

## Crystal Oscillators

### Surface Mount Type

<b>NDOLP32</b> [ 3.2×2.5×1.00 mm ]	<b>NDOLP53</b> [ 5.0×3.2×1.25 mm ]	<b>NDOLP57</b> [ 7.0×5.0×1.45 mm ]
---------------------------------------	---------------------------------------	---------------------------------------

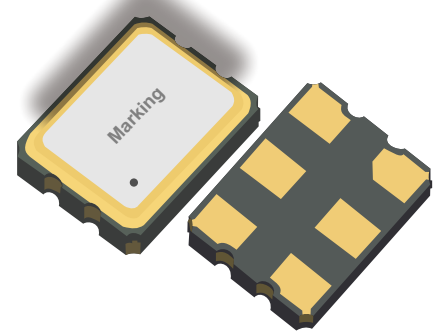
**Output**  
LV-PECL

**Supply Voltage**  
2.5V / 3.3V

**Frequency Range**  
10 MHz~1500 MHz

### Features

- Surface mount package size 3.2×2.5 (3225), 5.0×3.2 (5032), 7.0×5.0 (7050), mm×mm
- Differential output Simple Package Crystal Oscillator (SPXO)
- LV-PECL output, frequency range from 10 MHz to 1500 MHz
- 2.5V / 3.3V operating voltage
- RoHS Compliant
- Very low phase jitter: <1 pS (0.6 pS, Typ.) RMS
- Tri-state available
- Applications: Fiber channel, Storage area network, SONET, Server, Smart grid, Gigabit ethernet, and more



### Standard Specifications

Item / Type	<b>NDOLP32</b> (SMD 3225 LVPECL)	<b>NDOLP53</b> (SMD 5032 LVPECL)	<b>NDOLP57</b> (SMD 7050 LVPECL)
Dimensions	3.2×2.5×1.00 mm	5.0×3.2×1.20 mm	7.0×5.0×1.40 mm
Output	LV-PECL		
Output load	50Ω (Terminated to Vcc-2.0V)		
Output frequency range	10 MHz~250 MHz	10 MHz~1500 MHz	10 MHz~1500 MHz
Supply voltage	2.5 V / 3.3 V		
Frequency tolerance (All condition)	±25 ppm, ±50 ppm, ±100 ppm		
Operating temperature	-20~+70°C, -40~+85°C		
Current consumption	100mA max.		
Disable current	35mA max.		
Symmetry	45 % to 55 %		
Output voltage Voh (min.)	Vcc-1.1 V min.		
Output voltage Vol (max.)	Vcc-1.5 V max.		
Input voltage Vih (min.)	70% Vcc min.		
Input voltage Vil (max.)	30% Vcc max.		
Rise time / Fall time	1 ns max.		
Start-up time	10ms max.		
Storage temperature	-55~+125°C		
Phase jitter (12 KHz~20 MHz)	1 pSec Max.		

## Crystal Oscillators

### Surface Mount Type

<b>NDOLP32</b> NDOLV32 NDOHC32 [ 3.2×2.5×1.00 mm ]	<b>NDOLP53</b> NDOLV53 NDOHC53 [ 5.0×3.2×1.25 mm ]	<b>NDOLP57</b> NDOLV57 NDOHC57 [ 7.0×5.0×1.45 mm ]
--	--	--

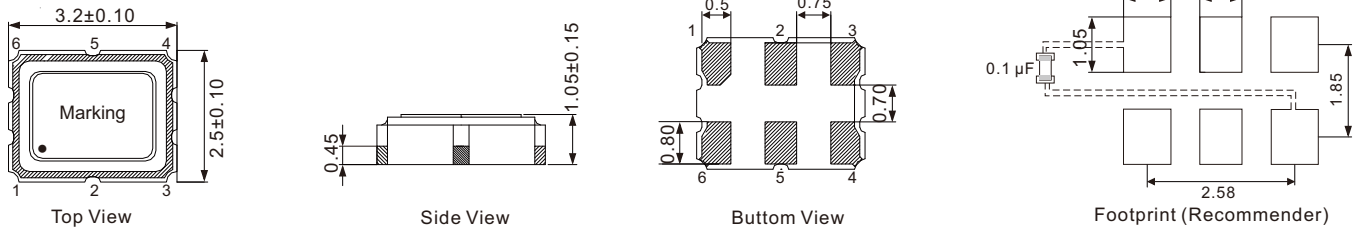
<b>Output</b> LVPECL, LVDS, HCSL
-------------------------------------

<b>Supply Voltage</b> 2.5V / 3.3V
--------------------------------------

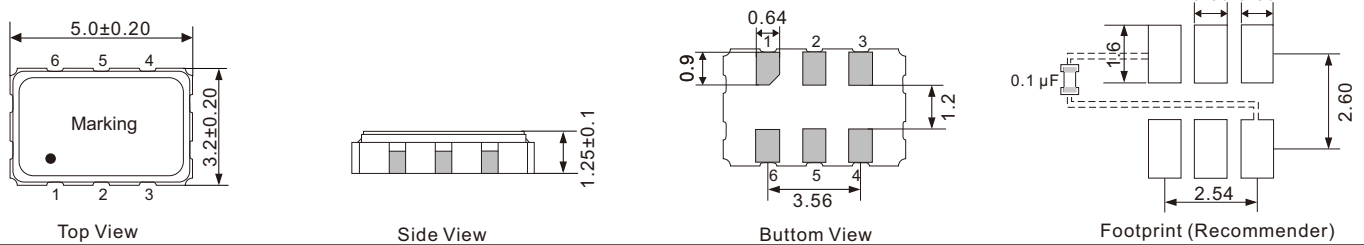
<b>Frequency Range</b> 13.5 kHz~220 MHz
--

### Outline Dimensions (Unit: mm)

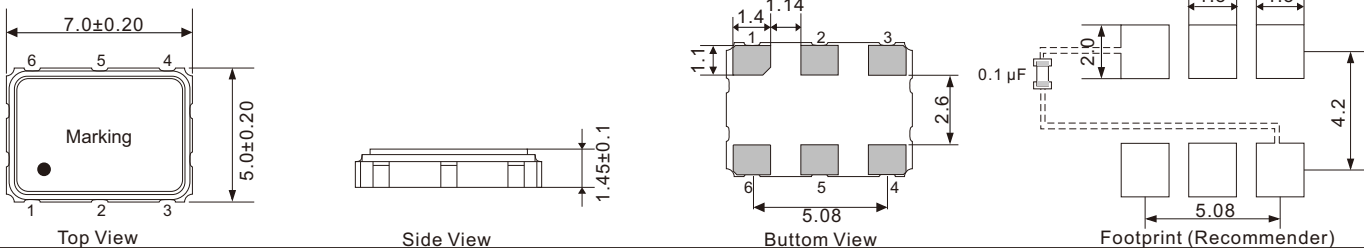
#### NDOLP32,NDOLV32,NDOHC32 (3.2×2.5×1.00 mm)



#### NDOLP53,NDOLV53,NDOHC53 (5.0×3.2×1.25 mm)

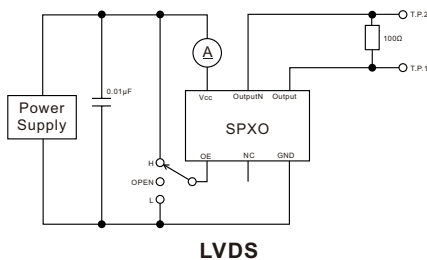


#### NDOLP57,NDOLV57,NDOHC57 (7.0×5.0×1.45 mm)

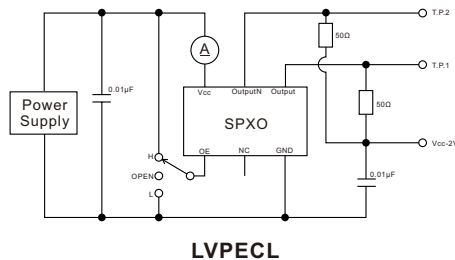


### Measurement Circuit

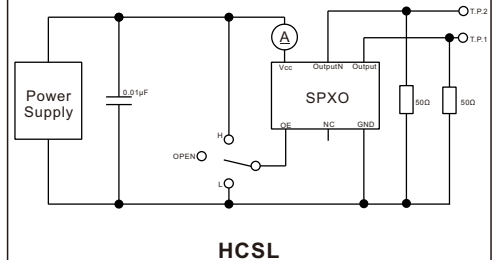
#### NDOLV32,NDOLV53,NDOLV57



#### NDOLP32,NDOLP53,NDOLP57



#### NDOHC32,NDOHC53,NDOHC57



### Pin Map

Pin	Connection	Function
1	OE / Tri-State	“H” or “OPEN”: specified frequency output; “L”: output is high impedance
2	N.C.	No connect (Open or Vcc)
3	GND	Vcc power supply ground
4	OUT	Oscillator output
5	OutputN	Complementary oscillator output
6	Vcc	Power supply voltage