

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

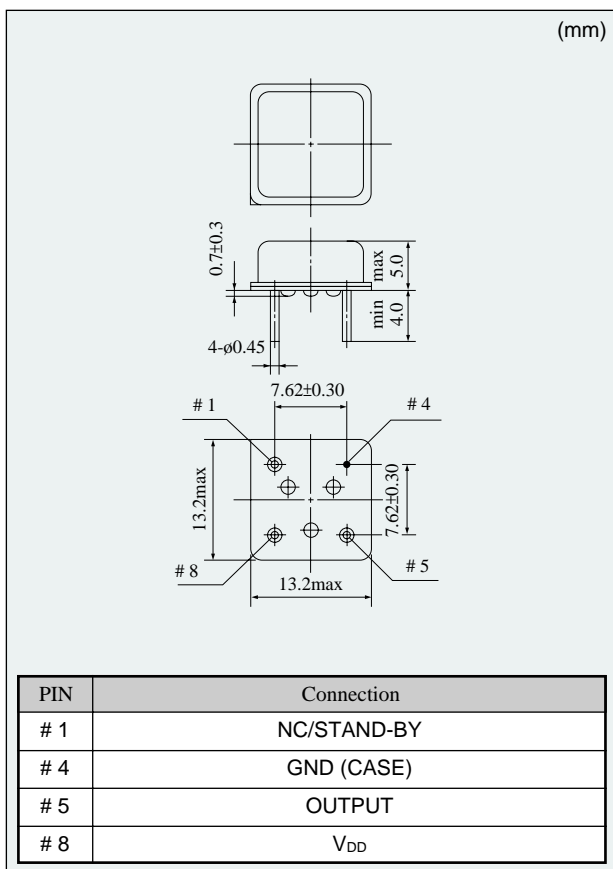
Storage Temperature Range $-55\sim+125^{\circ}C$

| 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

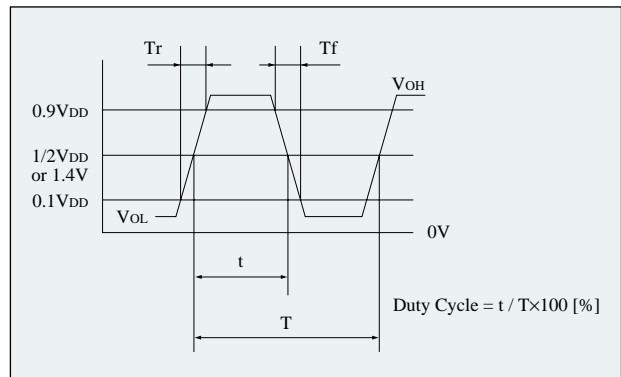


Option of Frequency Stability

| Frequency stability (×10 ⁻⁶) | ±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

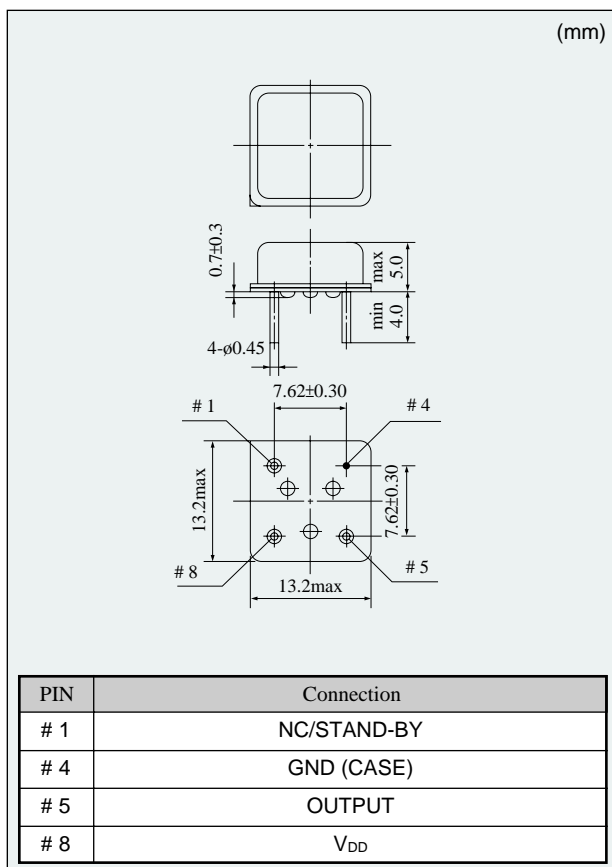
Supply Voltage (V_{DD}) -0.5~+7.0V DC

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 _{DD}) | (V) | | +5±10% | | | | | | | | | |
| Current Consumption | (mA) +5VDC, 25°C | | 15 (TYP) 25 (max) | | | 20 (TYP) 30 (max) | | | 25 (TYP) 35 (max) | | | |
| V _{OL} max/V _{OH} min | (V) | | 0.5/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 | (%) | | 45~55 (at 1/2V _{DD}) | | | | | | | | | |
| Fanout (gate) | C _L (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

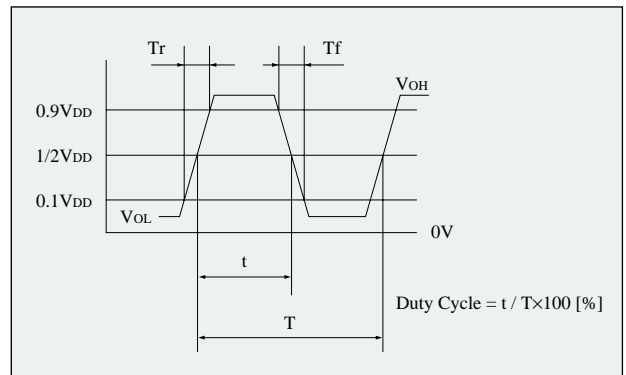


■ Option of Frequency Stability

| Frequency stability (×10 ⁻⁶) | ±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

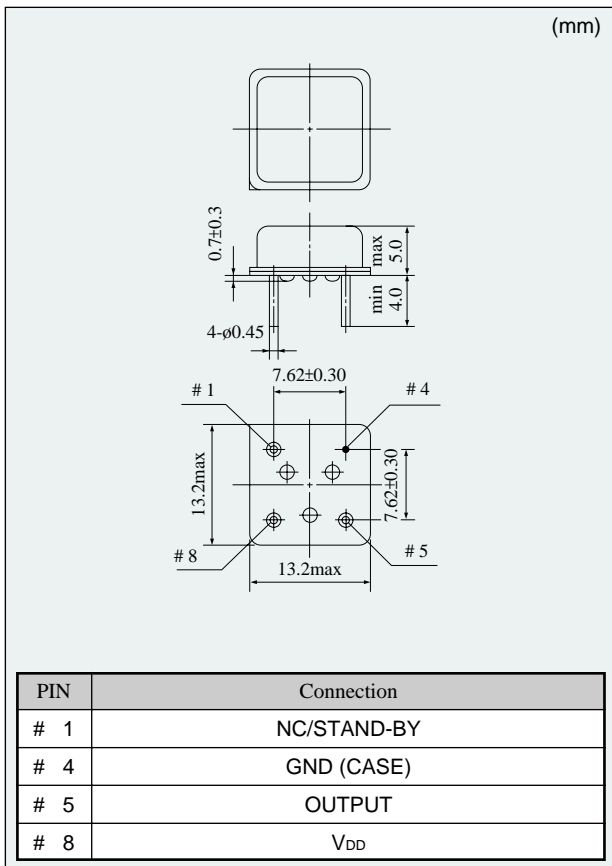
Supply Voltage (V_{DD}) -0.5~+7.0V DC

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 _{DD}) | (V) | | +5±10% | | | | | | | | | |
| Current Consumption | (mA) +5VDC, 25°C | | 15 (TYP) 25 (max) | | | 20 (TYP) 30 (max) | | | 25 (TYP) 35 (max) | | | |
| V _{OL} max/V _{OH} min | (V) | | 0.4/2.4 I _{OL} =8mA I _{OH} =-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

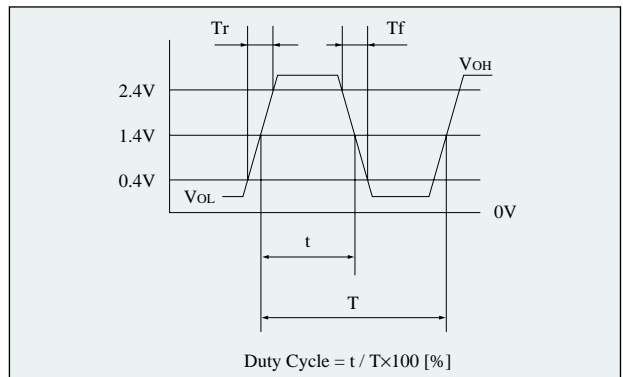


■ Option of Frequency Stability

| Frequency stability (×10 ⁻⁶) Ope. Temp. | ±50 | ±100 |
|---|---------|------|
| | 0~+70°C | A |
| -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 |