

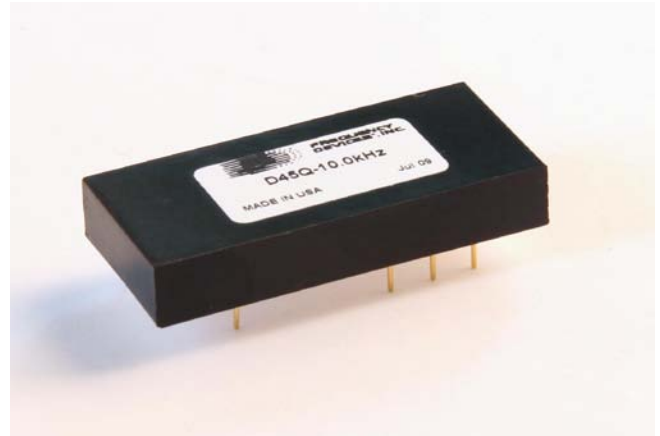
100 Hz to 100 kHz

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 than -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

**Specifications
(25°C and $V_s \pm 15$ Vdc)**
**Pin-Out and Package Data
Ordering Information**
Oscillation Frequency (f_o)

| | |
|---------------------------------|---------------------|
| Range | 100 Hz to 100.0 kHz |
| Tolerance ¹ | $\pm 0.1\%$ |
| Frequency Stability Temperature | 0.02%/°C |

Output Characteristics Amplitude

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

Driver Capacity

| | |
|---------------------------------------|---------------|
| Output Current @ 20V p-p ² | ± 5 mA 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 | 50 μ Vrms |
|-------|---------------|

DC Power Supply ($\pm V_s$)

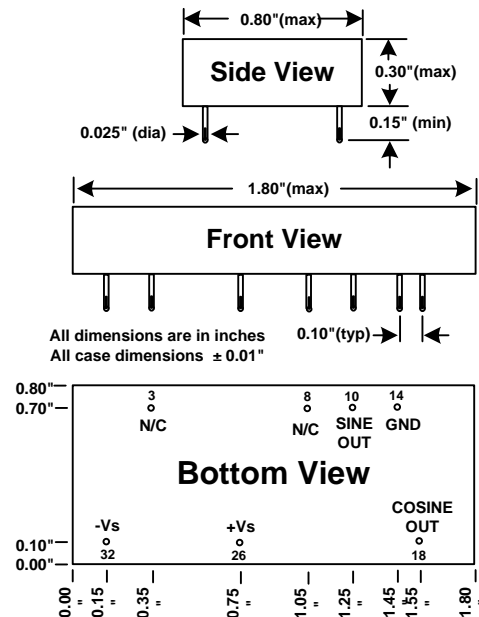
| | |
|-------------------------|--------------------------------------|
| Operating Range | ± 15 Vdc |
| Operating Voltage Range | ± 12 Vdc to ± 18 Vdc |
| Maximum Safe Voltage | ± 18 Vdc |
| Quiescent Current | ± 10 mA Typ. ± 12 mA Max. |

Temperature

| | |
|-----------|--------------|
| Operating | 0 to +70°C |
| Storage | -25 to +85°C |

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