



**Q-Tech
Corporation**

The World's Leading Manufacturer of High Reliability Hybrid Crystal Oscillators

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Model : QT12

Type: Crystal Oscillator

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Pin Configuration

VCC	GND	OUT	CASE	ITP
14	7	4	7	3, 12

Equivalent Military Designation:

N/A

[Freq. Designation >>](#)

Frequency Options

TTL	0.01 Hz to 160 MHz
CMOS **	0.01 Hz to 15 MHz (5 to 15 V)
HCMOS/ACMOS	0.01 Hz to 160 MHz
ECL/PECL	1 MHz to 200 MHz
** Indicate supply voltage : QT12C9M-10.000 MHz, 15 V	

Frequency Stability vs Temperature

Code	± %	± PPM	Temp
1	.01	100	0°C to +70°C
4	.005	50	0°C to +70°C
3**	.0005	5	0°C to +50°C
5	.0025	25	-20°C to +70°C
6	.005	50	-55°C to +105°C
9	.005	50	-55°C to +125°C
10	.01	100	-55°C to +125°C
11	.005	50	-40°C to +85°C
12	.01	100	-40°C to +85°C
** Requires external tuning capacitors. Consult the factory for pin connections. For frequencies above 30 Mhz, consult the factory. For frequency stability vs. temperature options not listed herein, request a custom part number.			

Screened

Output Logic

Phase Noise

Factory Options

Output Logic

T	TTL
C	CMOS
HC	High Speed CMOS
AC	Advanced CMOS
L	Low Voltage, 3.3 V
E	10 K ECL
EH	10 KH ECL
EF	100 K/300 K ECL
PE	+5 V ECL (PECL)
Z	Special CMOS*
D = Tristate Output (add "D" as a suffix to the above listed options)	

* Output logic can drive up to 200 pF load with typical 6 ns rise & fall time (tr, tf).

Electrical Specifications

ITEM	TTL	CMOS	HC/ACMOS***	ECL
SUPPLY VOLTAGE	5 V $\pm$ 10%	5.0 TO 15.0 V	5 V $\pm$ 10%**	-5.2 V std. for 10 K/10 KH output -4.5 V std. for 100 K/300 K output
SUPPLY CURRENT (Typical)	66 to 160 MHz: 80 mA 50 to 66 MHz: 40 mA 27 to 50 MHz: 25 mA 6.5 to 27 MHz: 12 mA .01Hz to 6.5 MHz: 20 mA	2 to 4 mA @ 5 V and 6 MHz Special supply voltage or current available. Ultra low current for battery operation also available.	HC = 6 mA @ 10 MHz AC = 20 mA @ 35 MHz Special supply voltage or current available. Ultra low current for battery operation also available.	35 mA (typ) for 10 K
LOAD	30 to 72 MHz: 6 TTL < 30 MHz: 10 TTL	Typical 10 k ohm shunted with 15 pf. capacitor	Typical $\pm$ 2 mA drive. Can drive 1 TTL load.	Standard ECL, designed for 20 ECL Loads.
SYMMETRY*	$\geq$ 8 MHz: 60/40% < 8 MHz: 45/55%	4 to 15 MHz: 60/40% < 4 MHz: 45/55%	$\geq$ 10 MHz: 60/40% < 10 MHz: 45/55%	60/40%

* Optional symmetry selections are 45/55 or 47.5/52.5 Custom symmetry is also available upon request.

** Parts are available with supply range of 2.5 to 6 Volts.

*** Low voltage logic available, Vcc = 3.3 V $\pm$ 10%, Current = 12 mA @ 40 MHz, Drive capability = 15 pf

Ordering Information

Example **QT6VHC9M - 20.000 MHz**

