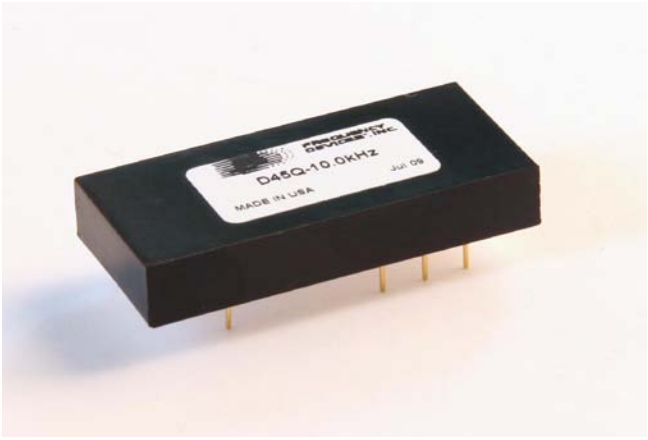
FREQUENCY DEVICES™, INC.

D45Q Series

100 Hz to 100 kHz

Quadrature Sine Wave Oscillator



Description:

The D45Q Oscillators are fixed frequency sine wave oscillators that deliver two high purity sinusoidal outputs that are 90 degrees out of phase. These fully finished devices can be user specified to operate to any frequency between 100 Hz and 100.0 kHz.

Each D45Q model includes sine and cosine 7.07 volt rms (±0.2 dB) outputs with total harmonic distortion of less that -45 to -60 dB depending on frequency. The phase between the sine and cosine outputs is 90.00 degrees ±0.15 to ±0.30 degrees depending on frequency.

Features/Benefits:

- Stable high purity sine wave outputs.
- Compact 1.8"L x 0.8"W x 0.3”H minimizes board space requirements.
- Plug-in ready-to-use, reducing engineering design and manufacturing cycle time.

Applications

- Reference Oscillator
- Airborne Equipment
- Mobile Equipment
- Test Apparatus
- Telemetry Systems
- Distortion Testing

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Specifications
(25ºC and Vs ± 15 Vdc)

Pin-Out and Package Data Ordering Information

Oscillation Frequency (fo)

Range	100 Hz to 100.0 kHz
Tolerance[1]	±0.1%
Frequency Stability Temperature	0.02%/ºC

Output Characteristics Amplitude

Preset	20 V p-p ±0.2 dB
Stability vs. Temperature	0.002 dB/ ºC
Stability vs. Supply Voltage	0.1 dB/%

Driver Capacity

Output Current @ 20V p-p[2]	±5mA pk
Output resistance @ 20V p-p	<10 Ω

Distortion

Harmonic	
100Hz to 10.0kHz	0.1% (-60 dB)
10.1kHz to 50.0kHz	0.18% (-55 dB)
50.1kHz to 100.0kHz	0.56% (-45 dB)
Noise	50µVrms

DC Power Supply (±Vs)

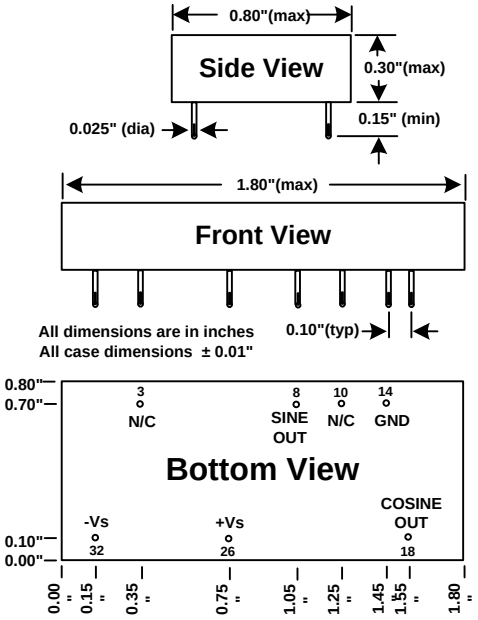
Operating Range	±15 Vdc
Operating Voltage Range	±12 Vdc to ± 18Vdc
Maximum Safe Voltage	± 18Vdc
Quiescent Current	± 10 mA Typ.
	± 12 mA Max.

Temperature

Operating	0 to +70ºC
Storage	-25 to +85ºC

Notes:
1. Factory adjusted.
2. The output is short circuit protected.
3. Distortion is primarily third harmonic.
4. How to specify Oscillation Frequency. Oscillation frequency is specified by attaching a three-digit frequency designator to the basic model number. Oscillation frequency can range from 100 Hz to 100.0 kHz.

D45Q Package OUTLINE



ORDERING INFORMATION

D45Q-849 Hz

Oscillation Frequency

e.g., 849 Hz
25.0 kHz
50.0 kHz

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