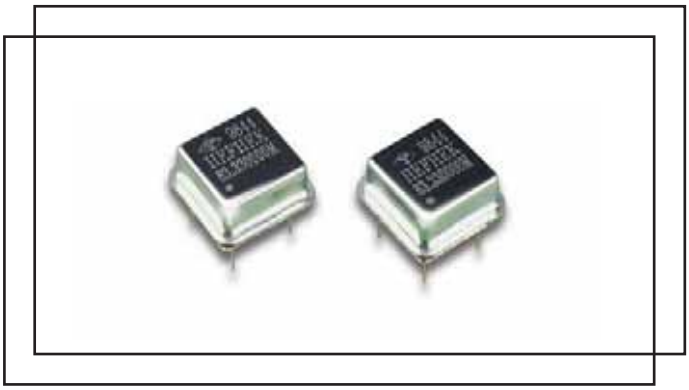
Type VH-W
4pin(8 pin DIL layout)
(1.5 ~ 50)MHz

- # wide pulling range
- # good linearity
- # +3.3Vd.c., +5.0Vd.c. supply

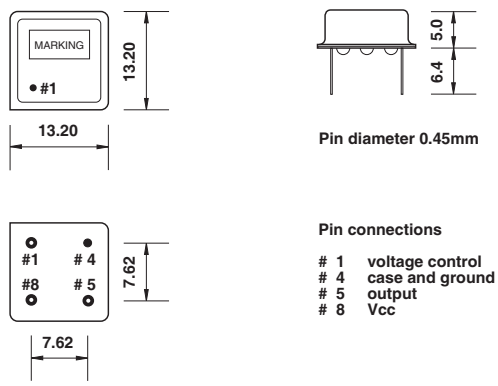


Electrical specification

Case style		4 pin(8 pin DIL layout): (13.2 x 13.2)mm, height 5.0mm	
Frequency range		(1.5 ~ 50)MHz	
Stability *		±(25 ~ 50)ppm, temperature range dependent	
Pulling range		±(100ppm ~ 200)ppm, customer specified	
Control voltage V_t		(+2.5 ±2.0)Vd.c., V_{cc} = +5.0Vd.c., (+1.65 ±1.35)Vd.c., V_{cc} = +3.3Vd.c.	
Supply voltage V_{cc}		**+3.3Vd.c.**	**+5.0Vd.c.**
Supply current max.	(1.5 ~ 20)MHz	20mA	30mA
	(20 ~ 50)MHz	30mA	40mA
Rise and fall time max. **	(1.5 ~ 20)MHz	8ns	8ns
	(20 ~ 50)MHz	5ns	5ns
Operating temperature		(-20 +70)°C ~ (-40 +85)°C	
Storage temperature		(-55 +125)°C	
Output		TTL, CMOS	
Symmetry		(45 ~ 55)%, (40 ~ 60)%	
Ageing		±5ppm first year max.	

* inclusive of calibration tolerance at +25°C, temperature tolerance, supply voltage variation, load variation, first year ageing, shock and vibration.
** measured with an output load of 15pF, between (10 ~ 90)% V_{cc}

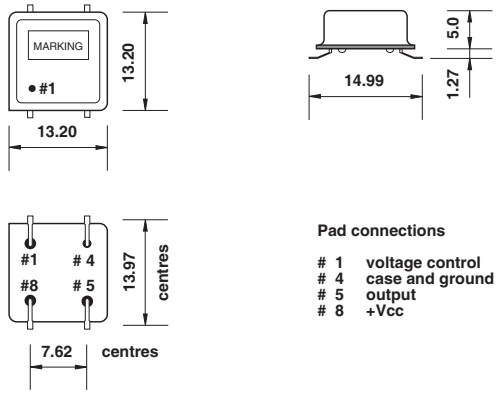
VF-W dimensions(mm), through hole



Pin connections

# 1	voltage control
# 4	case and ground
# 5	output
# 8	Vcc

VF-W dimensions(mm), gull wing



Pad connections

# 1	voltage control
# 4	case and ground
# 5	output
# 8	+Vcc

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ISO9001: 2008
RS13124
ISO14001: 2004
EMS53965

Type VH-W

Ordering information

Example .... type VH-W vcxo oscillator, 40.00MHz, ±25ppm(-20 +70)°C frequency stability, ±100ppm pulling range, +3.3Vd.c., 8 pin DIL package, output CMOS 15pF, symmetry (45 ~ 55)%

TFC PART NUMBER .... VH 40.0M E W M C J

'VH' .... type number: VH = vcxo clock oscillator type VH-W
'40.0M' .... frequency: 40.0M = 40.00MHz, frequency range from (1.5 ~ 50)MHz
'E' .... supply voltage and package combination: E = +3.3Vd.c., 8 pin DIL through hole package
'W' .... VCXO designator
'M' .... frequency stability/pulling range combination: M = ±25ppm frequency stability, ±100ppm pulling range
'C' .... temperature range: C = (-20 +70)°C
'J' .... output logic and symmetry: J = CMOS 15pF, (45 ~ 55)

Supply voltage and package combination ....
T: +5Vd.c., 8 pin DIL through hole
G: +5Vd.c., gull wing package
E: +3.3Vd.c., 8 pin DIL through hole
F: +3.3Vd.c., gull wing package

Frequency stability/pulling range combination ....

	frequency stability	***pulling range***
M:	*±25ppm*	*±100ppm*
G:	*±35ppm*	*±100ppm*
P:	*±50ppm*	*±100ppm*
R:	*±50ppm*	*±150ppm*
T:	*±25ppm*	*±150ppm*
K:	*±50ppm*	*±200ppm*

Temperature range ....
C: (-20 +70)°C
D: (-30 +80)°C
L: (-40 +85)°C

Output logic and symmetry ....
A: TTL(45 ~ 55)%
B: TTL(40 ~ 60)%
R: TTL 50pF(40 ~ 60)%
E: TTL 50pF(45 ~ 55)%
J: CMOS 15pF(45 ~ 55)%
K: CMOS 15pF(40 ~ 60)%
F: CMOS 50pF(45 ~ 55)%
G: CMOS 50pF(40 ~ 60)%

Environmental test conditions (on request)

Mechanical shock	*1500g, half sine wave, 0.5ms, 3 directions*	*MIL STD 883D 2002.3, condition A*
Thermal shock	*(-55 ~ +125)°C, 20 cycles*	*MIL STD 883D 1011.9, condition B*
Vibration	*(10 ~ 2000)Hz, 1.25mm, sine wave, 20g, each of three planes, duration 4 hours*	*MIL STD 883D 2005.2, condition B*
Solderability	*+245°C ±5°C, 5 seconds ±0.5 seconds*	*MIL STD 883D 2003.7*
Fine leak	*Mass spectrometer leak rate less than 2^{10-8} atm.cc/sec. helium*	*MIL STD 883D 1014.9, condition A*
Gross leak	*Leak test in de-ionised water, vacuum 70cm/Hg*	
Humidity	*85% relative humidity, +85°C, 500 hours*	*JIS-C 7022 B-5, conditionC*

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