

SiT9387A-B320001

500 MHz, ±100 ppm Total Stability MEMS XO for Boeing

PRELIMINARY



Description

The SiT9387A-B320001 is a 3.3V LVDS XO with ±100 ppm total frequency stability over 20 year lifetime, in a 3.2x2.5 mm² QFN package.

Utilizing SiTime's unique DualMEMS™ temperature sensing and TurboCompensation™ technology, the SiT9387 delivers exceptional dynamic performance by providing resistance to airflow, thermal gradients, shock and vibration. This device also integrates multiple on-chip regulators to filter power supply noise, eliminating the need for a dedicated external LDO.

Refer to the SiT9387 datasheet, reliability report and composition report for all other device specifications, quality, and environmental information.

Features

- Operating mode: XO
- Frequency: 500 MHz
- Total frequency stability over 20 years: ±100 ppm
- Operating temperature range: -40 to 105 °C
- Power supply voltage: 3.3V
- LVDS output
- No activity dips or micro jumps
- Exceptional dynamic stability under airflow and rapid temperature changes
- Integrated regulators for on-chip power-supply noise filtering and excellent PSNR
- Resistant to shock, vibration and board bending
- 3.2 x 2.5 mm² industry-standard QFN package

Ordering Information

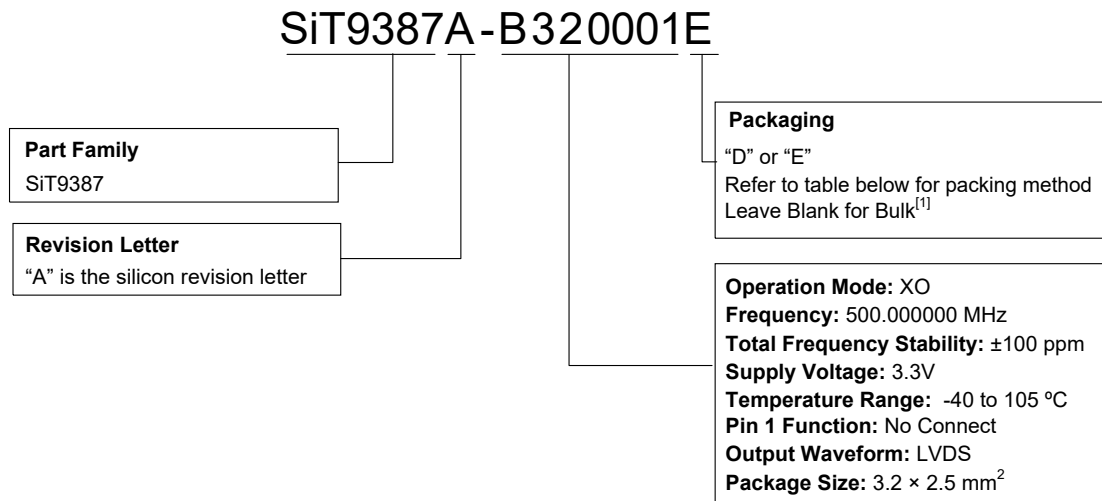


Figure 1. Order codes

Notes:

1. Bulk is available for sampling only.

Table 1. Ordering Codes for Supported Tape & Reel Packing Method

Device Size (mm x mm)	8 mm T&R (3ku)	8 mm T&R (1ku)
3.2 x 2.5	D	E

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Table 2. Electrical Characteristics^[2]

Parameters	Symbol	Min.	Typ.	Max.	Unit	Condition
Frequency Coverage						
Output Frequency Range	F		500.000000		MHz	
Frequency Stability						
Frequency Stability	F_stab	-50	–	+50	ppm	Inclusive of initial tolerance, operating temperature, rated power supply voltage and load variations
Total Frequency Stability	F_stab_total	-100	–	+100	ppm	Inclusive of Initial tolerance, and variations over rated power supply voltage and load (15 pF \pm 10%), at 85 °C ambient temperature for 20 years
Supply Voltage						
Supply Voltage	V _{DD}	2.97	3.3	3.63	V	
Temperature Range						
Operating Temperature Range	T_use	-40	–	105	°C	Ambient temperature

Note:

- Refer to SiT9387 standard datasheet for all other specifications.

Revision History

Table 3. Revision History

Version	Release Date	Change Summary
0.80	12/27/2019	Preliminary release
0.81	01/11/2020	Revised part number

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