



FEATURES

- Factory configurable part for short lead times
- Miniature 7.0 x 5.0 x 1.3mm package
- Frequency Range 1.0MHz to 200.0MHz
- Tristate (Enable/Disable) function as standard
- Supply voltage 1.8, 2.5 or 3.3 Volts
- Jitter 0.9ps typical

DESCRIPTION

EHTF57 miniature SMD oscillators consist of a CMOS-compatible hybrid circuit and a miniature quartz crystal within in a low-profile, industry-standard ceramic package. Providing a fully specified clock oscillator with a very small footprint, this part is factory configurable ensuring short delivery lead times. With low RMS jitter, this is a good choice for development engineers or those seeking custom frequencies in a short space of time.

SPECIFICATION

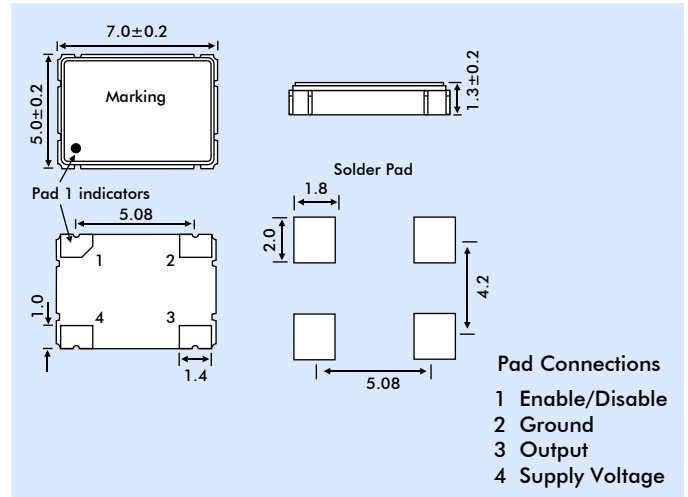
Frequency Range	Supply 1.8 Volts: 1.0MHz to 125.0MHz
	Supply 2.5 Volts: 1.0MHz to 200.0MHz
	Supply 3.3 Volts: 1.0MHz to 200.0MHz
Supply Voltage:	1.8 Volts $\pm 5\%$, 2.5 or 3.3Volts $\pm 10\%$
Output Logic:	LVC MOS
Frequency Stability:	From ± 25 ppm over temperature (See part number table)
Rise / Fall Time:	VDD = 1.8V 2ns typ 5.0ns max.
	VDD = 2.5V 1.4ns typ 3.0ns max.
(10% - 90% waveform)	VDD = 3.3V 1.1ns typ 3.0ns max.
Output Voltage:	
HIGH '1'	Vdd - 0.4V min.
LOW '0'	+0.4V max.
Output Load	15pF
Duty Cycle:	
1MHz tp 150MHz	50% $\pm 5\%$
150MHz to 200MHz	50% $\pm 10\%$
Supply Current:	VDD = 1.8V: 20mA typ 30mA max.
	VDD = 2.5V: 28mA typ 35mA max.
	VDD = 3.3V: 30mA typ 40mA max.
Operating Temperature	
Commercial:	-10°C to +70°C
Industrial:	-40°C to +85°C
Start-up Time:	4.5ms typ 10ms max.
Storage Temperature:	-55°C to +150°C
Ageing:	± 3 ppm max. first year at 25°C
	± 2 ppm max per year thereafter
O/P Enable/Disable Threshold:	70% of VDD min to enable
(Pad 1)	30% of VDD max to disable
Disable Mode	
Power Down Option:	Disable Current 300 μ A typ, 400 μ A max.
(Order code P)	O/P enable time 4.5ms typ, 10ms max.
Stand-by Option:	Disable Current 18mA typ, 22mA max.
(Order code S)	O/P enable time 10ns max.
RMS Jitter (12kHz ~ 20MHz):	0.9ps typ 1.5ps max.

Note: Parameters are measured at ambient temperature of 25°C, supply

PHASE NOISE

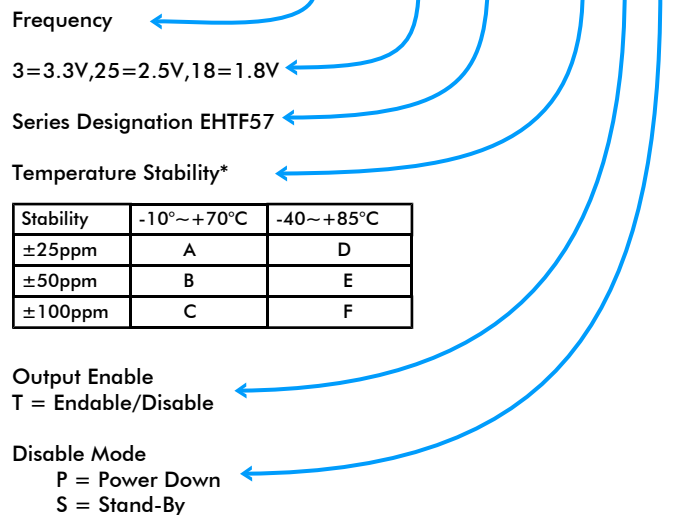
SSB Phase Noise @ 125MHz 3.3V	Offset	10Hz	100Hz	1kHz	10kHz	100kHz	1MHz	10MHz
	DBc/Hz	-61	-89	-110	-119	-119	-142	-149

OUTLINE & DIMENSIONS



PART NUMBERING

Example: **20.000MHz 3 EHTF57- B -T-P**



Stability	-10°~+70°C	-40~+85°C
± 25 ppm	A	D
± 50 ppm	B	E
± 100 ppm	C	F

* For other stability requirements enter figure required. E.g. for ± 20 ppm add '020' after 'EHTF57'.

ENVIRONMENTAL PERFORMANCE SPECIFICATION

RoHS Status:	Compliant
Humidity:	85% RH, 85°C for 48 hours
Hermetic Seal:	Leak rate 2×10^{-8} ATM -cm ³ /s max.
Solderability:	MIL-STD-202F Method 208E
Reflow:	260°C for 10 sec (see diagram)