

Differences Between PCM2903B and PCM2903

Consumer Audio Products

ABSTRACT

This letter summarizes the specification differences between the PCM2903B and the PCM2903 stereo audio codec devices from Texas Instruments. TI recommends that customers migrate to the PCM2903B in place of the PCM2903 and PCM2901.

1 Summary of Descriptor and Data Sheet Specification Differences Between PCM2903B and PCM2903

Table 1 lists the differences between the PCM2903B and PCM2903 devices in terms of the descriptors reported to the PC during the plug-in sequence and the electrical specifications stated in the product data sheet.

Table 1. PCM2903B and PCM2903 Differences

Parameter	PCM2903BDB	PCM2903E
USB compliance ⁽¹⁾	0x0200 (USB2.0)	0x0110 (USB1.1)
Product ID ⁽¹⁾⁽²⁾	0x29B3	0x2903
Max power ⁽¹⁾	0x0A (20 mA)	0x00 (0 mA)
Alternate setting of Interface #01 ⁽¹⁾	#00/01/02/03/04	#00/01/02/03/04/05/06
Supply current during Suspend Mode ⁽³⁾	250 μ A (typ)	210 μ A (typ)
Power dissipation during Suspend Mode ⁽³⁾	0.83 mW (typ)	0.69 mW (typ)

⁽¹⁾ Descriptor and specification change.

⁽²⁾ When moving from the PCM2901 to the PCM2903B, the difference of the Product ID is 0x29B3 vs 0x2901.

⁽³⁾ Specification change only.

2 Changes from PCM2903 to PCM2903B

This section explains the changes to the PCM2903B from the PCM2903 that result in the differences summarized in Section 1.

1. Change model name and applicable version in USB compliance.

Change the model name from *PCM2903E* to *PCM2903BDB*, and change the applicable version USB compliance to USB2.0 from USB1.1.

2. Bug fix (three bugs listed in the data sheet errata document, [SLAZ036A](#)).

The bugs fixed are:

- Fix of over-/undersized packet sending in recording.
- Fix of 1-kHz noise at 16-kHz/16-bits/Mono mode in recording.
- Fix of one-sample interchannel phase error in recording and playback.

3. Remove 8-bit Offset Binary format from playback data format.

Remove Alternate Setting #05 and #06 from Interface#01 for playback. That is, the PCM2903B removes 8-bit Offset Binary format from playback data format in available results.

4. Relax S/PDIF input signal requirement.

The PCM2903B changes the S/PDIF input signal specification supported so that inconsistency between sampling rate information on channel status and sampling rate information of the S/PDIF signal itself can be accepted.

5. Change descriptor data for max power.

Change max power descriptor data from 0 mA to 20 mA to avoid power configuration trouble as a result of differences between application and test environments.

6. Change the output voltage of the internal regulators.

Change the output voltage of the internal regulators to improve the temperature dependency of power dissipation during suspend mode.

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