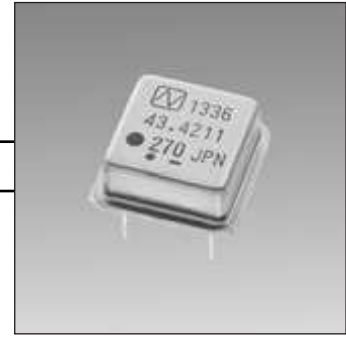


# CRYSTAL CLOCK OSCILLATORS



## 1320 SERIES

### ■ Features

- Directly drives the TTL or C-MOS IC.
- Available from low frequency range up, 875kHz.
- Large fanout capability TTL5 (LS-TTL25).
- Low power consumption high speed Tr/Tf and accurate duty cycle (45 to 55% < 6.5MHz).

### ■ Absolute Maximum Rating

Supply Voltage (V<sub>DD</sub>) -0.5~+7.0V DC

Storage Temperature Range -55~+125°C

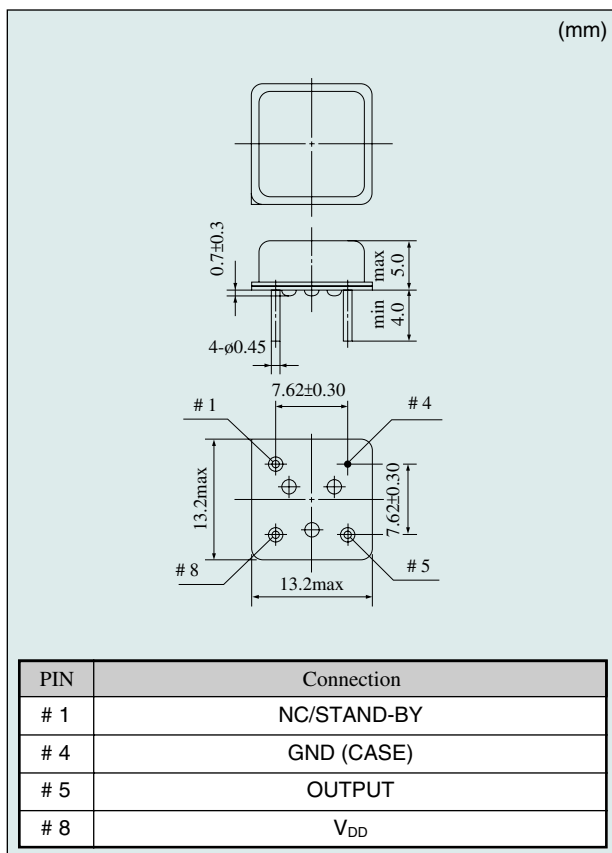
Model		1326	1327	1328	1329	
Frequency	(MHz)	0.875~1.75	1.75~3.5	3.5~7	7~15	15~22
Supply Voltage (V <sub>DD</sub> )	(V)	+5±10%				
Current Consumption	(mA) +5VDC, 25°C	5 (TYP) 10 (max)				8 (TYP) 13 (max)
V <sub>OL</sub> max/V <sub>OH</sub> min	(V)	0.4/V <sub>DD</sub> -0.5 I <sub>OL</sub> =8mA I <sub>OH</sub> =-8mA				
Tr max/Tf max	(ns)	5/5 (Value between 0.1×V <sub>DD</sub> and 0.9×V <sub>DD</sub> )				
Duty Cycle	(%)	1/2V <sub>DD</sub>	45~55 (< 6.5MHz), 40~60(≥ 6.5MHz)			
		1.4V	45~55 (< 6.5MHz), 40~60(≥ 6.5MHz)			
Fanout (gate)	C <sub>L</sub> (pF)	15				
	TTL GATE	5				
Stand-by Function	Tri-state	Yes				

Note: The values of Current Consumption, Tr/Tf, Duty Cycle show the standard values under 5TTL.

If requested, Duty Cycle 45~55% (< 6.5MHz), No stand-by function version #5 pin : L level or no osc, #1 pin : L level (+0.8V max) is available.

If requested, Operating Temp. Range -40 to +85°C is available. Please contact us for detailed specifications.

### ■ 1320 Series Outline

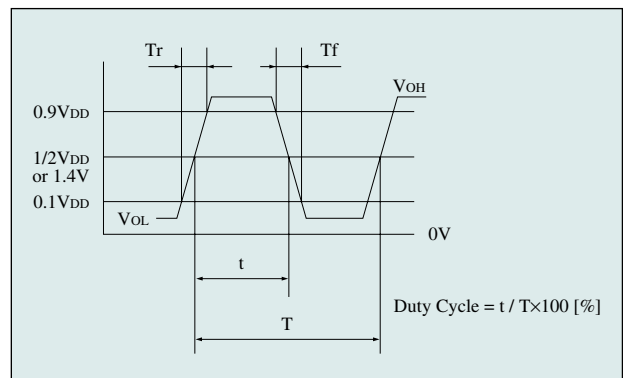


### ■ Option of Frequency Stability

Frequency stability (×10 <sup>-6</sup> )	±50	±100
Ope. Temp.		
0~+70°C	A	B
-10~+70°C	—	G
-20~+70°C	—	M

Standard

### ■ Output Wave <C-MOS/TTL>



### ■ Stand-by Function <Tri-state>

# 1 pin input	# 5 pin output
H level (+2.2 Vmin) or open	Operating
L level (+0.8 Vmax)	High impedance

# 1330 SERIES

## ■ Features

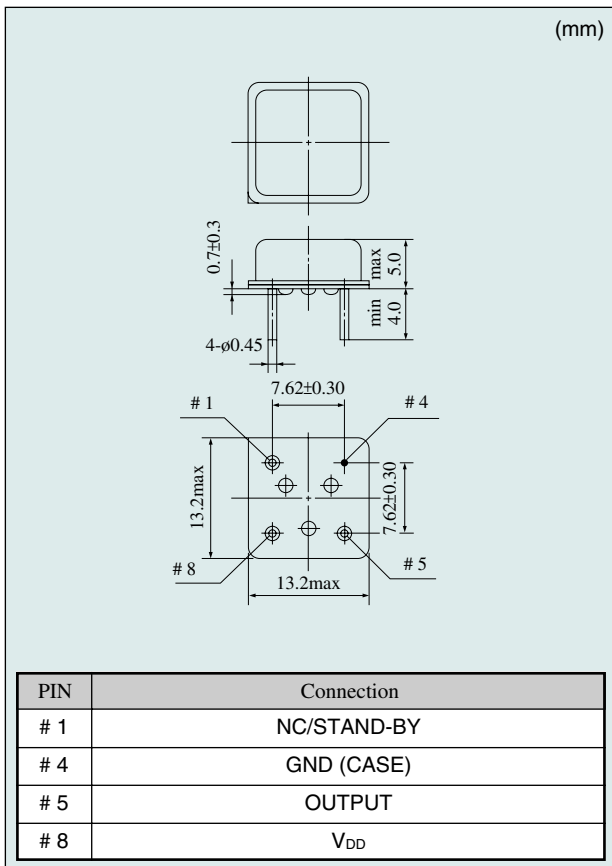
- Directly drives the C-MOS IC.
- Available for high frequency range up to 70MHz.
- Accurate duty cycle 45~55%
- High speed Tr/Tf.

■ **Absolute Maximum Rating**  
**Supply Voltage (V<sub>DD</sub>)** -0.5~+7.0V DC  
**Storage Temperature Range** -55~+125°C

Item	Model	1330	1331	1332	1333	1334	1335	1336	1337	1338	1339
Frequency Range	(MHz)	22~23	23~26	26~30	30~34	34~36	36~40	40~44	44~51	51~60	60~70
Supply Voltage (V <sub>DD</sub> )	(V)	+5±10%									
Current Consumption	(mA) +5VDC, 25°C	15 (TYP) 25 (max)			20 (TYP) 30 (max)			25 (TYP) 35 (max)			
V <sub>OL</sub> max/V <sub>OH</sub> min	(V)	0.5/V <sub>DD</sub> -0.5 I <sub>OL</sub> =8mA I <sub>OH</sub> =-8mA									
Tr max/Tf max	(ns)	5/5 (Value between 0.1×V <sub>DD</sub> and 0.9×V <sub>DD</sub> )									
Duty Cycle	(%)	45~55 (at 1/2V <sub>DD</sub> )									
Fanout (gate)	C <sub>L</sub> (pF)	15									
Stand-by Function	Tri-state	Yes									

Note: If requested, no stand-by function version #5 pin : H level or no osc, #1 pin : L level (+0.8V max) is available.  
 If requested, Operating Temp. Range -40 to +85°C is available. Please contact us for detailed specifications.

## ■ 1330 Series Outline

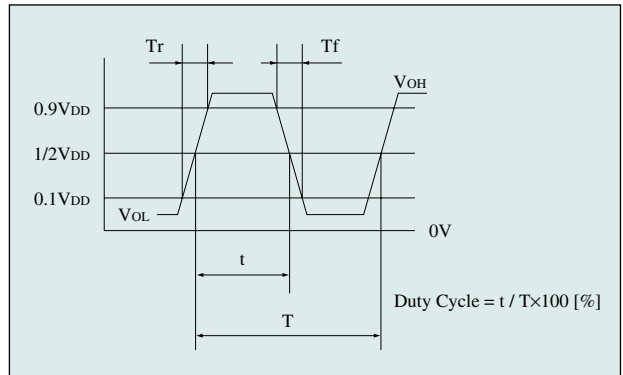


## ■ Option of Frequency Stability

Frequency stability (×10 <sup>-6</sup> )	±50	±100
Op. Temp.		
0~+70°C	A	B
-10~+70°C	—	G
-20~+70°C	—	M

□ Standard

## ■ Output Wave <C-MOS>



## ■ Stand-by Function <Tri-state>

# 1 pin input	# 5 pin output
H level (+2.2 Vmin) or open	Operating
L level (+0.8 Vmax)	High impedance

# CRYSTAL CLOCK OSCILLATORS

## 1340 SERIES

### ■ Features

- Directly drives the TTL IC.
- Available for high frequency range up to 70 MHz.
- High speed Tr/Tf.
- Large fanout capability TTL5 (LS-TTL25).

### ■ Absolute Maximum Rating

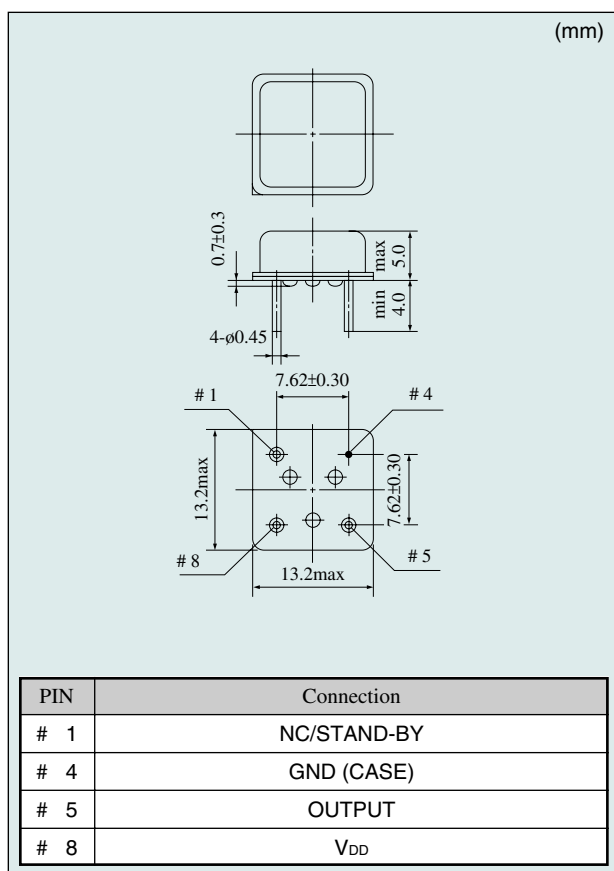
Supply Voltage (V<sub>DD</sub>) -0.5~+7.0V DC

Storage Temperature Range -55~+125°C

Item	Model	1340	1341	1342	1343	1344	1345	1346	1347	1348	1349
Frequency Range	(MHz)	22~23	23~26	26~30	30~34	34~36	36~40	40~44	44~51	51~60	60~70
Supply Voltage (V <sub>DD</sub> )	(V)	+5±10%									
Current Consumption	(mA) +5VDC, 25°C	15 (TYP) 25 (max)			20 (TYP) 30 (max)			25 (TYP) 35 (max)			
V <sub>OL</sub> max/V <sub>OH</sub> min	(V)	0.4/2.4 I <sub>OL</sub> =8mA I <sub>OH</sub> =-8mA									
Tr max/Tf max	(ns)	5/5 (Value between 0.4V and 2.4V)									
Duty Cycle	(%)	40~60 (at 1.4V)									
Fanout (gate)	TTL GATE	5									
Stand-by Function	Tri-state	Yes									

Note: If requested, Duty Cycle 45~55%, No stand-by function version #5 pin : H level or no osc, #1 pin : L level (+0.8V max) is available.  
If requested, Operating Temp. Range -40 to +85°C is available. Please contact us for detailed specifications.

### ■ 1340 Series Outline

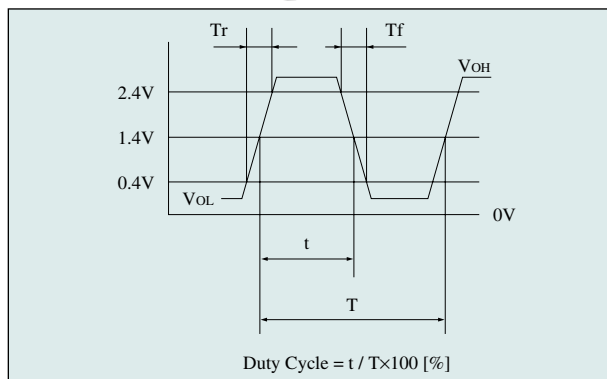


### ■ Option of Frequency Stability

Frequency stability (×10 <sup>-6</sup> )	±50	±100
Op. Temp.		
0~+70°C	A	B
-10~+70°C	—	G
-20~+70°C	—	M

□ Standard

### ■ Output Wave <TTL>



### ■ Stand-by Function <Tri-state>

# 1 pin input	# 5 pin output
H level (+2.2 Vmin) or open	Operating
L level (+0.8 Vmax)	High impedance