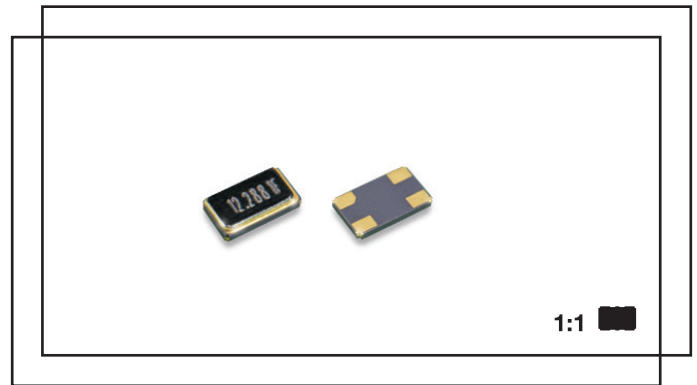


Type OE clock oscillator smd ceramic package (1.5 ~ 55)MHz

- # $\pm 10\text{ppm}$ or $\pm 20\text{ppm}$
- # accuracy includes 10 year's ageing
- # +(2.8 ~ 3.3)Vd.c., +5.0Vd.c. supply
- # RoHS compliant



Electrical specification

Case style	E: (5.0 x 3.2)mm, height 1.2mm		
Frequency range	(1.5 ~ 55)MHz		
Stability *	$\pm(10 \sim 20)\text{ppm}$, temperature range dependent		
Supply voltage V_{CC}		+3.3Vd.c.	+5.0Vd.c.
Supply current max.	(1.5 ~ 20)MHz	10mA	15mA
	(20 ~ 40)MHz	15mA	20mA
	(40 ~ 55)MHz	22mA	30mA
Rise and fall time max. **	6ns		
Start time	8msec		
Absolute clock period jitter	40picoSec		
Standby current	50 μ A		
Operating temperature	(0 +50) $^{\circ}$ C ~ (-40 +85) $^{\circ}$ C		
Storage temperature	(-55 +125) $^{\circ}$ C		
Output	CMOS		
Symmetry	(45 ~ 55)%		
Tri-state	fixed frequency or tri-state		

* inclusive of calibration tolerance at +25 $^{\circ}$ C, temperature tolerance, supply voltage variation, load variation, 10 year's ageing, shock and vibration.

** measured, with an output load of 15pF, between (10 ~ 90)% V_{CC}

Ordering information

Example type OE smd clock oscillator, 20.00MHz, +(2.8 ~ 3.3)Vd.c., fixed frequency with tri-state, $\pm 20\text{ppm}$ (-40 +85) $^{\circ}$ C, including 10 years ageing output CMOS 15pF, symmetry (45 ~ 55)%

TFC PART NUMBER OE 20.0M E T C L J

'OE' type number: OE = smd clock oscillator type OE

'20.0M' frequency: 20.0M = 20.00MHz, frequency range from (1.5 ~ 55)MHz

'E' supply voltage: E = +(2.8 ~ 3.3)Vd.c.

'T' tri state: T = tri-state function on pin #1

'C' frequency stability: C = $\pm 20\text{ppm}$ includes 10 year's ageing

'L' temperature range: L = (-40 +85) $^{\circ}$ C

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

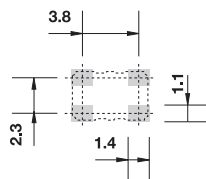
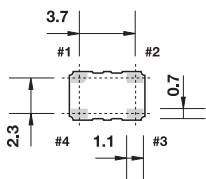
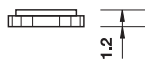
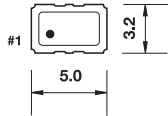
Frequency stability B: $\pm 10\text{ppm}$, C: $\pm 20\text{ppm}$. Stability includes 10 year's ageing

Temperature range B: (0 +50) $^{\circ}$ C, I: (-10 +60) $^{\circ}$ C, C: (-20 +70) $^{\circ}$ C, L: (-40 +85) $^{\circ}$ C

Output J: CMOS 15pF(45 ~ 55)%

Type OE clock oscillator

OE dimensions(mm) shown twice full size



Suggested land pattern

Pads are gold, 2.5µ min., over nickel, suitable for vapour phase or reflow soldering, preheat +150°C for 2 minutes, peak temperature +250°C for 30 seconds max.

Connect 0.1µF capacitor between Vcc and ground

Pads viewed from bottom

- #1 Tri-State
- #2 ground
- #3 output
- #4 Vcc

Output inhibit:

- #1 high: output oscillation
- #1 low: output high impedance

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, condition C