STM32G4 Series lifetime estimates

Introduction

This application note presents lifetime usage estimates for STM32G4 Series microcontrollers (see applicable products on the table below). The presented profiles are dependent on voltage scaling of the device (VOS) and the maximum supported junction temperature (Tj).

The product lifetime estimates presented in this document are estimated and do not represent the guaranteed lifetime for the product.

Table 1. Applicable products

Type	Product lines
Microcontrollers	STM32G4x1 STM32G4x3 STM32G4x4

1 General information

This document presents the STM32G4 Series lifetime usage estimates. These estimates are qualified depending on frequencies, voltage and junction temperature.

The frequencies and applied voltages are provided in the device datasheets.

The STM32G4 Series microcontrollers are Arm®-based devices.

Note: Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.

2 STM32G4 Series lifetime usage estimation

This section presents data and tables representing the lifetime usage estimation for STM32G4 Series devices for typical use conditions.

Table 2. STM32G4 Series lifetime usage estimation for typical use conditions

-	Lifetime (years)	Operating ratio (%)	V_{DD} nominal (V)	V_{CORE} nominal (V)	Junction temperature (T_J) (°C)
Range 1 Boost mode (Max cpu clock = 170 MHz)	10	100	3.3	1.28	100
Range 1 normal mode (Max cpu clock = 150 MHz)	10	100	3.3	1.2	105
Range 2 (Max cpu clock = 26 MHz)	10	100	3.3	1	125

Figure 1. Lifetime estimation range 1 boost mode

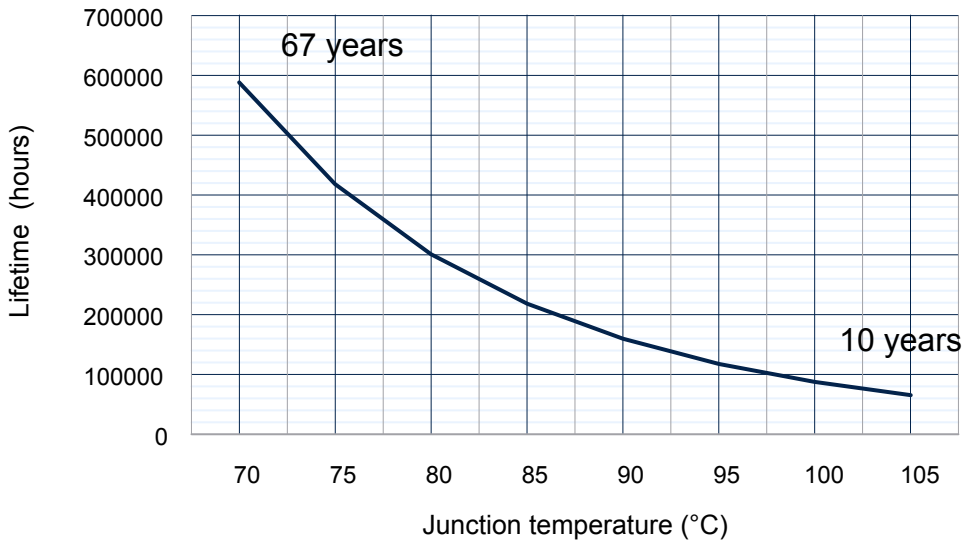


Figure 2. **Lifetime estimation range 1 normal mode**

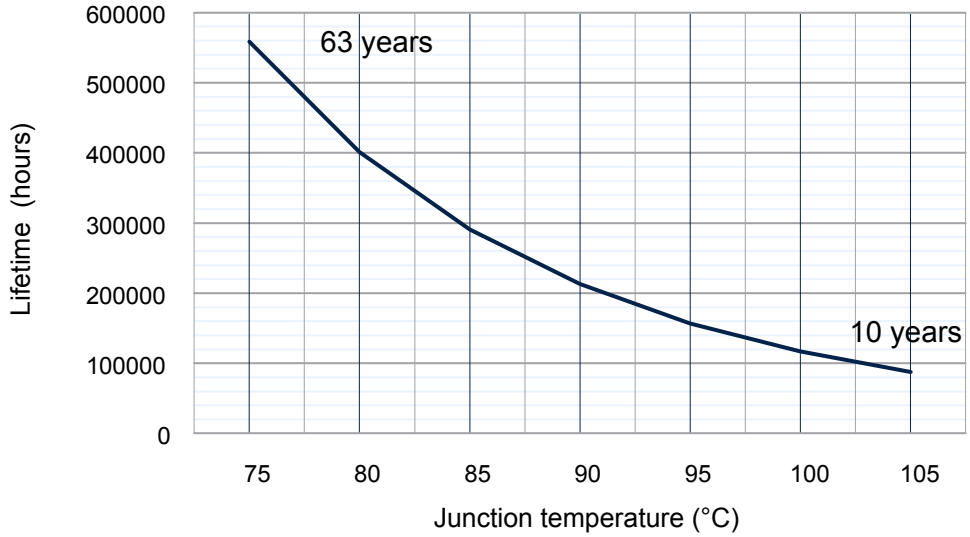
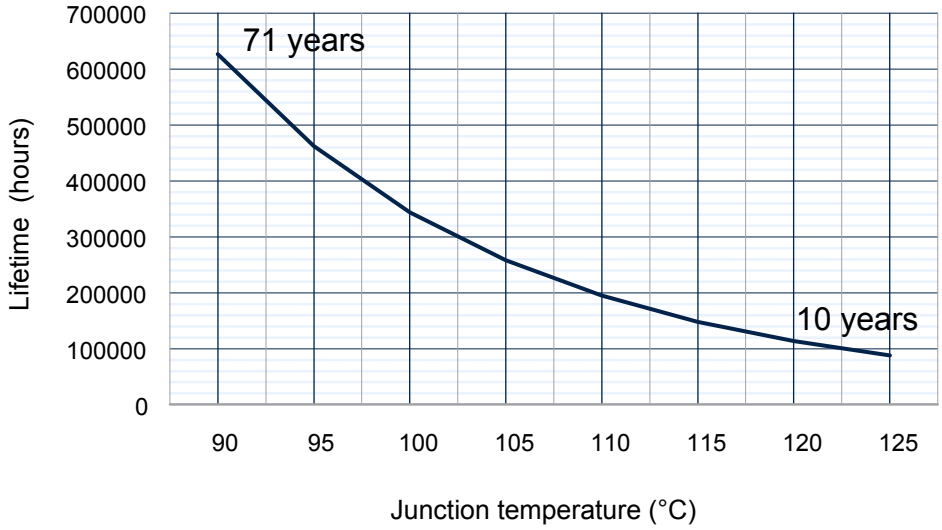


Figure 3. **Lifetime estimation range 2**



Revision history

Table 3. **Document revision history**

Date	Version	Changes
17-Nov-2021	1	Initial release.

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