

**Typical Applications**

PCS Base Stations  
Land Mobile Radio  
Cellular Telephony  
Radio in the Local Loop  
Digital Switching

**Features**

Mechanical Control (internal Trimmer)  
EFC Optional  
Standard 4-Pin DIP Package  
Optional: Surface Mount Package  
High Stability



**Frequency Range**

**10 MHz – 33 MHz**

**Standard Frequencies**

10; 13; 16.384; 19.44; 20; 25.92 MHz

**Frequency stabilities**

Parameter	Code I	Frequency stability	Operating temp range
vs. Operating temperature range	<b>07</b>	± 2.0 ppm	-40....+85°
	<b>08</b>	± 1.0 ppm	
	<b>03</b>	± 2.0 ppm	-20....+70°C
	<b>04</b>	± 1.0 ppm	
	<b>05</b>	± 1.0 ppm	0....50°C
	<b>06</b>	± 0.5 ppm	
Parameter		Value	Condition
vs. Supply voltage change		< ± 0.2 ppm	V <sub>s</sub> ± 5%
vs. Load change		< ± 0.2 ppm	Load ± 10%
vs. Aging / year		< ± 1.0 ppm	

**Frequency tuning**

Parameter	Option I	Value	Condition
Mechanical (No EFC)	<b>Blank</b>	> ± 3.0 ppm	(internal trimmer)
Electrical freq. control (EFC)	<b>U</b>	> ± 5.0 ppm	Note 1
Voltage range (V <sub>c</sub> )		0.5 to 4.5 V	@ V <sub>s</sub> =5.0 V
		0.3 to 3.0 V	@ V <sub>s</sub> = 3.3 V
Pulling slope		positive	
Freq. control input impedance		>10 k Ω	

**RF output**

Parameter	Code III	Value	Condition
Signal	<b>06</b>	HCMOS	
Load		25pF ± 10%	< 20MHz
		15pF ± 10%	≥ 20MHz
Duty cycle		40/60%	@ V <sub>s</sub> /2

**Supply voltage**

Parameter	Code II	Value	Condition
Supply voltage (V <sub>s</sub> )	<b>05</b>	5V ± 5%	Clipped Sinewave HCMOS
Current consumption		< 3 mA	
		< 12mA	
Supply voltage (V <sub>s</sub> )	<b>33</b>	3.3 V ± 5%	Clipped Sinewave HCMOS
Current consumption		< 3 mA	
		< 6mA	

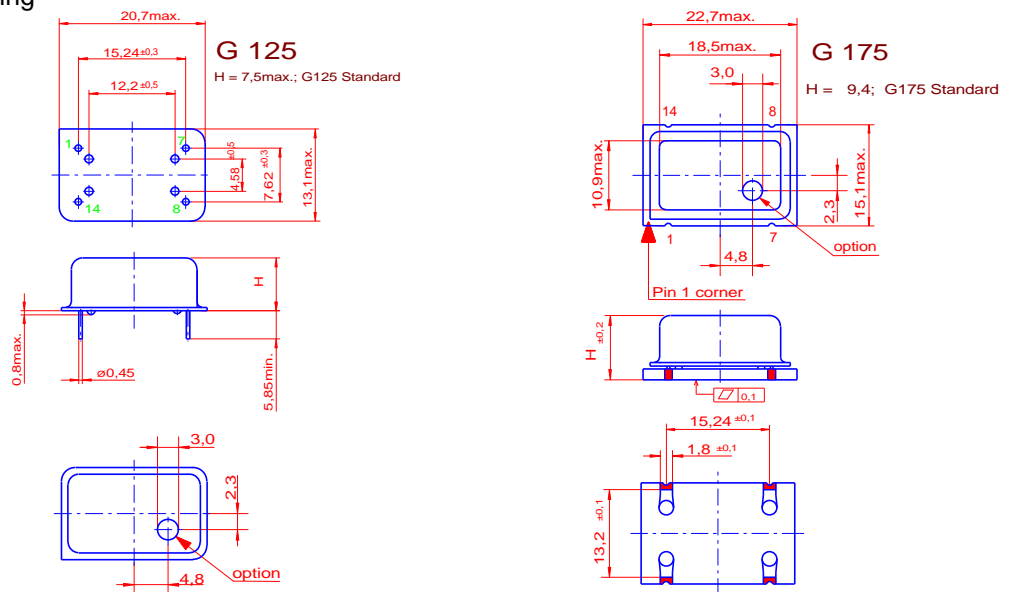
**Additional parameters**

Parameter	Value	Condition
Phase Noise	< -95 dBc/Hz	10 Hz
	< -130 dBc/Hz	100 Hz
	< -140 dBc/Hz	1 kHz
	< -150 dBc/Hz	10 kHz
	< -150 dBc/Hz	100 kHz
Weight	< 6 g	
Operable temperature range	-40 ...+90°C	
Storage temperature range	-55 ...+105°C	
Processing & Packing	handling&processing note	

**Enclosure**

Type	Option I	Case	Condition
	<b>Blank</b>	G125	
	<b>A</b>	G175	

**Drawing**



all units in mm

**Pin Connections**

Pin 1	N.C.
Pin 1	Voltage Control (V <sub>c</sub> )
Pin 2	GND, case
Pin 3	RF output
Pin 4	Supply Voltage (V <sub>s</sub> )

**Option U** Mechanical freq. Control  
Electrical and mech. freq. Control

Ordering Code	Option I	Option II	Code I	Code II	Code III	
Model	Frequency tuning	Enclosure	Frequency Stability	Supply Voltage	RF Output	Frequency
Example: TQDILTC	U		04.	05.	06.	10M00000
Order: TQDILTC						

**Notes**

- Others available; Option "U" includes the mechanical freq. control
- Typical values @ 10 MHz  
Unless otherwise stated all values are valid after warm-up time and refer to typical conditions for supply voltage, frequency control voltage, load, temperature (25°C)  
Subject to technical modification; Not all options are available at all Frequencies