

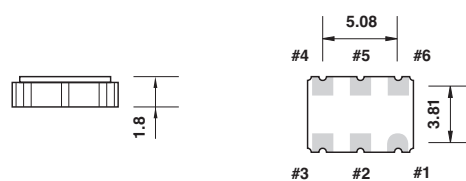
## Type VT - F smd VCXO (1.5 ~ 200)MHz, CMOS (7.0 x 5.0)mm, height 1.8mm

A high quality, smd, voltage controlled crystal oscillator manufactured over the frequency range of 1.5MHz to 200MHz. Tight symmetry, wide pulling range, +5V d.c. and +3.3V d.c. supply.

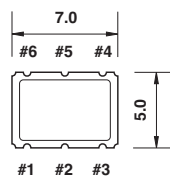
A standard package providing an excellent combination of parameters within a small smd enclosure.

Supplied on tape and reel with 1000 and 3000 pieces per reel.

### Dimensions(mm)



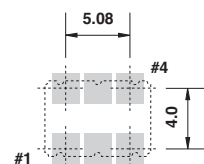
pads viewed from bottom  
pad size (1.4 x 1.27)mm



top view

pad connections:  
#1 voltage control  
#2 tri-state  
#3 ground  
#4 output  
#5 N/C  
#6  $V_{DD}$

output inhibit:  
#2 high: output oscillation



suggested land pattern  
pad size (2.0 x 1.8)mm

connect 0.1µF capacitor  
between  $V_{DD}$  and ground

### Frequency stability -vs- temperature:

TEMP. RANGE	COMBINED TOLERANCE	
(-10 +60)°C	±25ppm	±50ppm
(-20 +70)°C	±25ppm	±50ppm
(-40 +85)°C		±50ppm

Tolerance inclusive of calibration tolerance at +25°C, temperature tolerance, load variation and supply voltage variation, first year ageing, vibration and shock

### Electrical specification:

	5.0Vd.c.		3.3Vd.c.		
	min.	max.	min.	max.	
supply voltage ±10%	4.5	5.5	2.97	3.63	Vd.c.
frequency range	(1.5 ~ 50)MHz		(1.5 ~ 200)MHz		MHz
pulling range	±50	-	±50	-	ppm
control voltage range	0.5	4.5	0.3	3.0	V
supply current (1.5 ~ 20)MHz	-	15	-	10	mA
supply current (20 ~ 50)MHz	-	30	-	20	mA
supply current (50 ~ 80)MHz	-	35	-	30	mA
supply current (80 ~ 160)MHz	-	-	-	40	mA
supply current (160 ~ 200)MHz	-	-	-	50	mA
CMOS o/p high	90% $V_{DD}$		90% $V_{DD}$		V
CMOS o/p low	10% $V_{DD}$		10% $V_{DD}$		V
$t_r$ 1.5MHz ~ 20MHz	-	4	-	5	nano sec.
$t_r$ 20MHz ~ 50MHz	-	3	-	4	nano sec.
$t_r$ 50MHz ~ 80MHz	-	2	-	3	nano sec.
$t_r$ 80MHz ~ 200MHz	-	-	-	2	nano sec.
start up time	5		5		milli sec.
tri-state: active o/p	0.7 $V_{DD}$		0.7 $V_{DD}$		V
tri-state: high impedance o/p	0.3 $V_{DD}$		0.3 $V_{DD}$		V
absolute clock period jitter	-	40	-	40	pico sec.
RMS phase jitter(integrated 12kHz ~ 20MHz)	1		1		pico.sec
linearity	-	10	-	10	%
modulation bandwidth (1.5 ~ 55)MHz	20	-	20	-	kHz
modulation bandwidth (55 ~ 80)MHz	30	-	30	-	kHz
modulation bandwidth (80 ~ 200)MHz	45	-	45	-	kHz
input impedance (1.5 ~ 100)MHz	2000	-	2000	-	kΩ
input impedance (100 ~ 200)MHz	50	-	50	-	kΩ
ageing	-	±3	-	±3	ppm
storage temperature range	(-55 +125)°C				°C

**Ordering information**

<b>EXAMPLE</b>	<i>type VT - F smd VCXO, 40.00MHz, ±50ppm pulling, +3.3Vd.c., ±25ppm(-20 +70)°C</i>
<b>TFC PART NUMBER</b>	<b>VT - F 40.0M E M C</b>
<b>VT - F</b>	<i>type: VT - F = VCXO type VT; (7.0 x 5.0)mm package, F; CMOS load</i>
<b>40.0M</b>	<i>frequency: 40.0MHz, frequency range (1.5 ~ 200)MHz</i>
<b>E</b>	<i>supply voltage: E = +3.3Vd.c.</i>
<b>M</b>	<i>frequency stability: M = ±25ppm</i>
<b>C</b>	<i>temperature range: C = (-20 +70)°C</i>
<b>OPTIONS</b>	
<b>supply voltage</b>	<i>E: +3.3Vd.c., C: +5Vd.c.</i>
<b>frequency stability</b>	<i>M: ±20ppm, P: ±50ppm</i>
<b>temperature range</b>	<i>C: (-20 +70)°C, L: (-40 +85)°C</i>