

# SMD Temperature Compensated Crystal Oscillators 3.2 x 2.5 x 1.0 mm 7Q Series

## Features

- Temperature Stability:  $\pm 0.5$  ppm ~  $\pm 2.0$  ppm
- Operating Temperature Range:  $-30$  °C ~  $85$  °C
- Supply Voltage:  $1.8$  V ~  $3.3$  V
- Voltage Control Function Available
- Frequencies: 16.367667 MHz, 16.368 MHz, 16.369 MHz, 16.8 MHz, 19.2 MHz, 20 MHz, 26 MHz, 33.6 MHz, 38.4 MHz, 40 MHz
- Applications: GPS, WiMAX, Cellular and Wireless Communications
- RoHS Compliant / Pb Free



## Electrical Specifications

Item / Type		7Q
Output Type		Clipped Sinewave
Output Load		10K $\Omega$ // 10 pF
Oscillation Mode		Fundamental
Supply Voltage		1.8 ~ 3.3 V
Frequency Range		13 ~ 52 MHz
Clipped Sinewave Output Voltage		0.8 Vp-p typical
Frequency Stability	Vs. Temperature ( $-30$ ~ $+85$ °C )	$\pm 0.5$ / $\pm 2.0$ ppm
	Vs. Load ( Load varies $\pm 10$ % )	$\pm 0.2$ ppm Max.
	Vs. Supply Voltage ( $V_{CC}$ = Typical $\pm 0.1$ V )	$\pm 0.2$ ppm Max.
Frequency Tolerance	at 25 °C after 2 Reflows with Typical Applied to Auto Frequency Control Pin	$\pm 2.5$ ppm Max.
Slope of Frequency Drift		$\pm 0.1$ ppm / °C Typical ; $\pm 0.5$ ppm / °C Max.
Storage Temperature Range		$-40$ ~ $+85$ °C
Auto Frequency Control ( AFC ) Range ( Center @ 1.4 V )		$\pm 7$ ~ $\pm 16$ ppm / V
Supply Current		2.0 mA Max.
Start-up Time		5 ms Max.
Harmonics		- 5 dBc Max.
Phase Noise at 1 KHz offset		- 130 dBc / Hz
Aging ( at 25 °C )		$\pm 1$ ppm / year Max.

## Dimensions



Units: mm

Remark : Specification subject to change without prior notice. Please confirm with our sales.

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