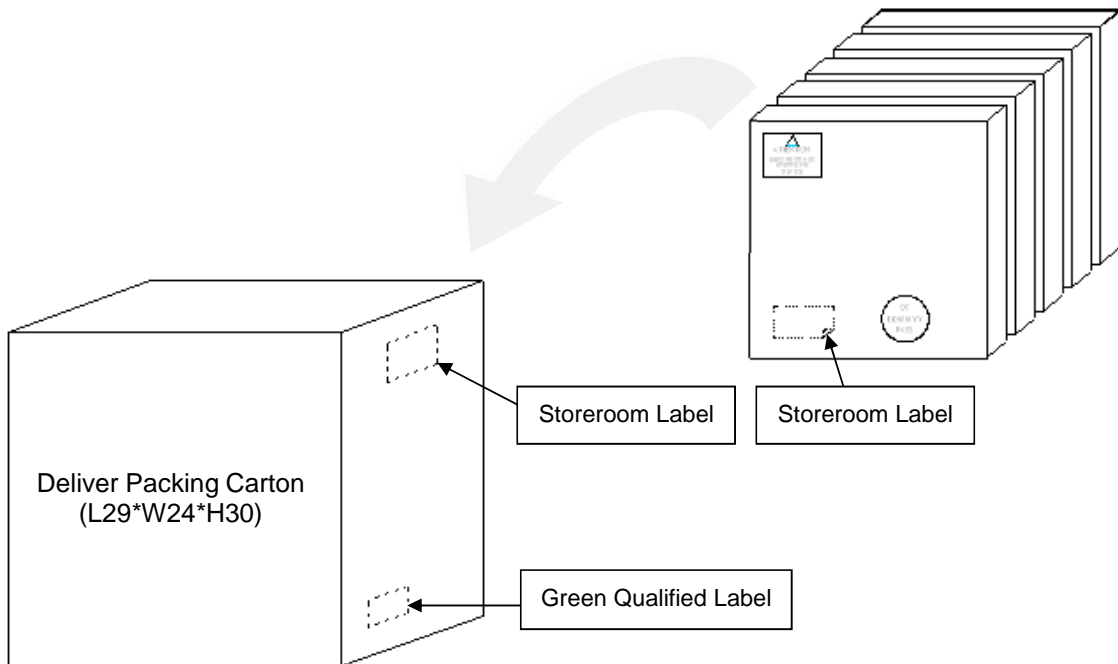
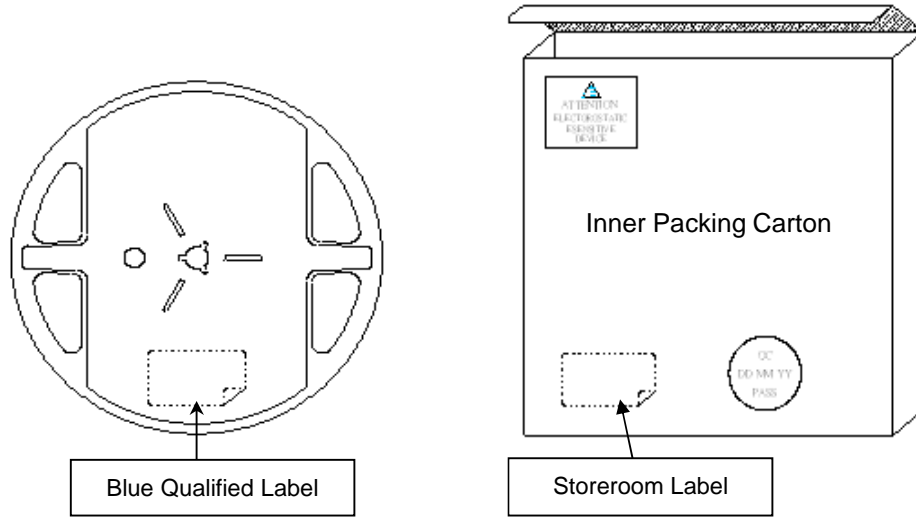
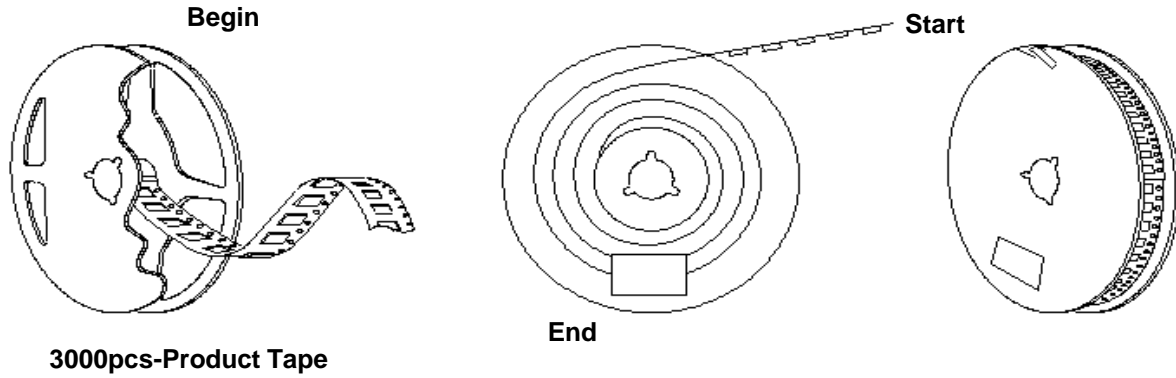
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VER. C

27-Jul-18

### PACKING





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