

# SURFACE MOUNT TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

SERIES :

OTX 1196A  
OTV 1196A

## Specifications

Item	Specifications	
Series	OTX 1196A	OTV1196A
Nominal Frequency	12.6 to 20.0 MHZ	
Supply Voltage	3V±5%	
Current	2.0mA MAXIMUM(at 3V,25°C)	
Output Level	0.8(Vp-p) MINIMUM	
Load	[10kΩ//10pF]±10%	
Frequency Tolerance (×10 <sup>-6</sup> )	VS Temperature	±2.5~(-20°C~+75°C) ±2.5~(-10°C~+60°C)
	VS Voltage Variation	±0.3(3V±5%)
	VS Load Variation	±0.2([10kΩ//10pF]±10%)
	VS Delivered date	±0.5(at+25°C±2°C)
	VS Aging	±1/Year
Strong Temp Range	-40°C~+85°C	
Voltage Control	--	±8 to ±12(1.5V±1V)
Trimmer	With Trimmer(WT)	With Trimmer(WT) or Trimmerless(NT)
Frequency Adjustment	±2 MIN	

## Features

- ▶ Ultra miniature package
- ▶ 3.0V supply voltage
- ▶ Excellent frequency stability and aging

## Packing

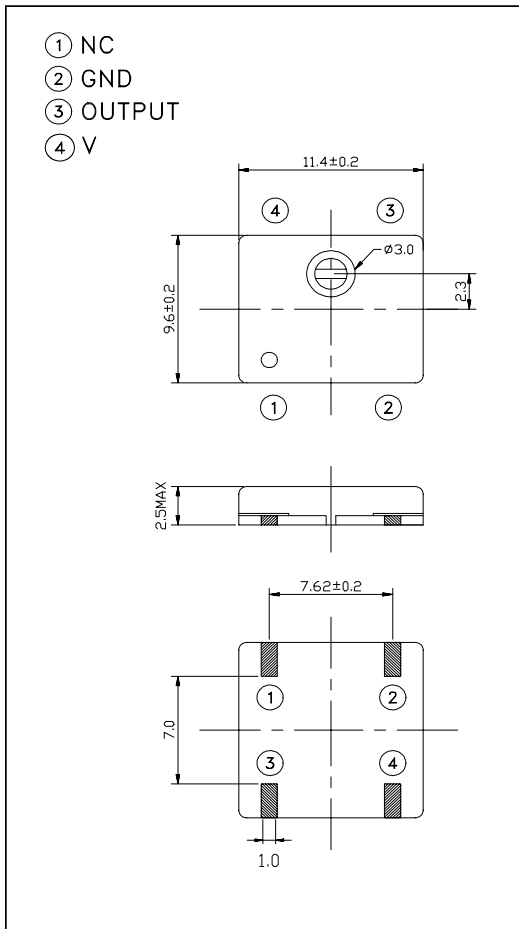
- ▶ 330mm Reel diameter
- ▶ 24mm Tape width, 12mm pitch
- ▶ 1,000 Pieces per reel

## Part Numbering System

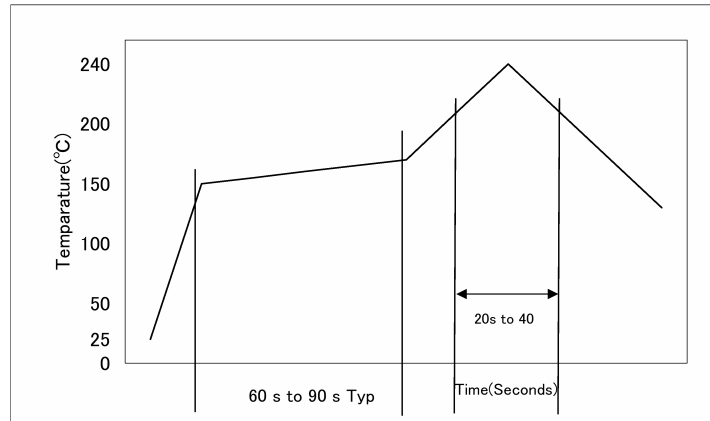
Holder Type	-	Frequency	-	Trimmer
OTX1196A	-	IN MHZ	-	-
OTV1196A	-	IN MHZ	-	WT or NT

Example: OTX1196A-12.600  
OTV1196A-12.600-WT

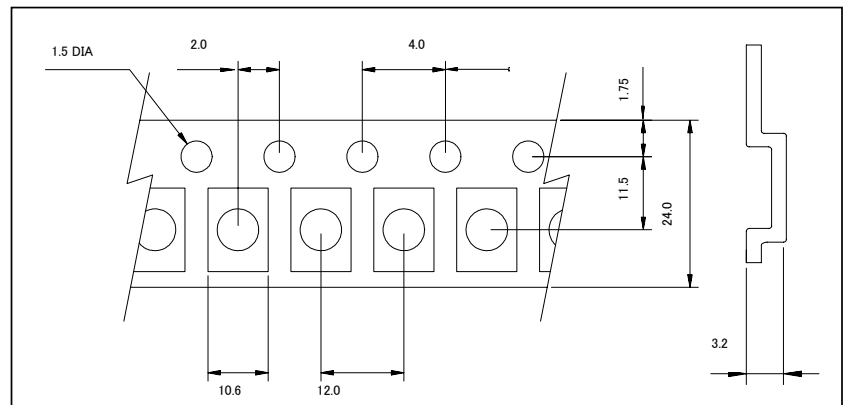
## Outline Drawing



## Reflow Soldering Profile



## Carrier Tape Dimensions



# SURFACE MOUNT TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

SERIES :

OTX 1196B  
OTV 1196B

## Specifications

Item	Specifications	
Series	OTX 1196B	OTV1196B
Nominal Frequency	12.6 to 19.8 MHZ	
Supply Voltage	3V±5%	
Current	2.0mA MAXIMUM(at 3V,25°C)	
Output Level	0.8(Vp-p) MINIMUM	
Load	[10kΩ//10pF]±10%	
Frequency Tolerance (×10 <sup>-6</sup> )	VS Temperature	±2.5~(-20°C~+75°C)
	VS Voltage Variation	±0.3(3V±5%)
	VS Load Variation	±0.2([10kΩ//10pF]±10%)
	VS Delivered date	±0.5(at+25°C±2°C)   ±2.5(at+25°C±2°C)
	VS Aging	±1/Year
Strong Temp Range	-40°C~+85°C	
Voltage Control	±8 to ±12(1.5V±1V)	±10 to ±15(1.5V±1V)
Trimmer	With Trimmer(WT)	With Trimmer(WT) or Trimmerless(NT)
Frequency Adjustment	±2 MIN	--

## Features

- ▶ Ultra miniature package
- ▶ 3.0V supply voltage
- ▶ Excellent frequency stability and aging

## Packing

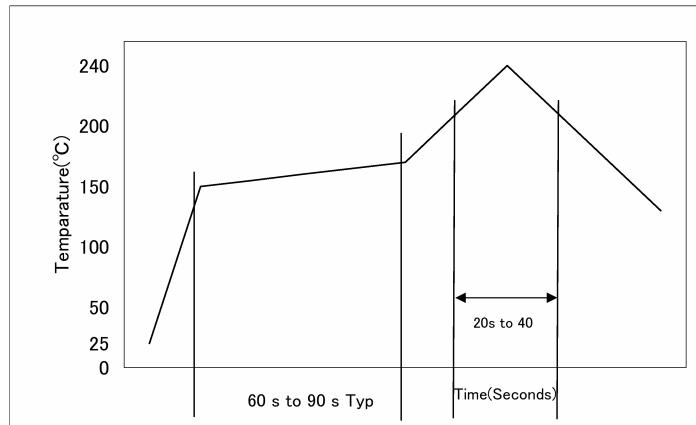
- ▶ 330mm Reel diameter
- ▶ 24mm Tape width, 12mm pitch
- ▶ 1,000 Pieces per reel

## Part Numbering System

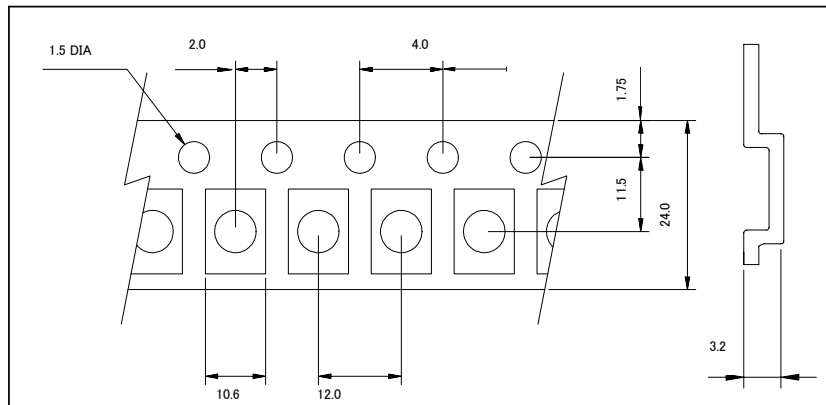
Holder Type	Frequency	Trimmer
OTX1196B	IN MHz	-
OTV1196B	-	WT or NT

Example: OTX1196B-12.600  
OTV1196B-12.600-WT

## Reflow Soldering Profile



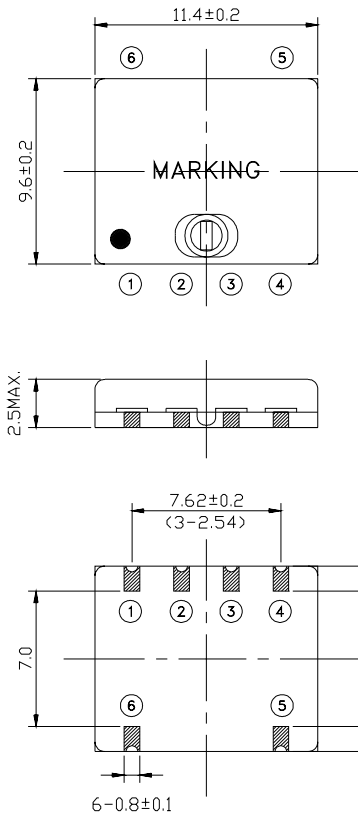
## Carrier Tape Dimensions



PIN CONNECTION

**OTX1196B**

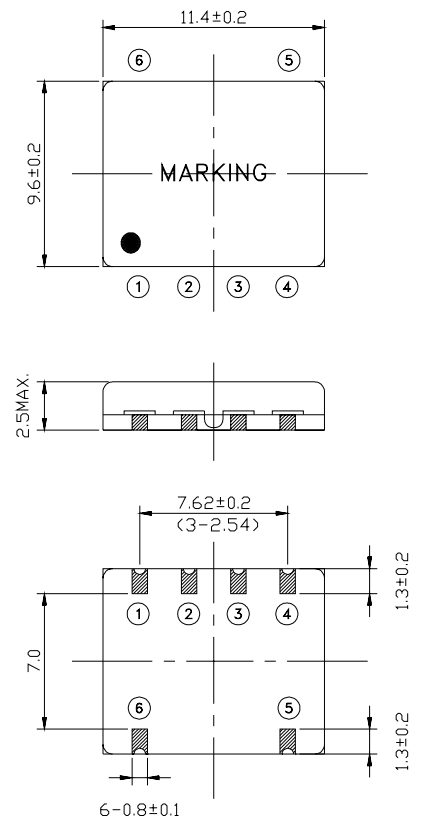
- ① OUT
- ② GND
- ③ VC
- ④ Vcc
- ⑤ GND
- ⑥ GND



PIN CONNECTION

**OTV1196B**

- ① OUT
- ② GND
- ③ VC
- ④ Vcc
- ⑤ GND
- ⑥ GND



SERIES :

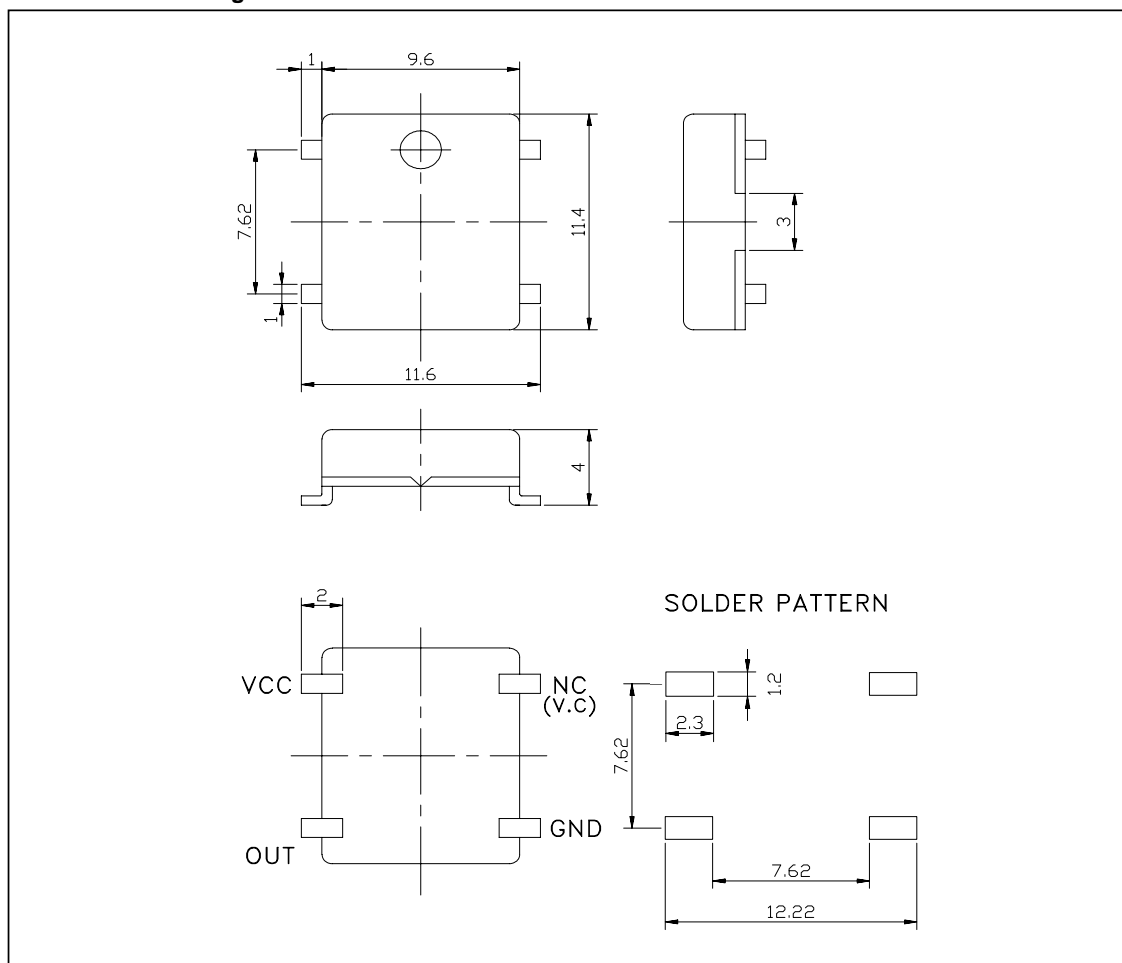
OTX 1196C  
OTV 1196C

Specifications

Item	Specifications			
Series	OTX 1196C1	OTX 1196C2	OTV1196C1	OTV1196C2
Nominal Frequency	10.0 to 35.0 MHZ			
Supply Voltage	+5V±5% or +3V,+3.3V			
Current	25mA MAX	2mA MAX	25mA MAX	2mA MAX
Output	C-MOS/TTL	Clipped sine wave 1Vp-p MIN 10kΩ/10pF	C-MOS/TTL	Clipped sine wave 1Vp-p MIN 10kΩ/10pF
Frequency Stability	Temperature	±2.5ppm(-30°C~+75°C)		
	Supply Voltage	±0.2ppm(+5V±5%)		
	Aging	±ppm1/Year		
Operable Temperature range	-30°C~+80°C			
Initial frequency tolerance	± 1ppm MAXIMUM./+25±2°C			
Frequency tuning range	± 3ppm MINIMUM.			
Frequency deviation and voltage	--		± 10ppm MIN./+2.5±2V	

Outline Drawing

Unit:mm



SERIES :

OTX 1196D  
OTV 1196D

**Specifications**

Item	Specifications	
	OTX 1196D	OTV1196D
Series	OTX 1196D	OTV1196D
Nominal Frequency	9.6MHz to 32.00MHz	
Frequency Stability Over Temperature Range ※	±2.5PPM over -30~+75°C	
Frequency Stability Over Supply Voltage Variation	±0.2PPM at 5.0V ±5%	
	±0.2PPM at 3.0V ±5%	
Frequency Stability Over Load Variation	±0.3PPM at 10 KOHM// 10pF	
Aging	±1PPM per year MAXIMUM	
Input Voltage	+5.0VDC ±5%VDC or +3.0VDC ±5%	
Input Current	9.60MHz~19.999MHz/2.0mA MAX	
	20.00MHz~32.00MHz/3.0mA MAX	
Output Waveform	Clipped sinewave	
Output Level	1.0V P-P for +5.0VDC ±5%	
	0.8V P-P for +3.0VDC ±5%	
Output Load	10K OHM//10pF	
Frequency Adjustment	±3PPM MIN by internal trimmer	
Operating Temperature Range	-40°C~+85°C	
Frequency Deviaton ※	N/A	A: ±4.5PPM~±7.5PPM at +1.5V ±1.0VDC
		B: ±8PPM~±15PPM at +2.5V ±2.0VDC

**Features**

- ▶ Ultra miniature package
- ▶ 3.0V supply voltage
- ▶ Excellent frequency stability and aging

**Packing**

- ▶ 180mm Reel diameter
- ▶ 24mm Tape width, 16mm pitch
- ▶ 1,000 Pieces per reel

**Part Numbering System**

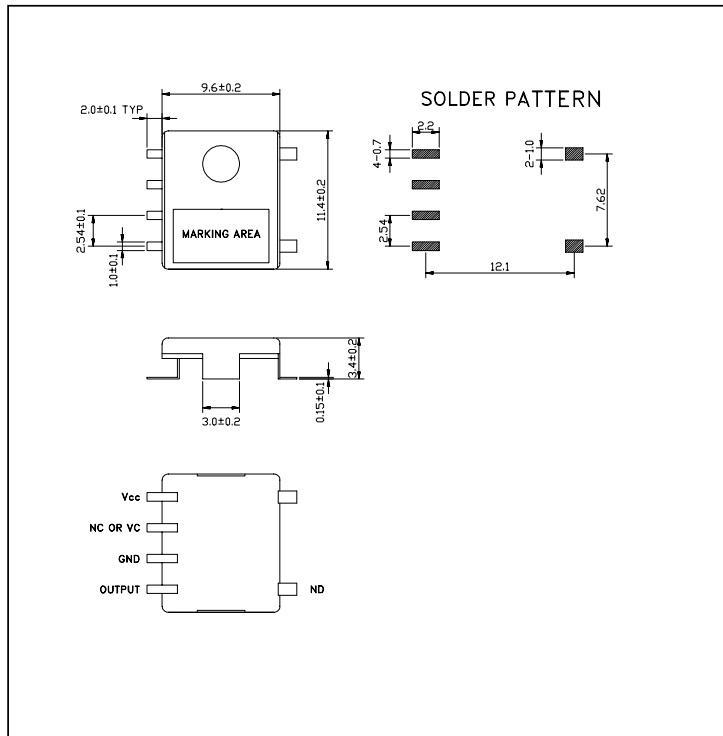
Holder Type	-	Frequency
OTX1196D	-	IN MHz
OTV1196D	-	

Example: OTX1196D-9.60MHz  
OTV1196D-9.60MHz

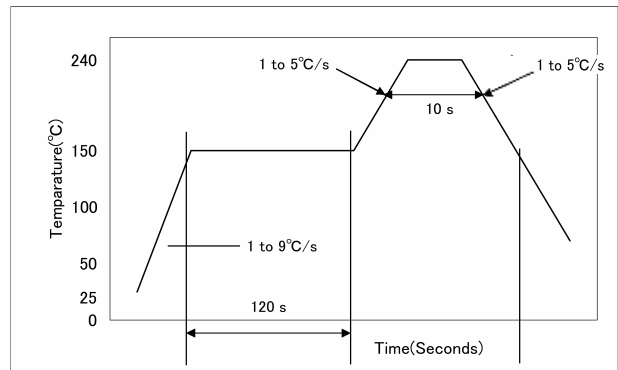
※Other stabilities over temperature, waveforms and frequency deviations are available.

**Outline Drawing**

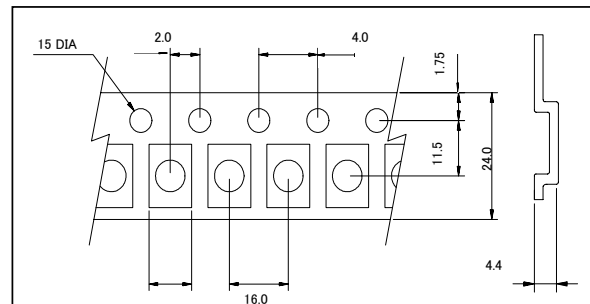
Unit:mm  
inch



**Reflow Soldering Profile**



**Carrier Tape Dimensions**



# SURFACE MOUNT TEMPERATURE COMPENSATED CRYSTAL OSCILLATOR

SERIES :

OTX 9070  
OTV 9070

## Specifications

Item	Specifications	
Series	OTX 9070	OTV 9070
Nominal Frequency	12.6 to 19.8 MHz	
Supply Voltage	3V±5%	
Current	2.0mA MAXIMUM(at 3V,25°C)	
Output Level	0.8(Vp-p) MINIMUM	
Load	[10kΩ//10pF]±10%	
Frequency Tolerance (×10 <sup>-6</sup> )	VS Temperature	±1.6/±2.5(-10°C~+60°C)   ±2.5(-20°C~+70°C)
	VS Voltage Variation	±0.3(3V±5%)
	VS Load Variation	±0.2([10kΩ//10pF]±10%)
	VS Delivered date	±0.5(at+25°C±2°C)   ±2.5(at+25°C±2°C)
	VS Aging	±1/Year
Strong Temp Range	-40°C~+85°C	
Voltage Control	--	±9 to ±15(1.5V±1V)

## Features

- ▶ Ultra miniature package
- ▶ 3.0V supply voltage
- ▶ Excellent frequency stability and aging

## Packing

- ▶ 330mm Reel diameter
- ▶ 16mm Tape width, 12mm pitch
- ▶ 2,000 Pieces per reel

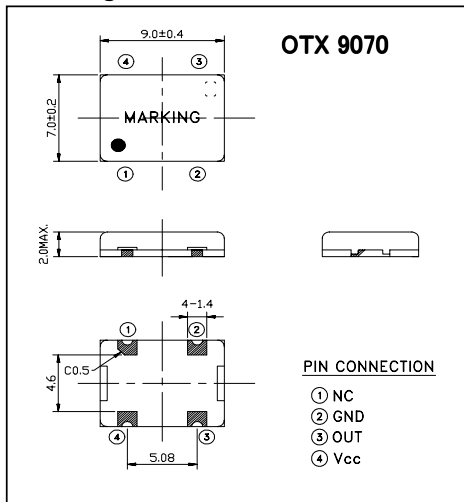
## Part Numbering System

Holder Type	-	Frequency
OTX9070	-	IN MHz
OTV9070	-	

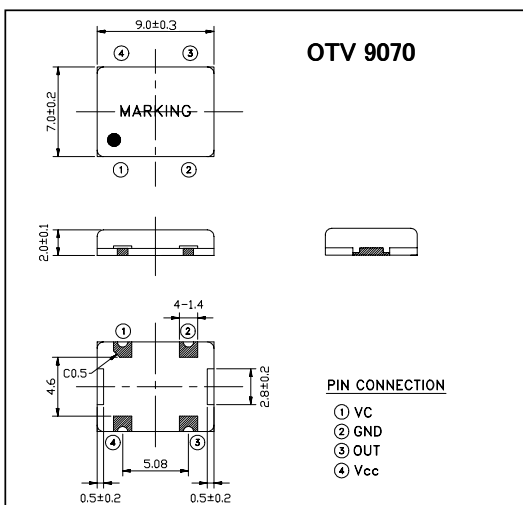
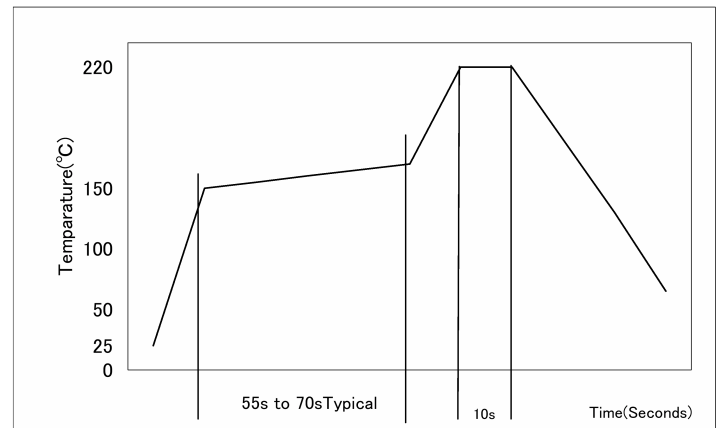
Example: OTX9070-12.600

## Outline Drawing

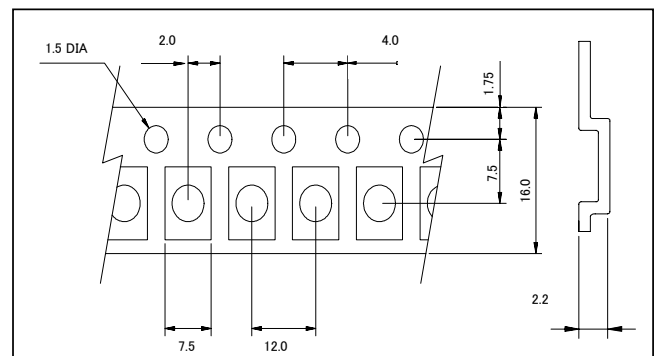
Unit:mm



## Reflow Soldering Profile



## Carrier Tape Dimensions



SERIES :

OTX 5032  
OTV 5032

● Specifications

Item	Specifications	
Series	OTX 5032	OTV5032
Nominal Frequency	12.6 to 19.8 MHZ	
Supply Voltage	3V±5%	
Current		
Output Level	0.8(Vp-p) MINIMUM	
Load	[10kΩ//10pF]±10%	
Frequency Tolerance (×10 <sup>-6</sup> )	VS Temperature	±2.5~(-20°C~+75°C)
	VS Voltage Variation	±0.2(3V±5%)
	VS Load Variation	±0.2([10kΩ//10pF]±10%)
	VS Delivered date	±0.5(at+25°C±2°C)
	VS Aging	±1/Year
Voltage Control Range(×10 <sup>-6</sup> )	--	±5~±15(1.5V±1V)
Strong Temp Range	-40°C~+85°C	

● Features

- ▶ Ultra miniature package
- ▶ 3.0V supply voltage
- ▶ Excellent frequency stability and aging

● Packing

- ▶ 254mm Reel diameter
- ▶ 12mm Tape width,4mm pitch
- ▶ 2,000 Pieces per reel

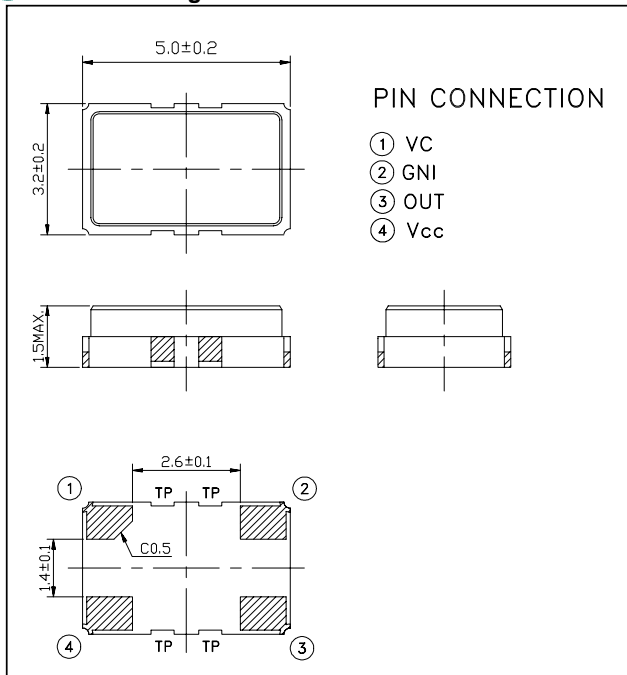
● Part Numbering System

Holder Type	-	Frequency	-	Extended Temperature	-	Tape & Reel
OTX3250	-	IN MHz	-	EXT	-	TR
OTV3250	-	IN MHz	-	EXT	-	TR

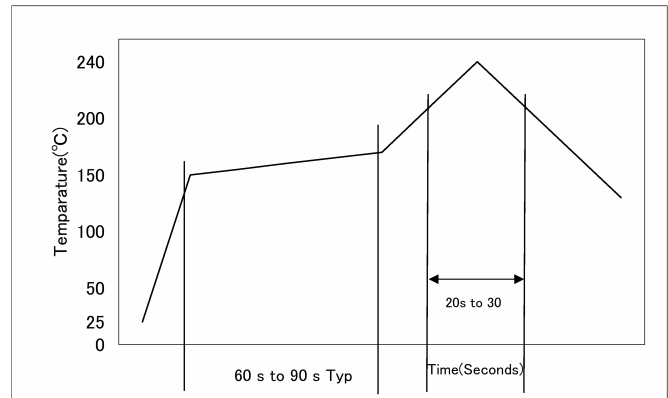
Example:OTV3250-12.6MHz-EXT-TR

● Outline Drawing

Unit: mm



● Reflow Soldering Profile



● Carrier Tape Dimensions

