

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	07	± 2.0 ppm	-40....+85°
	08	± 1.0 ppm	
	03	± 2.0 ppm	-20....+70°C
	04	± 1.0 ppm	
	05	± 1.0 ppm	0....50°C
	06	± 0.5 ppm	
Parameter	Value		Condition
vs. Supply voltage change	$< \pm 0.2$ ppm		$V_s \pm 5\%$
vs. Load change	$< \pm 0.2$ ppm		Load $\pm 10\%$
vs. Aging / year	$< \pm 1.0$ ppm		

Frequency tuning

Parameter	Option I	Value	Condition
Mechanical (No EFC)	Blank	$> \pm 3.0$ ppm	(internal trimmer)
Electrical freq. control (EFC)	U	$> \pm 5.0$ ppm	Note 1 @ $V_s=5.0$ V @ $V_s= 3.3$ V
Voltage range (Vc)		0.5 to 4.5 V	
Pulling slope		0.3 to 3.0 V	
Freq. control input impedance		positive >10 k Ω	

RF output

Parameter	Code III	Value	Condition
Signal	06	HCMOS	< 20 MHz ≥ 20 MHz @ $V_s/2$
Load		$25\text{pF} \pm 10\%$ $15\text{pF} \pm 10\%$	
Duty cycle		40/60%	

Supply voltage

Parameter	Code II	Value	Condition
Supply voltage (V_s)	05	$5\text{V} \pm 5\%$	Clipped Sinewave HCMOS
Current consumption		< 3 mA	
		$< 12\text{mA}$	
Supply voltage (V_s)	33	$3.3\text{ V} \pm 5\%$	Clipped Sinewave HCMOS
Current consumption		< 3 mA	
		$< 6\text{mA}$	

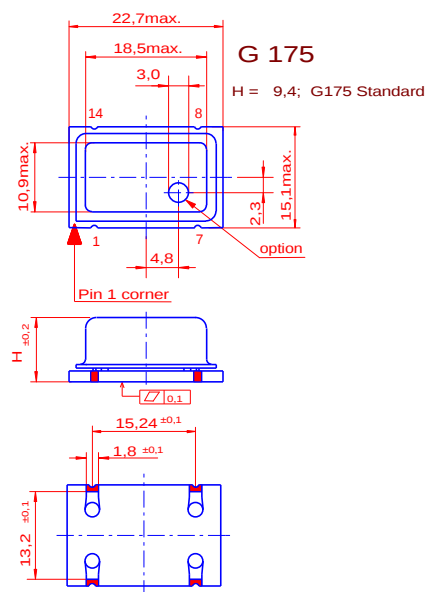
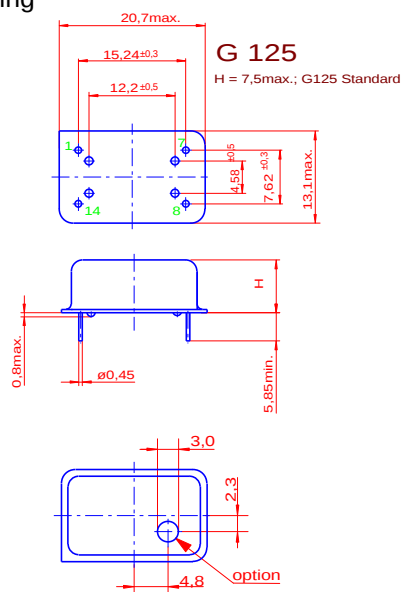
Additional parameters

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
	Blank	G125	
	A	G175	

Drawing



all units in mm

Pin Connections

Pin 1	N.C.
Pin 1	Voltage Control (V _c)
Pin 2	GND, case
Pin 3	RF output
Pin 4	Supply Voltage (V _s)

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 frequ. 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