

## 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 ( $V_{DD}$ )  $-0.5\sim+7.0V$  DC

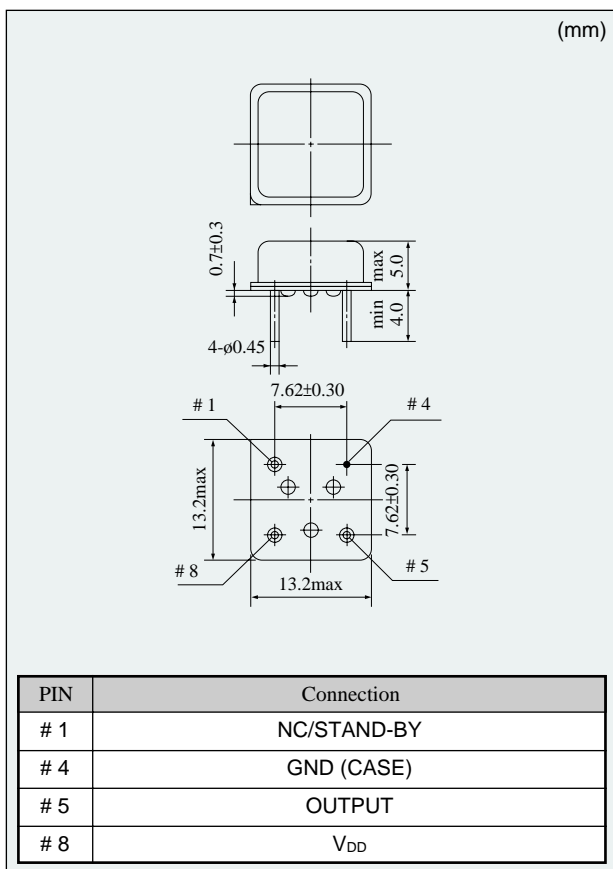
Storage Temperature Range  $-55\sim+125^{\circ}C$

Item		Model	1326	1327	1328	1329		
Frequency	(MHz)		0.875~1.75	1.75~3.5	3.5~7	7~15	15~22	
Supply Voltage ( $V_{DD}$ )	(V)		+5±10%					
Current Consumption	(mA) +5VDC, 25°C		5 (TYP) 10 (max)				8 (TYP) 13 (max)	
$V_{OL}$ max/ $V_{OH}$ min	(V)		0.4/ $V_{DD}$ -0.5 $I_{OL}=8mA$ $I_{OH}=-8mA$					
Tr max/Tf max	(ns)		5/5 (Value between 0.1× $V_{DD}$ and 0.9× $V_{DD}$ )					
Duty Cycle	(%)	1/2 $V_{DD}$	45~55 (< 6.5MHz), 40~60(≥ 6.5MHz)					
		1.4V	45~55 (< 6.5MHz), 40~60(≥ 6.5MHz)					
Fanout (gate)	$C_L$ (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.

### ■ 1320 Series Outline

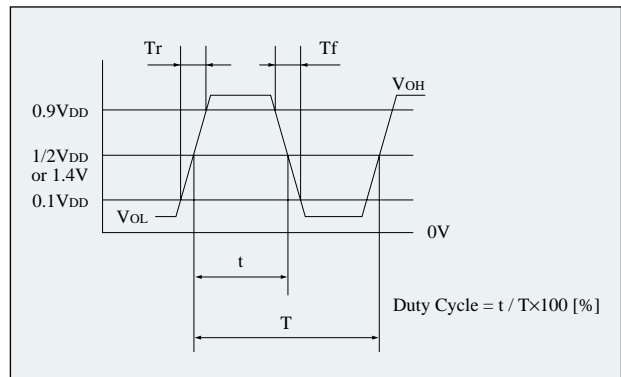


### ■ Option of Frequency Stability

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/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

# CRYSTAL CLOCK OSCILLATORS

## 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

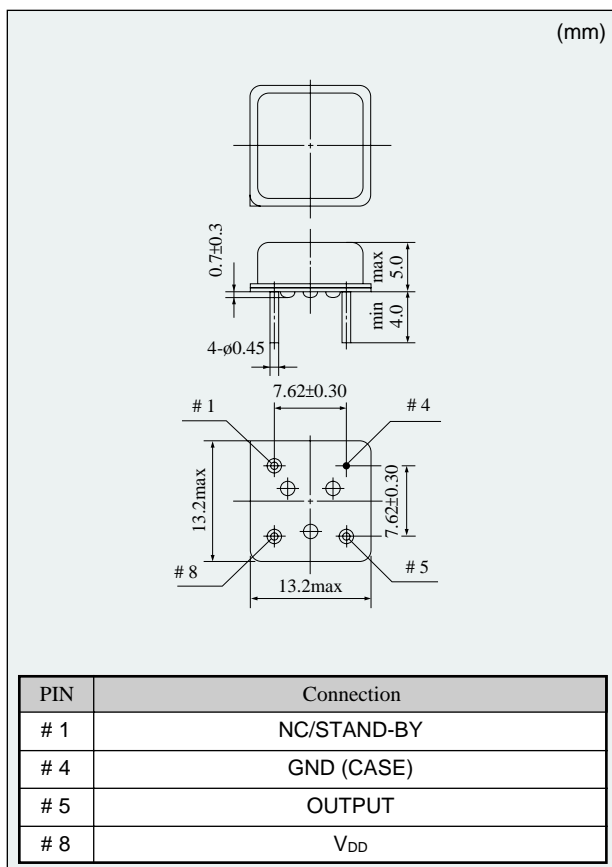
Supply Voltage (V<sub>DD</sub>) -0.5~+7.0V DC

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.

### ■ 1330 Series Outline

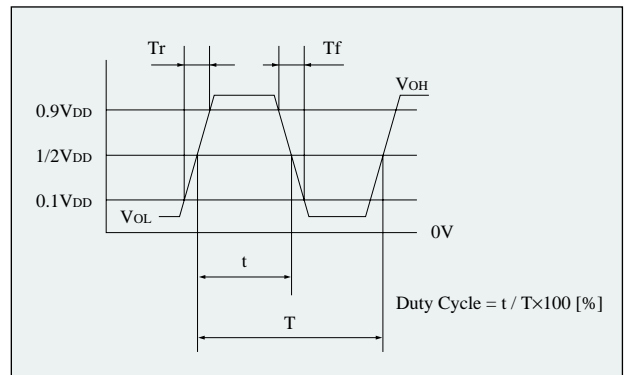


### ■ Option of Frequency Stability

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

# 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).

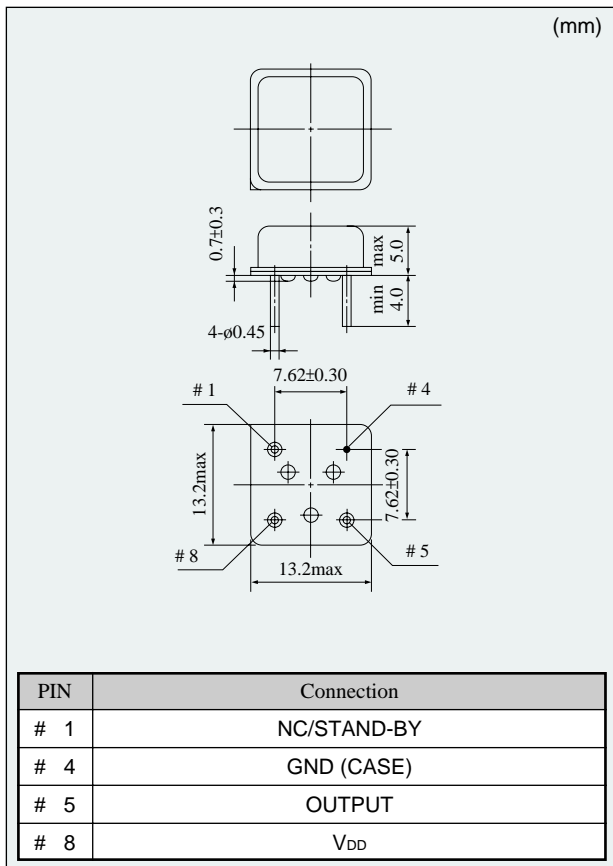
## ■ Absolute Maximum Rating

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.

## ■ 1340 Series Outline

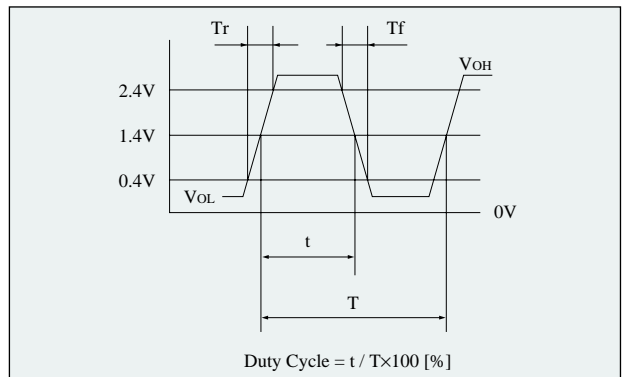


## ■ Option of Frequency Stability

Frequency stability (×10 <sup>-6</sup> )	±50	±100
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