



A Product Line of
Diodes Incorporated



SPECIFICATION FOR APPROVAL

CUSTOMER _____

NOMINAL FREQUENCY 27.000000 MHz

PRODUCT TYPE TYPE YK 3.2x2.5 SEAM SEALED VOLTAGE CONTROL CLOCK OSCILLATOR

SPEC. NO. (P/N) YK2700004

CUSTOMER P/N _____

ISSUE DATE December 11, 2018

VERSION A

APPROVED	PREPARED	QA
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Diodes Incorporated

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

TYPE YK 3.2x2.5 SEAM SEALED VOLTAGE CONTROL CLOCK OSCILLATOR

YK2700004

VER. A 11-Dec-18

ELECTRICAL SPECIFICATIONS

SRe Part Number : YK2700004

Item	Symbol	Specifications	Units	Notes
Nominal Frequency	F ₀	27.000000	MHz	
Frequency Stability	FT	± 50	ppm	**See note
Operating Temperature Range	TR	-40 to +85	°C	
Supply Voltage	V _{DD}	+3.3 ± 5%	V	
Logic Type	LT	LVC MOS		
Supply Current, Output Enabled	I _{DD} /OE	5	mA	Max.
Duty Cycle (Symmetry)	DC/SY	40 / 60	%	Measured 50% of Waveform
Rise / Fall Time	T _R /T _F	4	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
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.

Frequency Modulation Function

Parameter	Min.	Typ.	Max.	Units	Notes
Frequency Control Range	± 100			ppm	
Control Voltage Range	0.3		3	V _{DC}	As rated
Center Control Voltage		1.65		V	For RMT center frequency
Monotonic Linearity			10	%	Positive transfer slope

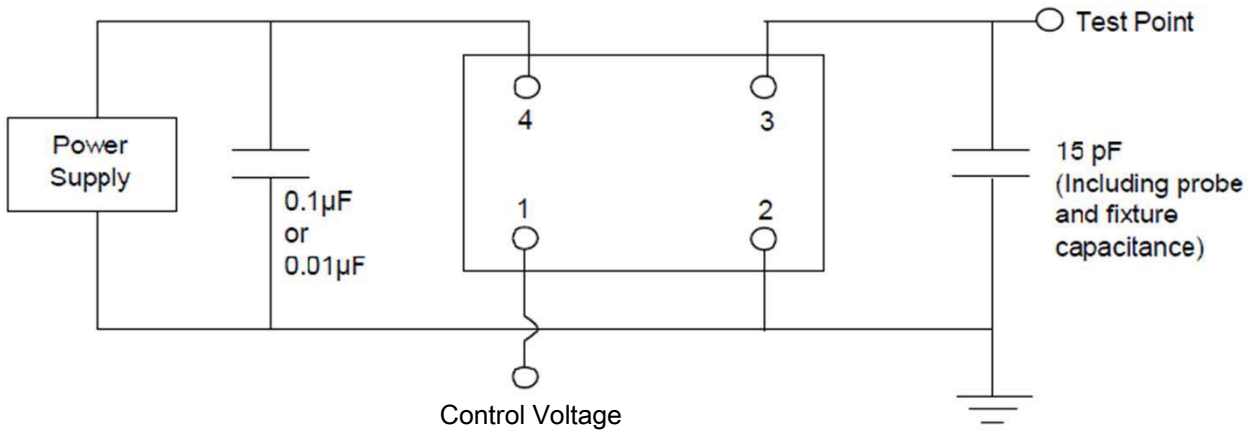


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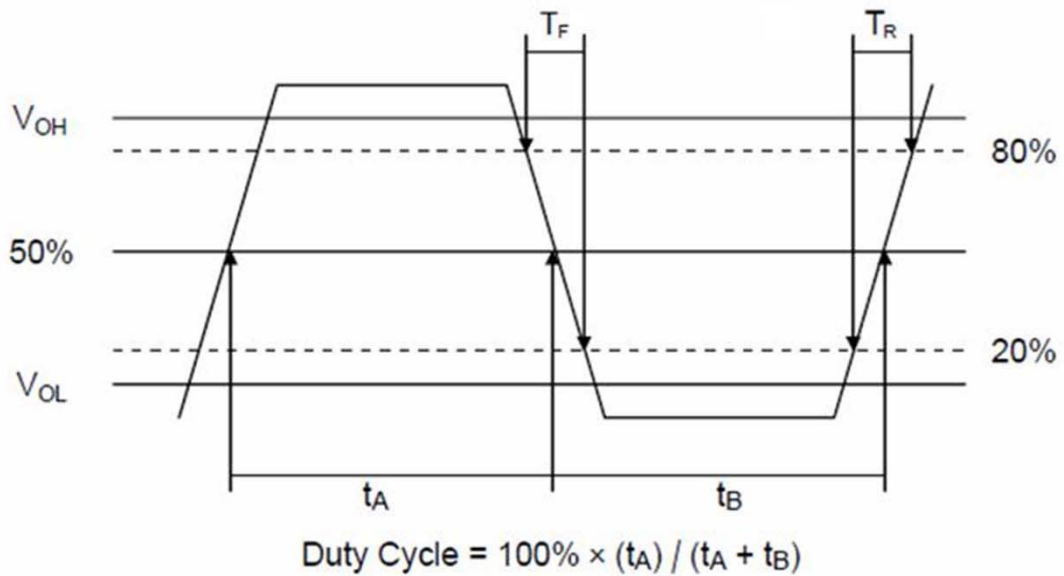
YK2700004

VER. A 11-Dec-18

TEST CIRCUIT



OUTPUT WAVEFORM



RELIABILITY SPECIFICATIONS

ENVIRONMENTAL:

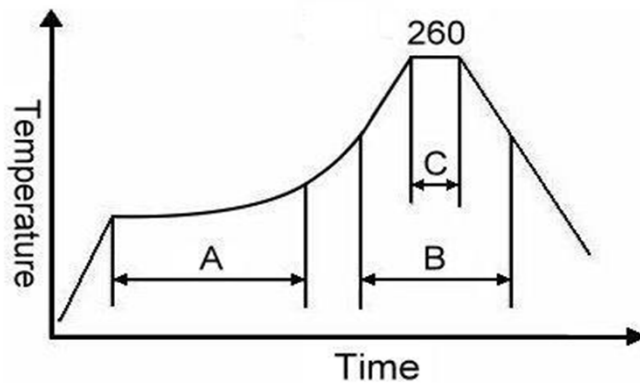
- a) THERMAL SHOCK: MIL-STD-883, Method 1011, Condition A
- b) MOISTURE RESISTANCE: MIL-STD-883, Method 1004
- c) VIBRATION: MIL-STD-883, Method 2007, Condition A
- d) RESISTANCE TO SOLDERING HEAT: J-STD-020D Table 5-2 Pb-free devices (except 2 cycles max)
- e) HAZARDOUS SUBSTANCE: Pb - free and RoHS/ 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:

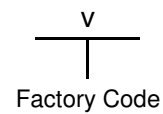
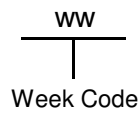
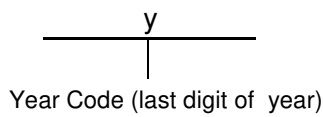
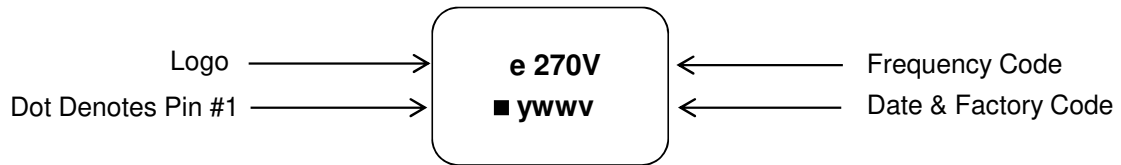
	Stage	Temperature	Time
A	Preheat	150~200°C	60~120 Sec
B	Primary Heat	217°C	60~150 Sec
C	Peak	260°C	10 Sec

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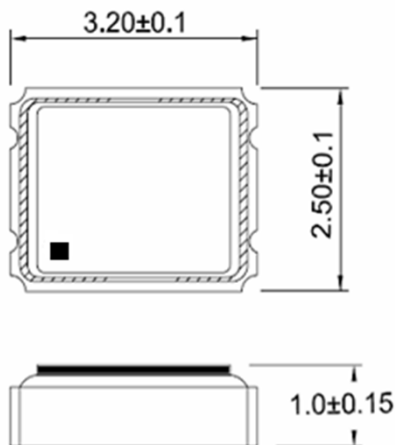
YK2700004

VER. A 11-Dec-18

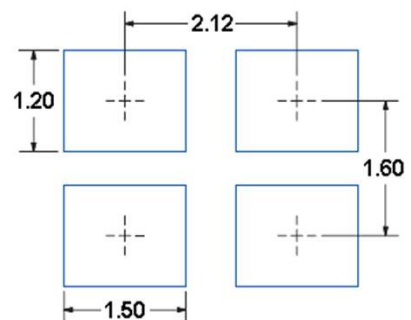
MARKING



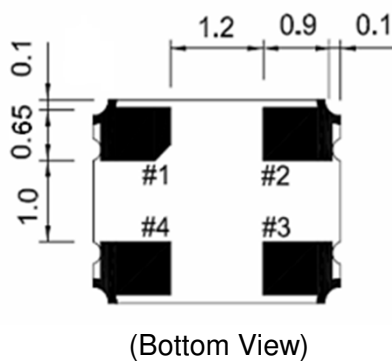
MECHANICAL DRAWINGS (Scale: None. Dimensions are in mm.)



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.



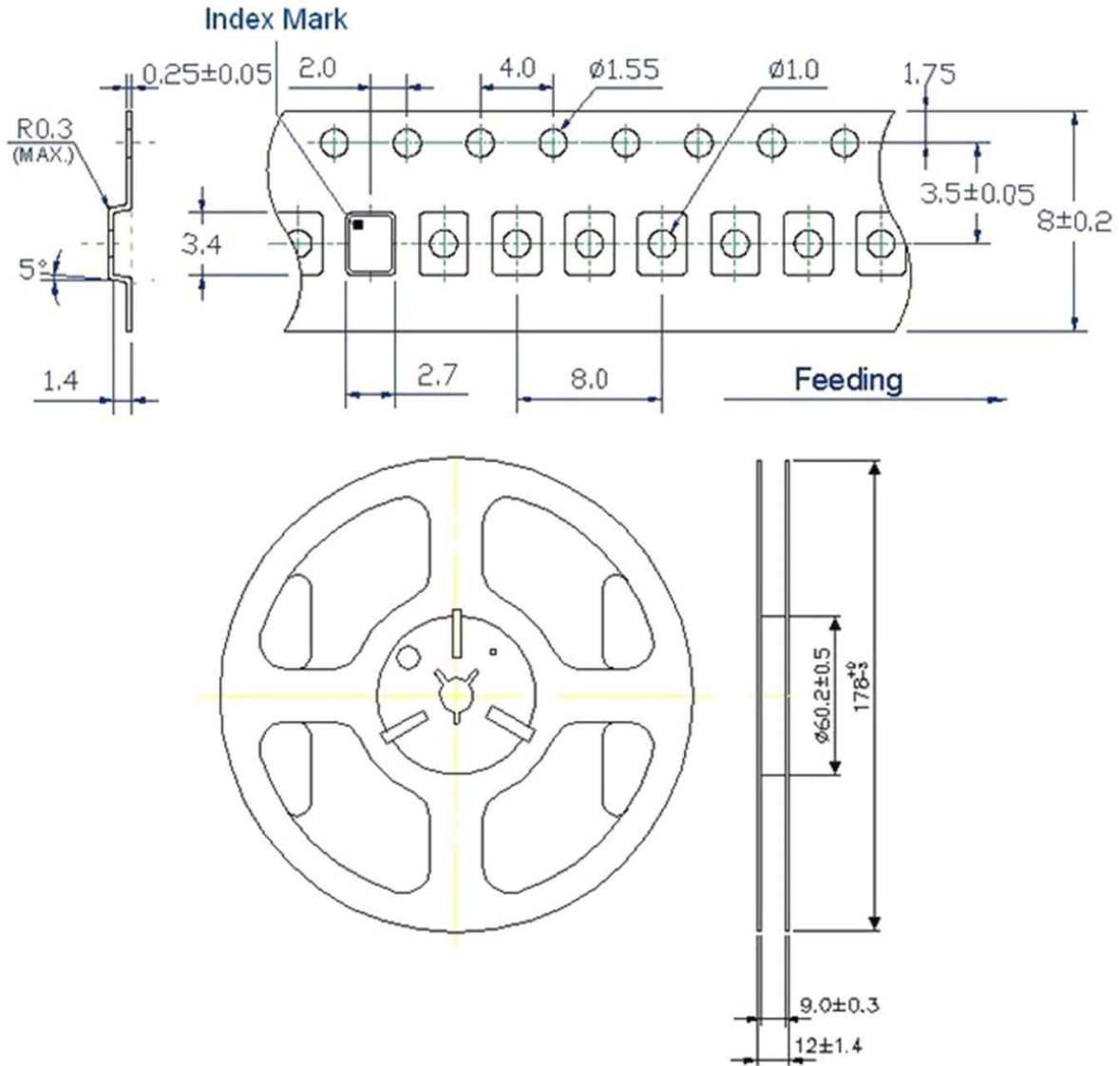
Pin	Function
1	Voltage Control
2	Ground
3	Clock Output
4	V _{DD}

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YK2700004

VER. A 11-Dec-18

TAPE & REEL



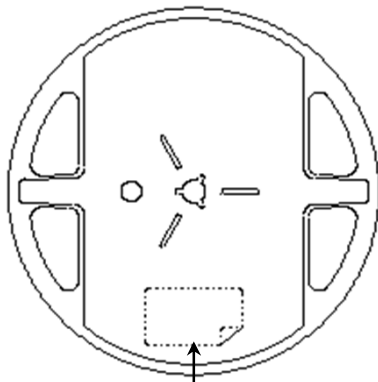
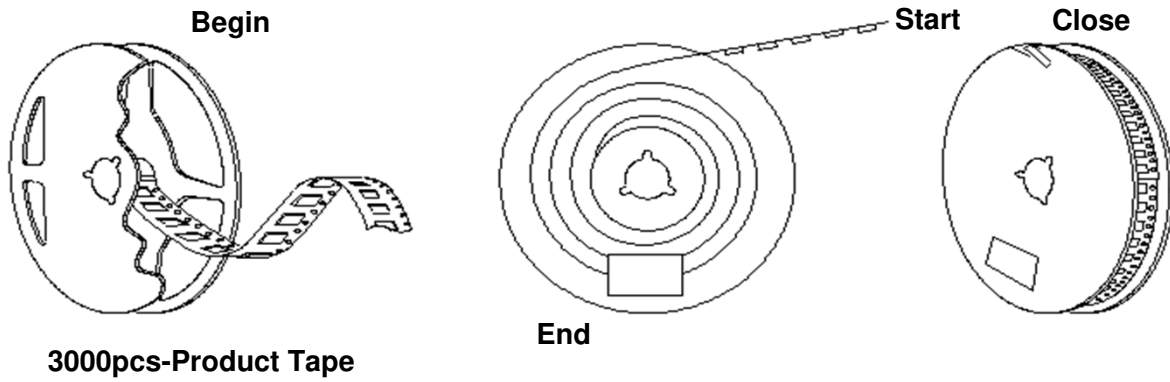
1. 230mm minimum leader which consist of carrier and/or tape followed by a minimum of 160mm of empty carrier tape sealed with cover tape.
2. 160mm minimum trailer of empty carrier tape sealed with cover tape.

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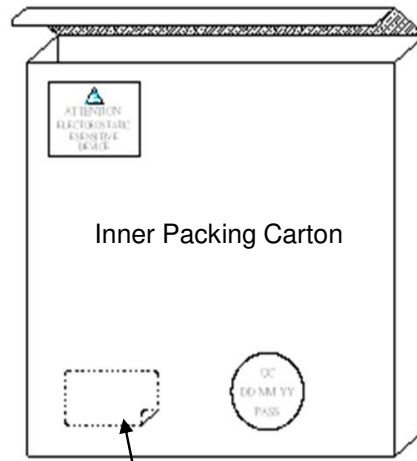
YK2700004

VER. A 11-Dec-18

PACKING

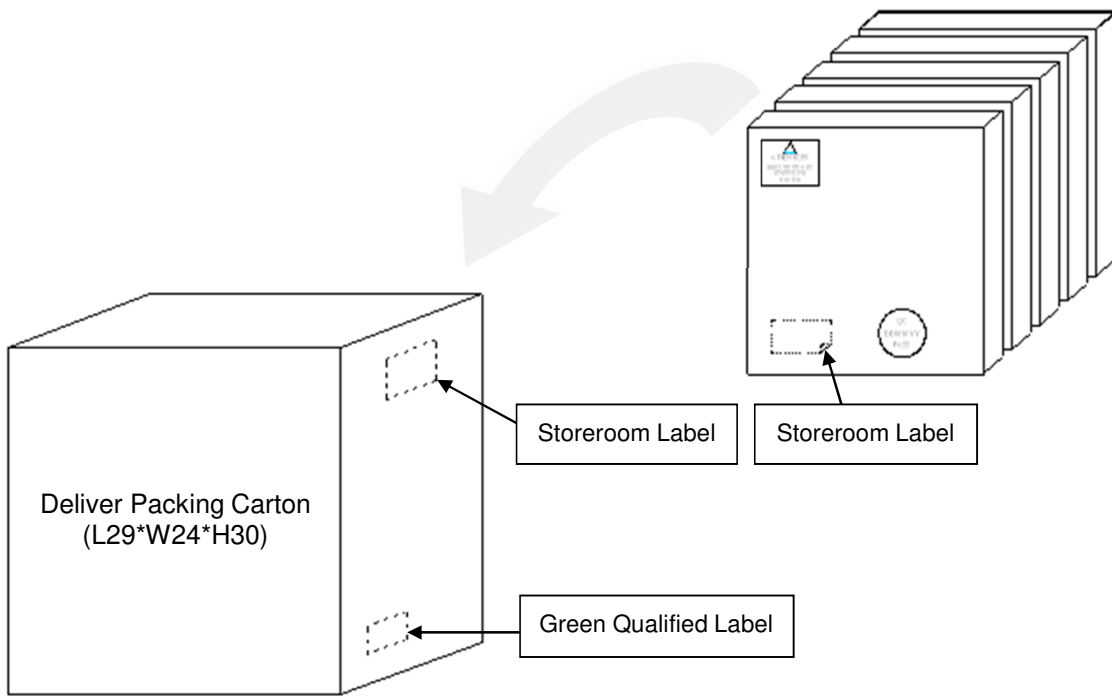


Blue Qualified Label



Inner Packing Carton

Storeroom Label



Deliver Packing Carton (L29*W24*H30)

Storeroom Label

Storeroom Label

Green Qualified Label