

STM32H7 Series lifetime estimates

Introduction

This application note presents lifetime usage estimates for STM32H7 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 (T_j).

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	STM32H742, STM32H743/753, STM32H745/755, STM32H747/757, STM32H750 Value line
	STM32H723/733, STM32H725/735, STM32H730 Value line

1 General information

This document presents the STM32H7 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 STM32H7 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 STM32H7 Series lifetime usage estimation

This section presents data and tables representing the lifetime usage estimation for STM32H7 Series devices for typical use conditions.

Table 2. STM32H7 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)
VOS0	10	20	3.3	1.35	105
VOS1	10	20	3.3	1.2	140
VOS2 - VOS3	10	100	3.3	<1.10	140

Figure 1. Lifetime estimation VOS0

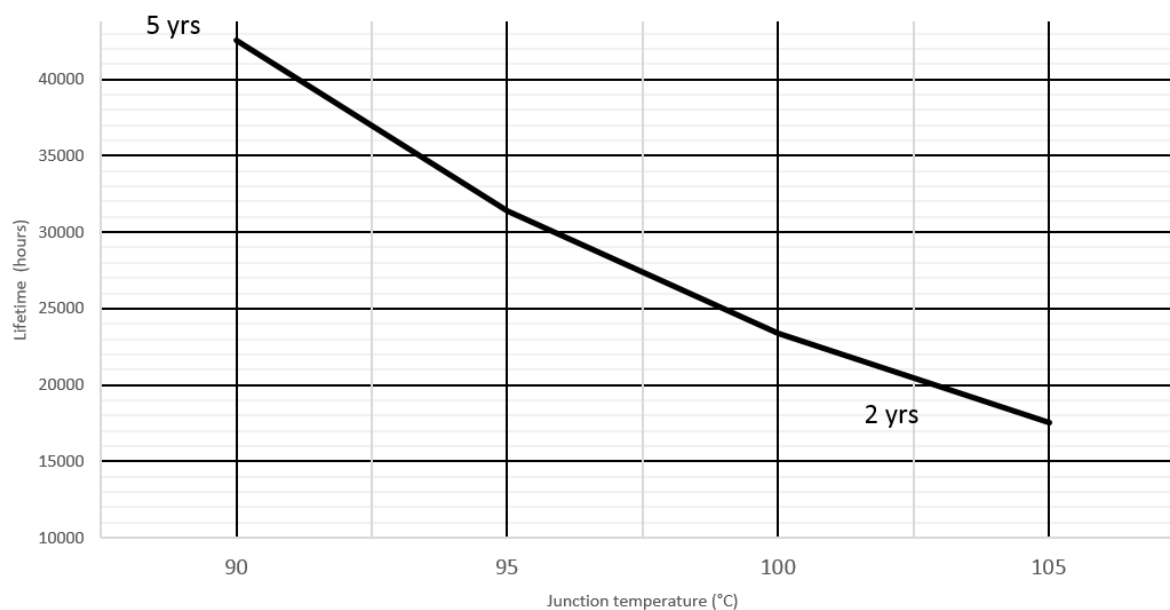
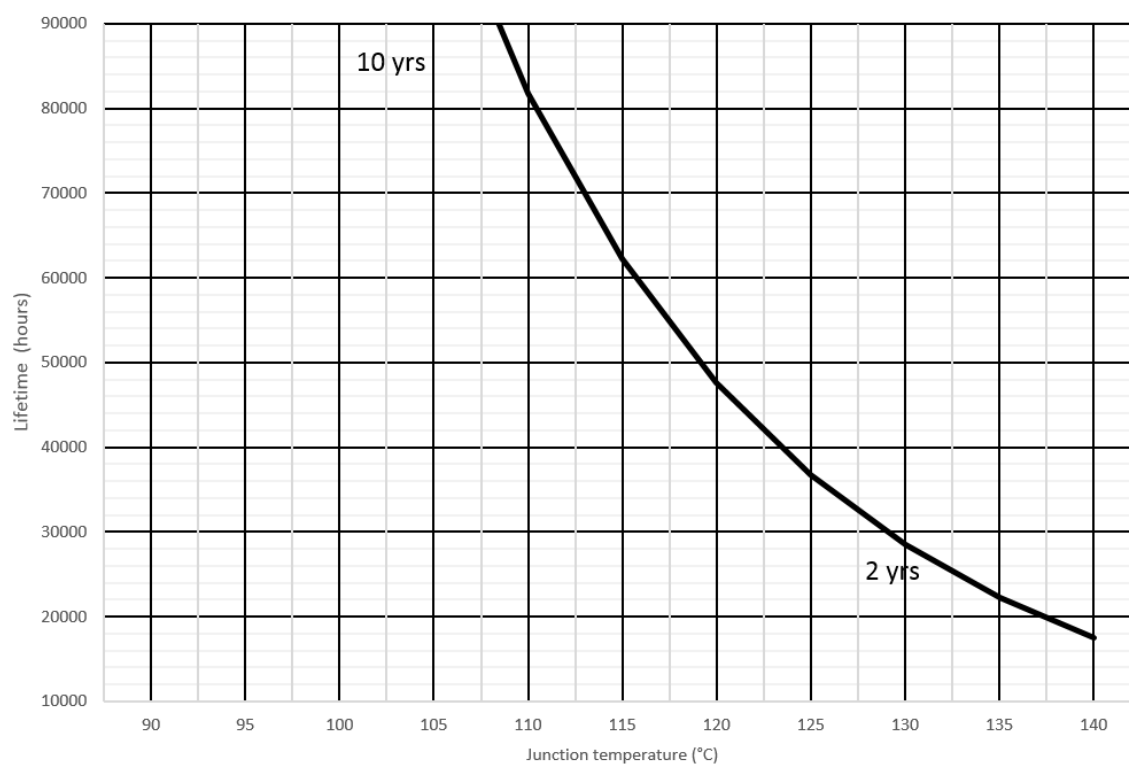
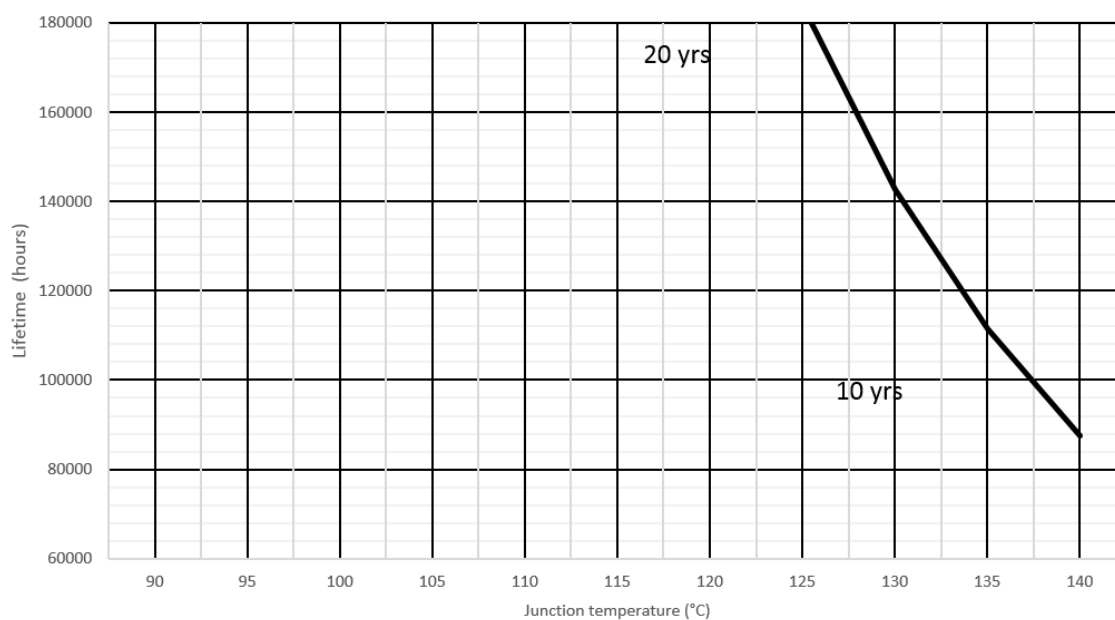


Figure 2. Lifetime estimation VOS1

Figure 3. Lifetime estimation VOS2 and VOS3


Revision history

Table 3. Document revision history

Date	Version	Changes
19-Jun-2019	1	Initial release.
03-Jul-2020	2	Added STM32H723, STM32H733, STM32H725, STM32H735 and STM32H730 part numbers. Removed all the tables providing frequencies versus voltage scaling and temperature ranges for all product Series.

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