Introduction

SPC570Sx devices are members of a new family of microcontrollers designed for chassis and safety applications such as ABS and airbag, battery management systems and powertrain actuators targeting the highest safety standards and levels for example Safety Integrity Level 3 (SIL3) and Automotive SIL D (ASIL D).

This technical note complements the information provided in the device datasheet (see *Section Appendix A: Reference document*) and is dedicated to a new version of the device targeting higher temperature conditions. The note describes the condition of use and specification limitation applying to this new version.

This technical note applies to following specific part number of the SPC570Sx devices in accordance with *Table 1*.

Table 1. Device summary

Part number	Package
SPC570S50E1DEFAR	eTQFP64
SPC570S50E1DEFAY	eTQFP64

Please refer to product datasheet (see *Section Appendix A: Reference document*) for more information on ordering information.

1 Overview

SPC570S family is now enriched by the "D" temperature grade (up to Tj 165°C) line with same functionalities of the family but with below listed restrictions. High Temperature grade will only be introduced for 512 k version as per *Table 1* summary. *Table 2* shows limitations:

Table 2. SPC570S "D" grade limitations

Features	Limitations
Max Frequency reduced	From 64 to 60MHTN1262z with 2WS From 80 to 75MHz with 3WS
Max power consumption increase	IDD (Stop): current spec is 40mA, increases to 55mA IDD (Run): current spec is 110mA, increases to 120mA
No code Flash programming	Only Data Flash can be (re)programmed in the range (Tj 150°C-165°C)

Note: *For the temperature range 150°C-165°C Tj*

A maximum cumulated lifetime spent above 150°C junction temperature must be granted by the user as per following reference profile.

Table 3. Operating lifetime profile

Junction Temperature (°C)	Time (hours)
-40	400
-30	500
-20	500
-10	500
0	500
30	500
50	500
70	500
90	2500
110	5000
125	5000
145	2500
155	1000
Total	**20010**

Table 3. Operating lifetime profile

Junction Temperature (°C)	Time (hours)
160	100
165	10
Total	**20010**

Note: *Device's Non operating lifetime is it guaranteed for 15yrs*

Appendix A   Reference document

32-bit Power Architecture$^®$ microcontroller for automotive ASILD applications (Datasheet DocID024492).

Revision history

Table 4. Document revision history

Date	Revision	Changes
18-Jan-2018	1	Initial Release

IMPORTANT NOTICE – PLEASE READ CAREFULLY