

## 5 x 3.2mm SMD Dual Frequency Selectable Oscillator

### FEATURES

- Dual frequency, digitally selectable
- Miniature 5.0 x 3.2mm package
- Frequency Range 1.0MHz to 200MHz
- Low supply current
- Supply voltage range, 1.8, 2.5V or 3.3 Volts

### DESCRIPTION

HC53 oscillators provide a selectable dual frequency output. With pad 1 (FSEL) presented with logic '0' the first frequency is output on pad 3. With pad 1 presented with logic '1' the second frequency is output. Pad 1 (FSEL) has an internal pull-up resistor connected.

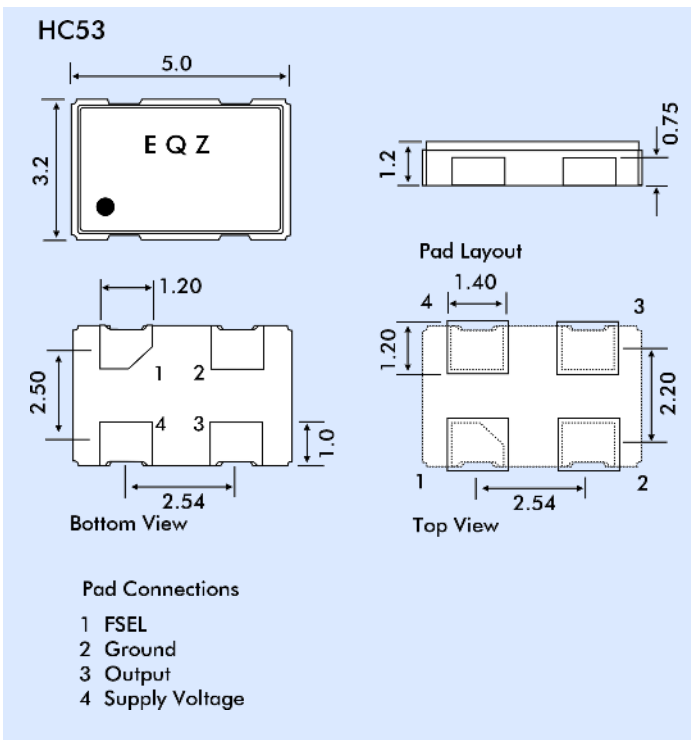
### SPECIFICATION

Power Supply Voltage:	+1.8V, +2.5V or +3.3 VDC±5%
Frequency	Vdd = +1.8V: Option 1/2 = 1MHz to 133MHz Vdd = +2.5V: Option 1/2 = 1MHz to 166MHz Vdd = +3.3V: Option 1/2 = 1MHz to 200MHz
Package:	5.0 x 3.2mm Ceramic Leadless SMD
Frequency Stability over Temperature*	-10° to +70°C: ±15ppm, ±25ppm, or ±50ppm -40° to +85°C: ±25ppm, ±50ppm, ±100ppm
Output Load:	15pF max (CMOS)
Current Consumption:	From 4mA to 50mA Frequency dependent
Duty Cycle:	50%±5%. Measured at 50%Vdd, CL = 15pF
High Level Output Voltage (VOH)	(Vdd = +3.3V): 2.90V min., condition IOH = -4mA
Low Level Output Voltage (VOL)	(Vdd = +3.3V): 0.40V max., condition IOL = +4mA
Rise Time (tr):	2.5ns max., 0.1Vdd to 0.9Vdd 15pF load, 3.3 V supply
Fall Time (tf):	2.5ns max., 0.9Vdd to 0.1Vdd 15pF load, 3.3 V supply
Pad 1 Frequency Selection (FSEL)	FSEL = 0: Output frequency is Option 1 FSEL = 1: Output frequency is Option 2 FSEL has internal pull-up resistor
Start-Up Time:	10ms maximum
Ageing:	±5ppm max. first year < ±2ppm per year thereafter
Tape & Reel	16mm tape, 180mm reel 1000 pieces per reel

\* Inclusive of 25°C calibration, tolerance, operating temperature range, input voltage variation, load change, ageing, shock and



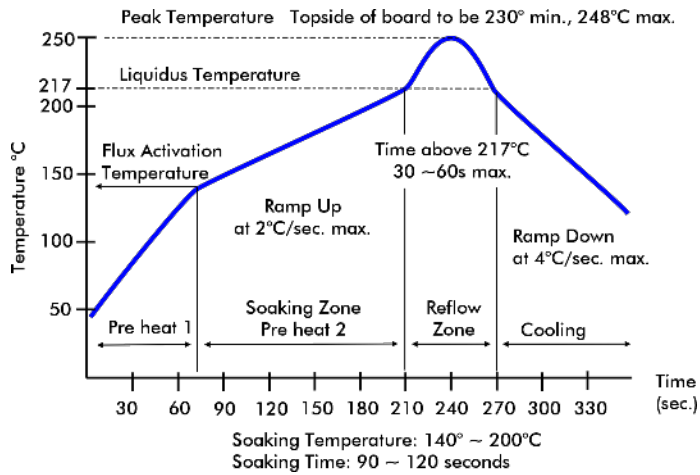
### OUTLINE & DIMENSIONS



### ENVIRONMENTAL SPECIFICATION

RoHS Status:	RoHS Compliant and pB free
Moisture Sensitivity Level:	Level 1 (Infinite) according to IPC/JEDEC J-STD-020D.1
Operating Temperature Range:	-10° to +70°C or -40° to +85°C
Storage Temperature Range:	-55° to +125°C
Humidity:	85% RH, 85°C, 48 hours
Fine Leak:	MIL-STD-883, method 1014 Condition A
Gross Leak:	MIL-STD-883, method 1014 Condition C
Solderability:	MIL-STD-202F method 208E
Reflow:	260°C for 10 seconds
Vibration:	MIL-STD-202F method 204 35g, 50 to 2000Hz.
Shock:	MIL-STD-202F method 213B test cond. E, 1000g ½ sinewave
Resistance to Solvents:	MIL-STD-202, method 215
Temperature Cycling:	MIL-STD-883, method 1010
ESD Rating:	2kV max. Human body model
Pad Surface Finish:	Gold (Au 0.3µm min.) over nickel (N 1.27µm to 8.89µm)
Total Weight:	65mg per unit typical

**SOLDER TEMPERATURE PROFILE**



**PART NUMBER FORMAT**

**Example: 3HC53D-32.0/120.0**

