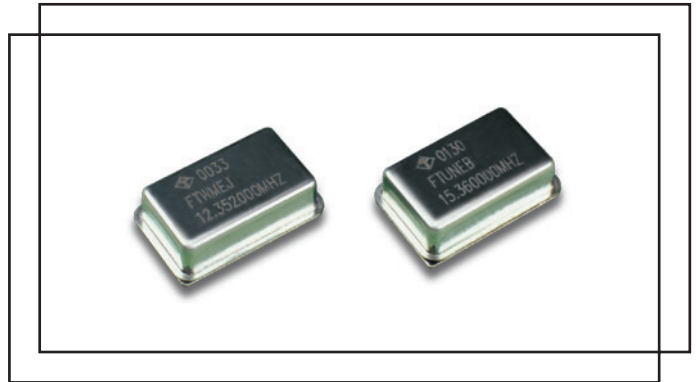


Type OF clock oscillator 4 pin(14 pin DIL layout) (0.001 ~ 156)MHz

- # resistance weld package
- # standard and custom frequencies
- # +3.3Vd.c., +5.0Vd.c. supply



Electrical specification

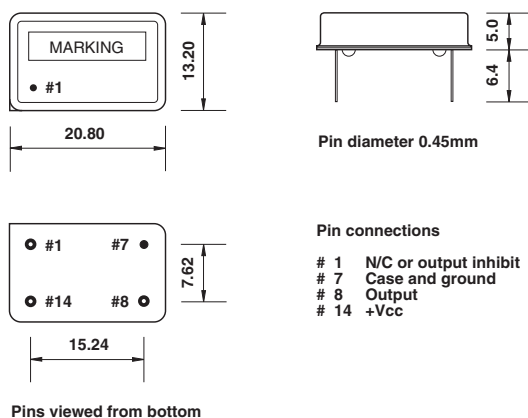
Case style 4 pin(14 pin DIL layout): (20.8 x 13.2)mm, height 5.0mm
Frequency range +5Vd.c.(0.001 ~ 156)MHz, +3.3Vd.c.(1 ~ 156)MHz
Stability * ±(25 ~ 100)ppm, temperature range dependent

Supply voltage V _{cc}		+3.3Vd.c.	+5.0Vd.c.
Supply current max.	(0.001 ~ 1.0)MHz		10mA
	(1.0 ~ 20)MHz	10mA	15mA
	(20 ~ 50)MHz	30mA	40mA
	(50 ~ 156)MHz	40mA	50mA
Rise and fall time max. **	(0.001 ~ 1.0)MHz		10ns
	(1.0 ~ 20)MHz	10ns	8ns
	(20 ~ 50)MHz	6ns	5ns
	(50 ~ 100)MHz	5ns	4ns
	(100 ~ 156)MHz	3ns	3ns

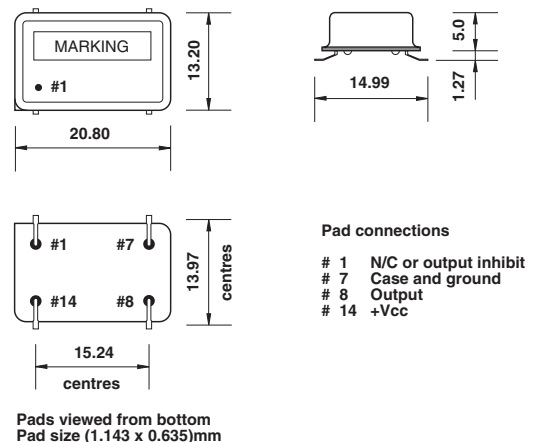
Operating temperature (-20 +70)°C ~ (-40 +85)°C
Storage temperature (-55 +125)°C
Output TTL, CMOS
Symmetry (45 ~ 55)%, (40 ~ 60)%
Tri-state fixed frequency or tri-state
Ageing ±5ppm first year max.

* 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}

Dimensions(mm), through hole



Dimensions(mm), gull wing



Type OF clock oscillator

Ordering information

Example type F clock oscillator, 24.00MHz, +5.0Vd.c., 4 pin(14 pin DIL layout) through hole package, tri-state, $\pm 25\text{ppm}(-20 +70)^\circ\text{C}$, CMOS 15pF, symmetry (45 ~ 55)%

TFC PART NUMBER OF 24.0M T T D C J

'OF' type number: OF = clock oscillator type F

'24.0M' frequency: 24.0M = 24.00MHz, frequency range from (0.0001 ~ 156)MHz

'T' supply voltage and package combination: T = +5Vd.c., 14 pin DIL through hole package

'T' tri state function pin #1: T = fixed frequency with tri-state

'D' frequency stability: D = $\pm 25\text{ppm}$

'C' temperature range: C = $(-20 +70)^\circ\text{C}$

'J' output logic and symmetry: J = CMOS 15pF, (45 ~ 55)%

Supply voltage and package combination	T: +5Vd.c., 14 pin DIL through hole G: +5Vd.c., gull wing package E: +3.3Vd.c., 14 pin DIL through hole F: +3.3Vd.c., gull wing package
Tri-state function pin #1	T: fixed frequency with tri-state F: fixed frequency without tri-state B: low frequency without tri-state (1kHz ~ 1MHz, = +5.0Vd.c. supply only)
Frequency stability	D: $\pm 25\text{ppm}$ G: $\pm 50\text{ppm}$ H: $\pm 100\text{ppm}$
Temperature range	C: $(-20 +70)^\circ\text{C}$ D: $(-30 +80)^\circ\text{C}$ L: $(-40 +85)^\circ\text{C}$
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

Mechanical shock	1500g, half sine wave, 0.5ms, 3 directions	MIL STD 883D 2002.3, condition A
Thermal shock	$(-55 \sim +125)^\circ\text{C}$, 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	$+245^\circ\text{C} \pm 5^\circ\text{C}$, 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, $+85^\circ\text{C}$, 500 hours	JIS-C 7022 B-5, condition C