Fuel The Digital World

QTM750DH
MHz LVDS Oscillator

Features

- Frequency range : 170MHz to 2100MHz
- SMD seam sealing ceramic package
- Supply voltage : 2.5V, 3.3V
- LVDS output
- Low phase noise and phase jitter
- Tri-state function available
- External dimensions (mm)
  L : 7.0 x W : 5.0 x H : 1.7
- RoHS compliant & Pb free

Applications

- Networking, Telecommunication, Data communication, Switch, Server, Storage
- Fibre channel, Ethernet, SONET, SATA, SAS, PCI-Express
- Optical module
- Microprocessor, DSP, FPGA, Clock source for ADC and DAC
- Test and measurement

Electrical Characteristics

Item	QTM750DH	Conditions
Frequency Range (F_0)	170MHz ~ 2100MHz	
Frequency Stability (F_{stab}) over Operating Temperature Range (T_{OTR})	±50ppm, ±25ppm	-40°C ~ +85°C, Note [1]
Operating Temperature Range (T_{OTR})	-40°C ~ +85°C	
Supply Voltage (V_{DD})	2.5V, 3.3V	V_{DD} ± 10%
Current Consumption (I_{DD})	100 mA Max.	
Output Type	LVDS	
Output Load	100 Ω	
Offset Voltage	1.25V Typ.	
Differential Output Voltage	247mV Min. / 454mV Max.	170MHz ~ 700MHz
	150mV Min. / 454mV Max.	700MHz ~ 2100MHz
Rise & Fall Time (T_r / T_f)	0.5 ns Max.	20% ~ 80% of output swing
Duty Cycle	45% ~ 55%	
Start-up Time	10 ms Max.	
Enable Voltage High, Logic "1"	70% V_{DD} Min.	Input to OE pin Note [2]
Enable Voltage Low, Logic "0"	30% V_{DD} Max.	
Phase Jitter (F_0 = 622.08MHz)	150fs Typ. / 200fs Max.	12kHz ~ 20MHz, RMS
Aging (F_{aging})	±3 ppm Max.	at 25°C±3°C, first year
Storage Temperature Range (T_{STR})	-55°C ~ +125°C	

Notes:

[1] Inclusive of frequency tolerance at 25°C, variations over temperature, supply voltage and vibration.

[2] Output will be enabled if OE is Logic "1" or Open; Output will be disabled if OE is Logic "0".

[3] The standard testing environment except temperature test is 25°C±5°C, 40%~70% relative humidity.

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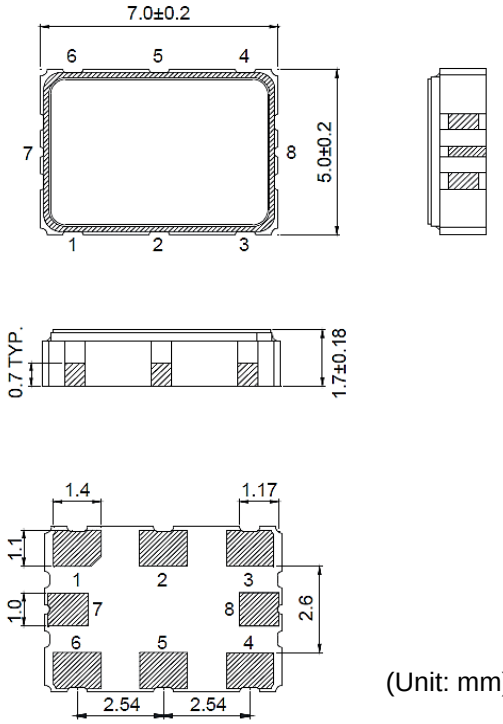
Dimensions



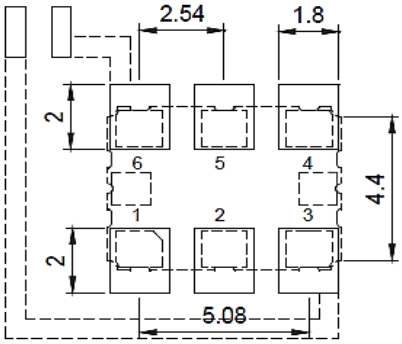
(Unit: mm)

* Pad dimension tolerance is ±0.2mm

Pin function

Pin 1	OE
Pin 2	NC
Pin 3	GND
Pin 4	OUT
Pin 5	$\overline{OUT}$
Pin 6	V_{DD}
Pin 7	NC
Pin 8	NC

Recommended pad layout



* Power supply decoupling capacitor is required.

Ordering Information

QTM750DH - 622.08M B E - T

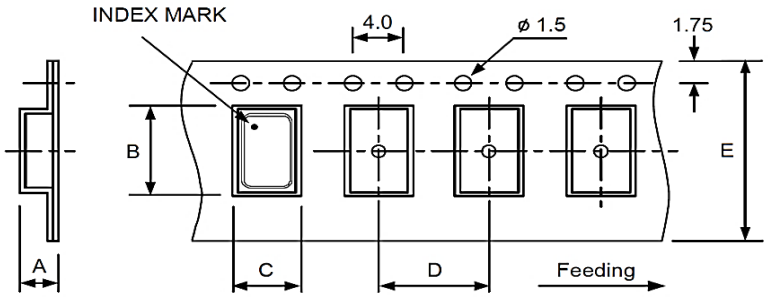
Frequency in Hz
Please contact us for available frequencies

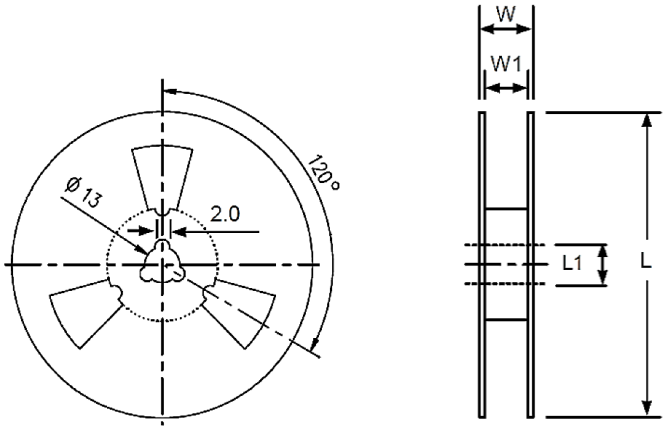
Supply Voltage
B 3.3 V
C 2.5 V

Frequency Stability
E ± 50 ppm (-40˚C ~ +85˚C)
D ± 25 ppm (-40˚C ~ +85˚C)

Packaging Method
T Tape & Reel

Packing





(Unit: mm)

DIMENSIONS	A	B	C	D	E	L	L1	W	W1
	2.00	7.90	5.45	8.00	16.0	180.0	13.0	20.5	16.0

Reflow Profile

Solder melting point : 220˚C ± 10˚C, 60 sec. Min., 200 sec. Max.
Peak temperature : 260˚C ± 10˚C, 10 sec. Min., 30 sec. Max.