

# CRYSTAL OSCILLATORS

## SIMPLE PACKAGED CRYSTAL OSCILLATORS 3200 SERIES

### Model 3211A

- Main applications: Digital Cordless telephone
- Features
  - Height 3.9mm, volume 0.43cm<sup>3</sup>, weight 1g (light & small)
  - Surface mount type  
(Both laser soldering method and low temperature soldering method are applicable. For low temperature soldering, please contact us for temperature profile.)
  - Low power consumption

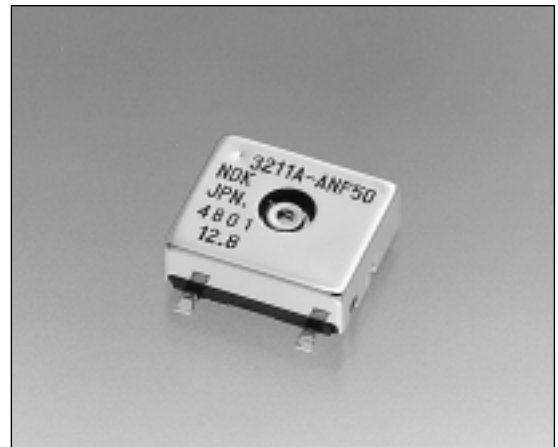
### Specification

Item	Model	3211A	
	Spec. Code	ANF50	APA50
Standard Frequency (MHz)		12.8	14.4 15.36
Frequency Stability		$\pm 2.5 \times 10^{-6}$	$\pm 3.0 \times 10^{-6}$
		-15~+55°C	0~+50°C
Supply Volt Change		$\pm 0.3 \times 10^{-6} / +5V \pm 5\%$	
Supply Voltage		+5VDC	
Current Consumption		1.5mA max	
Output Voltage		1V (Peak to Peak) min	
Load		10k $\Omega$ //10pF	
Aging		$\pm 1 \times 10^{-6}$ /year	
Frequency Trim Range		$\pm 3 \times 10^{-6}$ min	
Case Code		11A	

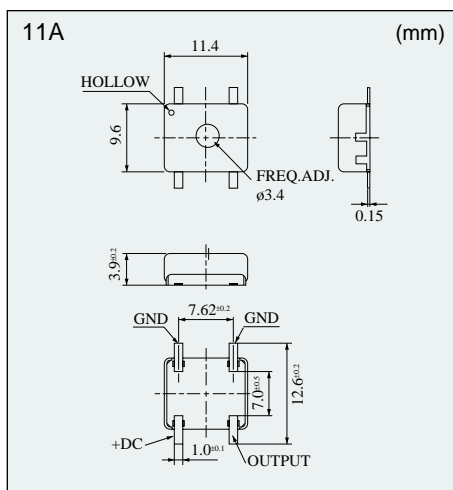
Note: Frequency adjustment condition

- (1) Adjustment is conducted in room temperature (+25 $\pm$ 2°C).
- (2) For adjustment, oscillator is placed on the printed board which has earth pattern.

This oscillator is shipped after frequency adjustment at NDK. But if you need to trim frequency by trimmer condenser, please make sure that the driver fits trimmer rotor hole. Also do not apply pressure to trimmer rotor. If you need NON-standard spec. for frequency, low voltage, please contact us.



### Dimensions



## SIMPLE PACKAGED CRYSTAL OSCILLATORS 3200 SERIES

### ■ Model 3218D

- Main applications: Cordless telephones
- Features
  - High-reliability metal package (grounded)
  - Low power consumption

### ■ Specification

Item	Model	3218D	
	Spec. Code	APA60	ANF60
Standard Frequency (MHz)		10 10.625 12.8	
Frequency Range (MHz)		10~15	
Frequency Stability		$\pm 3 \times 10^{-6}$	$\pm 2.5 \times 10^{-6}$
		0~+50°C	-15~+55°C
Supply Volt Change		$\pm 0.3 \times 10^{-6} / +5V \pm 5\%$	
Supply Voltage		+5VDC	
Current Consumption		3mA max	
Output Voltage		1V (Peak to Peak) min	
Load		20k $\Omega$ /5pF	
Aging		$\pm 1 \times 10^{-6}$ /year	
Frequency Trim Range		$\pm 3 \times 10^{-6}$ min	
Case Code		18D	

Note: Frequency adjustment condition

(1) Adjustment is conducted in room temperature (+25±2°C).

(2) For adjustment, oscillator is placed on the printed board which has earth pattern.

This oscillator is shipped after frequency adjustment at NDK. But if you need to trim frequency by trimmer condenser, please make sure that the driver fits trimmer rotor hole. Also do not apply pressure to trimmer rotor.

If you need NON-standard spec. for frequency, low voltage, please contact us.

### ■ Dimensions

