

**FULL MILITARY DIL XO**

These high performance DIL clock oscillators are designed for high vibration and extended temperature range up to -55° C to +125° C.

The QEN55-BH/CH utilize HCMOS active circuit technology up to 40 MHz and an ACMOS technology up to 70 MHz. The crystal resonator is mounted on 3 points on a true hybrid alumina substrate with gold printed circuit path and is well suited for military and avionics applications. The same performances are presented for higher environmental severity in a 14 pins DIL package under the designation QEN49-BH/CH.

In the overlapping range between 14 MHz and 40 MHz, the choice depends on the other available options such as duty cycle tolerance and the tristate output.



**Frequency range**

3.5 KHz to 70 MHz

**Applications**

- Test equipment
- Military airborne
- Space applications

**Features**

- Temperature ranges: up to -55° C to +125° C
- Frequency stability: ±25 to ±100 ppm
- Supply voltage: +5 V
- Current consumption: 10 to 50 mA
- Load (BH version): 25pF/3TTL-gates
- Load (CH version): 15pF-25pF/10TTL-gates
- Option duty cycle:
  - (BH version up to 14 MHz): 50/50 ± 5 %
  - (BH/CH version from 14 MHz): 50/50 ± 10 %
- Option Enable/Disable: Up to 14 MHz: Version BH
- Option tristate output: Version CH
- Option external trimmer: 3 to 20 pF up to 30 MHz on pin 1
- Option screening: B or S

Ageing (45°C/1<sup>st</sup> year) : ≤ ± 5 ppm

**Minimum ordering information requirement**

(See [Table 1](#) for available combinations)

(See page [3-19](#) for package drawing)

Example: QEN 55 - BHR 16 MHz AY50 SB / T

**Package**

- 55 = DIL 4 pins
- 49 = DIL 14 pins

**Option**

- R = 50/50 ± 10 % (or ± 5 %)
- I = enable/disable \*
- J = tristate \*
- T = trimmer \*

**Temperature range**

- DT = -40° C ~ +85° C •
- AY = -55° C ~ +125° C ∞

**Frequency stability**

- ± 25 ppm ∞
- ± 50 ppm
- ± 100 ppm

**Screening option: SB / SS •**

Tinned pins: T

**Note:**

1. Options with the same marker may not be combined with each other.
2. Frequency stability inclusive of 25° C calibration, temperature, Vcc and load change.

**Table 1:**  
Other temperature ranges and stability available

	QEN 49/55-BH		QEN 49/55-CH		Option Enable / disable on pin 1 Version BH	Option Tri-state on pin 1 Version CH
	±25 ppm	±50 ppm	±25 ppm	±50 ppm		
3.5 kHz - 14 MHz	Yes	Yes			"1"on pin 1 = disable on pin 8 "0"on pin 1 = enable on pin 8	"1"on pin 1 = enable on pin 8 "0"on pin 1 = High Z on pin 8
14 MHz - 40 MHz	Yes	Yes	Yes	Yes		
40 MHz - 70 MHz			Yes	Yes		

Attention: should pin 1 not be used, please always tie to Vcc