

YK2700004 Datasheet



DiGi Electronics Part Number	YK2700004-DG
Manufacturer	Diodes Incorporated
Manufacturer Product Number	YK2700004
Description	XTAL OSC VCXO 27.0000MHZ CMOS
Detailed Description	27 MHz VCXO CMOS Oscillator 3.3V

<https://www.DiGi-Electronics.com>



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RFQ Email: Info@DiGi-Electronics.com

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Purchase and inquiry

Manufacturer Product Number:

YK2700004

Series:

YK

Base Resonator:

Crystal

Frequency:

27 MHz

Voltage - Supply:

3.3V

Operating Temperature:

-40°C ~ 85°C

Manufacturer:

Diodes Incorporated

Product Status:

Obsolete

Type:

VCXO

Output:

CMOS

Absolute Pull Range (APR):

-

Size / Dimension:

0.126" L x 0.098" W (3.20mm x 2.50mm)

Environmental & Export classification

RoHS Status:

RoHS 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	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
Brenda	Niki Lu	Song Yang

Diodes Incorporated

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<https://www.diodes.com>

*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	Fo	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).

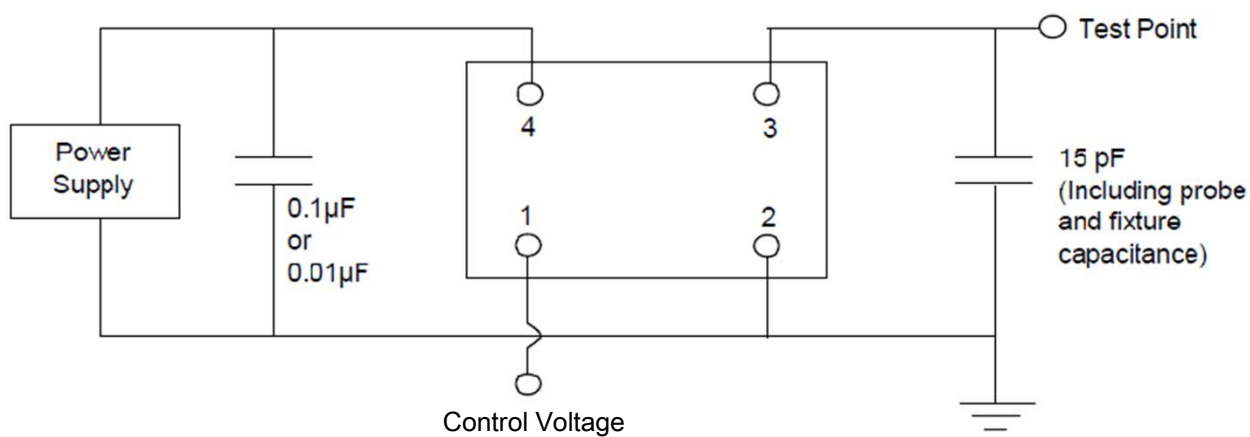
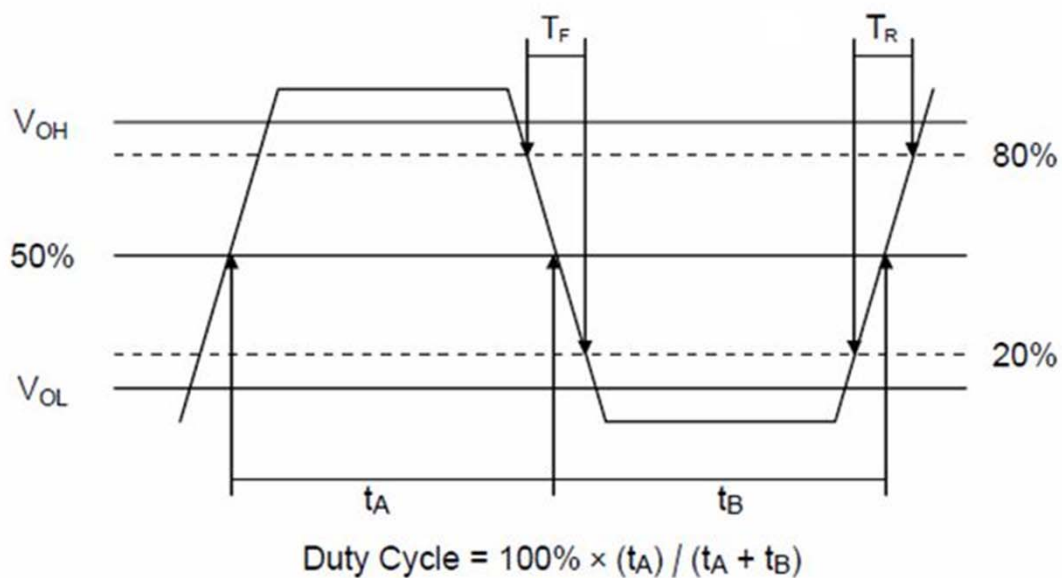
****Stability includes all combinations of Operating Temperature, Load changes, rated Input (Supply) Voltage changes, Initial Calibration Tolerance (25°C), Aging (1 year at 25°C Average Effective Ambient Temperature), Shock and Vibration.**

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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TEST CIRCUIT**OUTPUT WAVEFORM**

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RELIABILITY SPECIFICATIONS**ENVIRONMENTAL:**

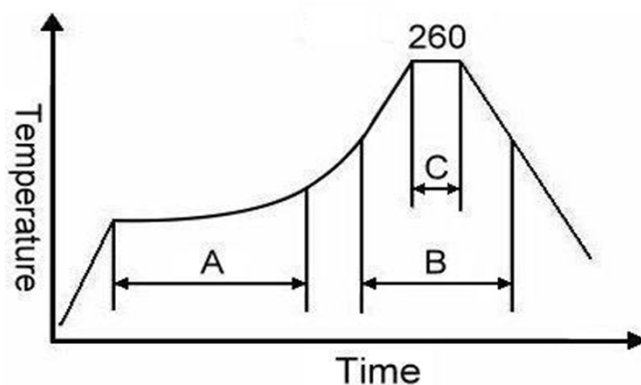
- a) THERMAL SHOCK: MIL-STD-883, Method 1011, Condition A
- b) MOISTURE RESISTANCE: MIL-STD-883, Method 1004
- c) VIBRATION: MIL-STD-883, Method 2007, Condition A
- d) RESISTANCE TO SOLDERING HEAT: J-STD-020D Table 5-2 Pb-free devices
(except 2 cycles max)
- e) HAZARDOUS SUBSTANCE: Pb - free and RoHS/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

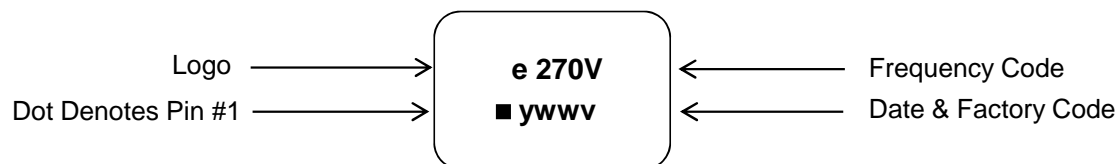


Note:

	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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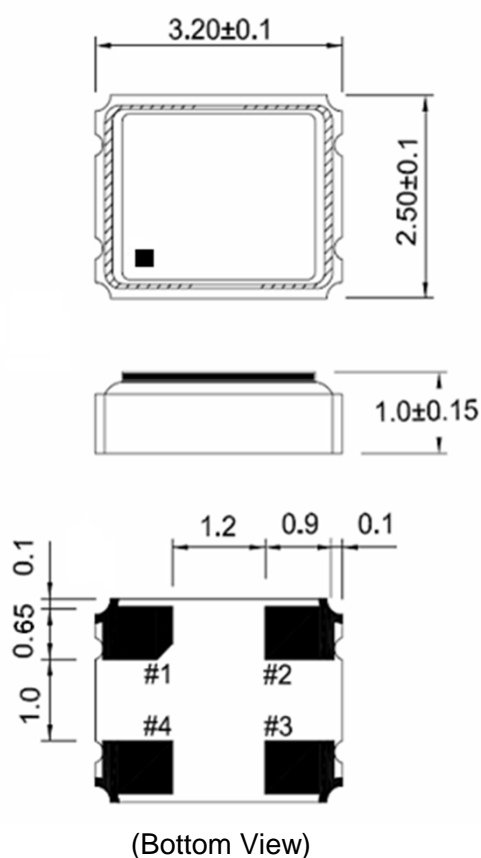
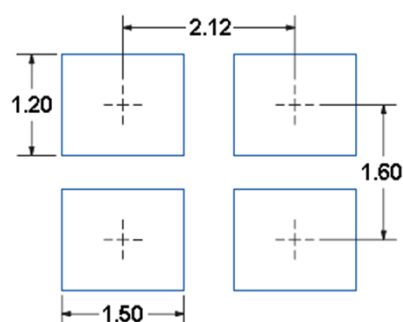
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MARKING

y
Year Code (last digit of year)

ww
Week Code

v
Factory Code

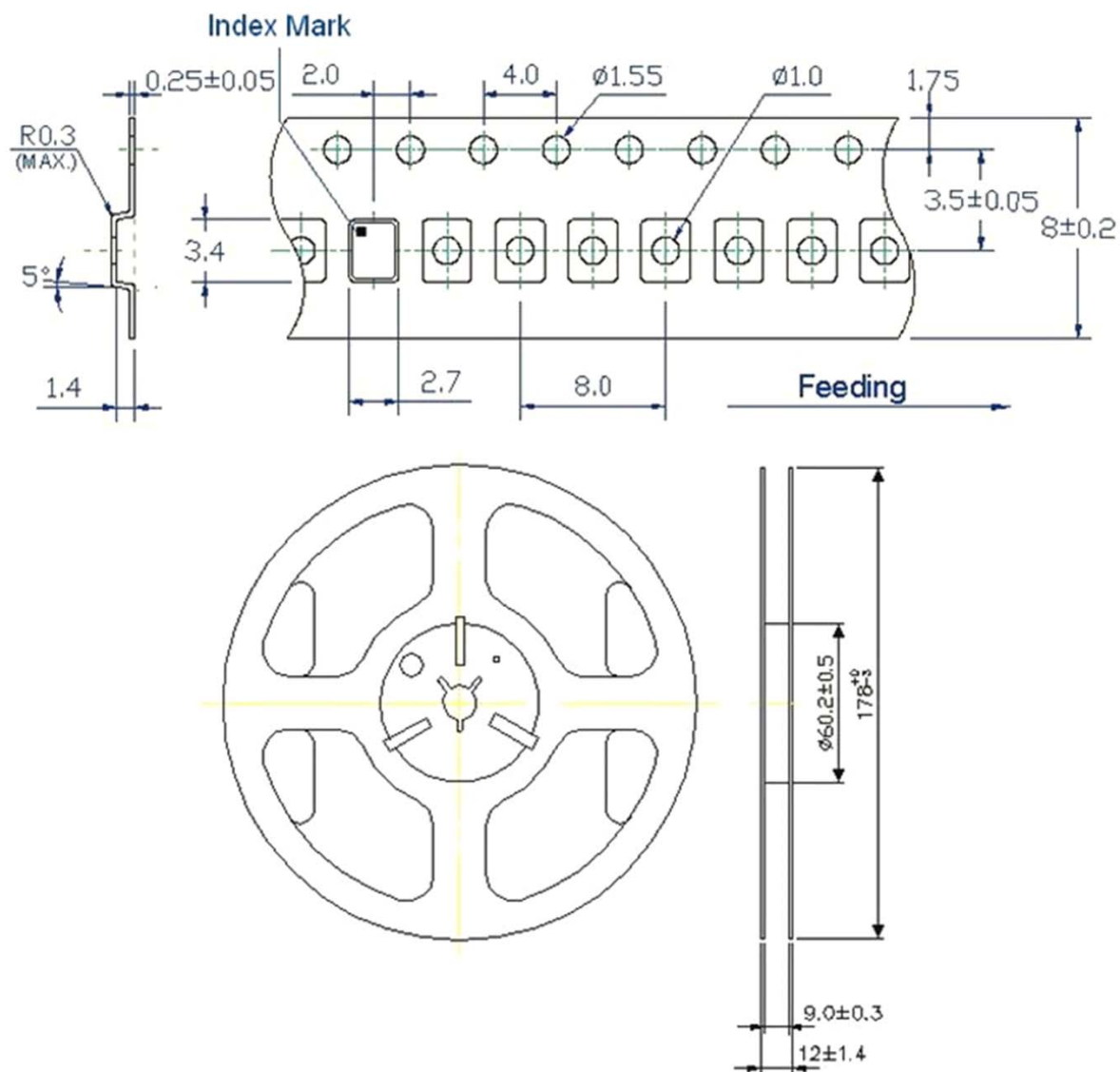
MECHANICAL DRAWINGS (Scale: None. Dimensions are in mm.)**Recommended Land Pattern***

*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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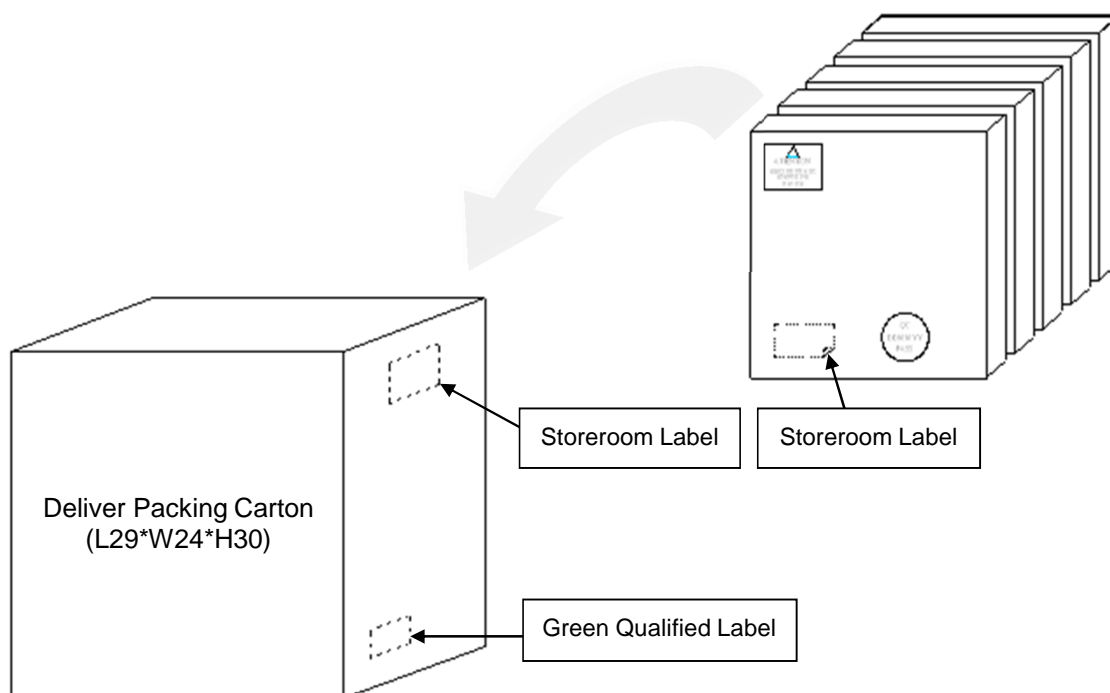
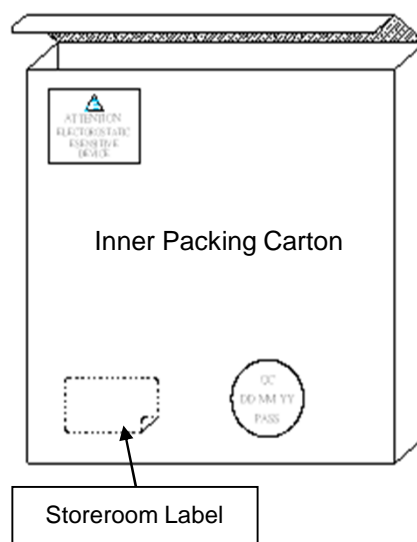
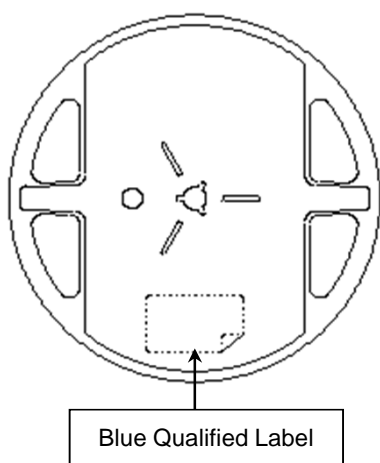
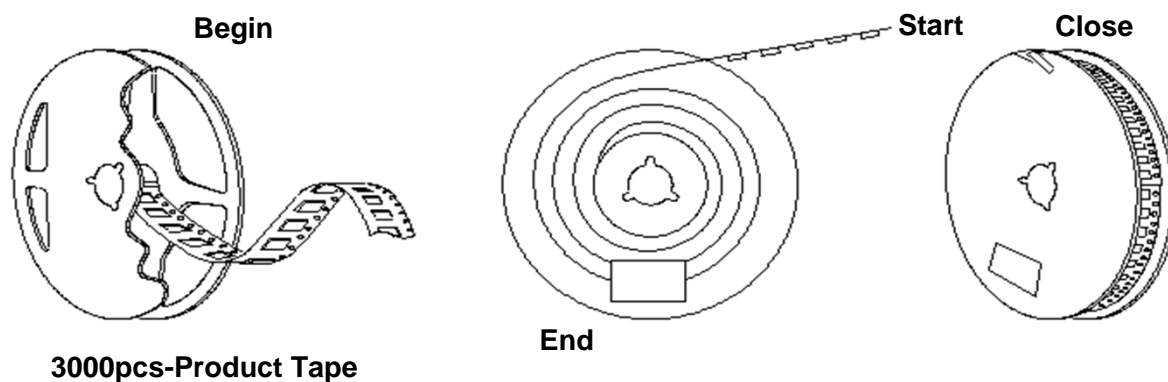
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TAPE & REEL

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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PACKING

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