



TV_{DD} ratings for SPC560P44Lx, SPC560P50Lx microcontrollers datasheet addendum

Introduction

The aim of this document is to give recommendations for hardware designers using STMicroelectronics® SPC560P44Lx, SPC560P50Lx microcontrollers. It gives values of TV_{DD} parameter respect to its description inside the 32-bit Power Architecture® based MCU with 576 KB Flash memory and 40 KB SRAM for automotive chassis and safety applications (see [Section Appendix A: Reference document](#)) to the following silicon versions.

Table 1. Devices affected by TVDD changes

Part number	Package device marking mask identifier	MIDR1 register
SPC560P50Lxx/P44Lx	BD - cut 3.4 (and older)	MAJOR_MASK[3:0]: 4'b0001 MINOR_MASK[3:0]: 4'b0101

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1 TV_{DD} ratings

This section gives the values of TV_{DD} parameter for SPC560P44Lx, SPC560P50Lx microcontrollers (see [Table 1: Devices affected by TVDD changes](#)) compared with values described in table Absolute maximum ratings of device datasheet (see [Table 2](#) and for further information see [Section Appendix A](#)).

The TV_{DD_min} has been limited to 500 [V/s] and a note to ensure a monotonic supply ramp has been added (see [Table 3: Update of absolute maximum ratings](#) and for further information see [Section Appendix A](#) AN4057).

1.1 TVDD ratings described on SPC560P44x, SPC560P50x Datasheet (Doc ID 14723, Rev 8)

Table 2. Absolute maximum ratings⁽¹⁾

Symbol		Parameter	Conditions	Min	Max ⁽²⁾	Unit
TV _{DD}	SR	Slope characteristics on all V _{DD} during power up ⁽³⁾ with respect to ground (V _{SS_HV})	—	3.0	500*10 ³ (0.5 [V/μs])	V/s

1. Functional operating conditions are given in the DC electrical characteristics. Absolute maximum ratings are stress ratings only, and functional operation at the maxima is not guaranteed. Stress beyond the listed maxima may affect device reliability or cause permanent damage to the device.
2. Absolute maximum voltages are currently maximum burn-in voltages. Absolute maximum specifications for device stress have not yet been determined.
3. Guaranteed by device validation

1.2 TVDD ratings for SPC560P44Lx, SPC560P50Lx

Table 3. Update of absolute maximum ratings⁽¹⁾

Symbol		Parameter	Conditions	Min	Max ⁽²⁾	Unit
TV _{DD} ⁽³⁾	SR	Slope characteristics on all V _{DD} during power up ⁽⁴⁾ with respect to ground (V _{SS_HV})	—	500	500*10 ³ (0.5 [V/μs])	V/s

1. Functional operating conditions are given in the DC electrical characteristics. Absolute maximum ratings are stress ratings only, and functional operation at the maxima is not guaranteed. Stress beyond the listed maxima may affect device reliability or cause permanent damage to the device.
2. Absolute maximum voltages are currently maximum burn-in voltages. Absolute maximum specifications for device stress have not yet been determined.
3. Ensure a monotonic supply ramp starting at ground level
4. Guaranteed by device validation

Appendix A Reference document

- 32-bit Power Architecture® based MCU with 576 KB Flash memory and 40 KB SRAM for automotive chassis and safety applications (SPC560P44L3, SPC560P44L5, SPC560P50L3, SPC560P50L5, Doc ID 14723 Rev 8)
- SPC560Pxx, SPC56APxx power up HW guideline(Doc ID 022842 Rev 1)

Revision history

Table 4. Revision history

Date	Revision	Changes
27-Jul-2012	1	Initial release.
17-Sep-2013	2	Updated disclaimer.

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