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APPLICATION NOTE 4793

Proper Power-Supply Jumper Settings for Evaluating the MAX9259/MAX9260 SerDes Chipset

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Abstract: This application note describes the proper power-supply jumper settings for the MAX9259EVKIT and MAX9260EVKIT boards. The five most commonly used jumper configurations are discussed. When the jumpers are configured properly, the user can avoid damage to the MAX9259/MAX9260 serializer/deserializer (SerDes) chipset and the EV kits from a USB or external power source.

The [MAX9259/MAX9260](#) serializer/deserializer (SerDes) chipset features gigabit multimedia serial link (GMSL) technology. Due to this technology's advanced functionalities, the [MAX9259EVKIT/MAX9260EVKIT](#) contain many jumpers.

Normally, the jumper settings mostly affect the functionality of the chipset. However, a combination of improper jumper settings can also damage the MAX9259EVKIT and MAX9260EVKIT. For example, the MAX9259EVKIT's JU9 position 2-3 and shunt installed on JU10 can damage the inductor L101 when powered up with a USB connector. To avoid this type of damage, verify jumper settings before powering on the MAX9259EVKIT/MAX9260EVKIT.

Table 1 describes the five most commonly used jumper configurations of MAX9259EVKIT JU9-JU10 and MAX9260EVKIT JU10-JU11 settings. The table provides the various power-supply options, so designers can use requirements specific to their design.

Table 1. Five Most Commonly Used Jumper Configurations

Configuration	Power Supply	Shunt Position			
		MAX9259EVKIT		MAX9260EVKIT	
		JU10	JU9	JU11	JU10
1	Both EV kits powered by MAX9259EVKIT USB connector	Installed	1-2	1-2	Installed
2	Both EV kits powered by MAX9260EVKIT USB connector	Open	1-2	1-2	Installed
3	MAX9259EVKIT powered by USB connector; MAX9260EVKIT powered by external power supplies	Installed	1-2	Open	Open
4	MAX9259EVKIT powered by external power supplies; MAX9260EVKIT powered by USB connector	Open	Open	1-2	Installed
5	Both EV kits powered by external power supplies	Open	2-3	2-3	Open

The power-supply portion of MAX9259EVKIT schematic is shown in **Figure 1** and the MAX9260 power-supply portion is shown in **Figure 2**.

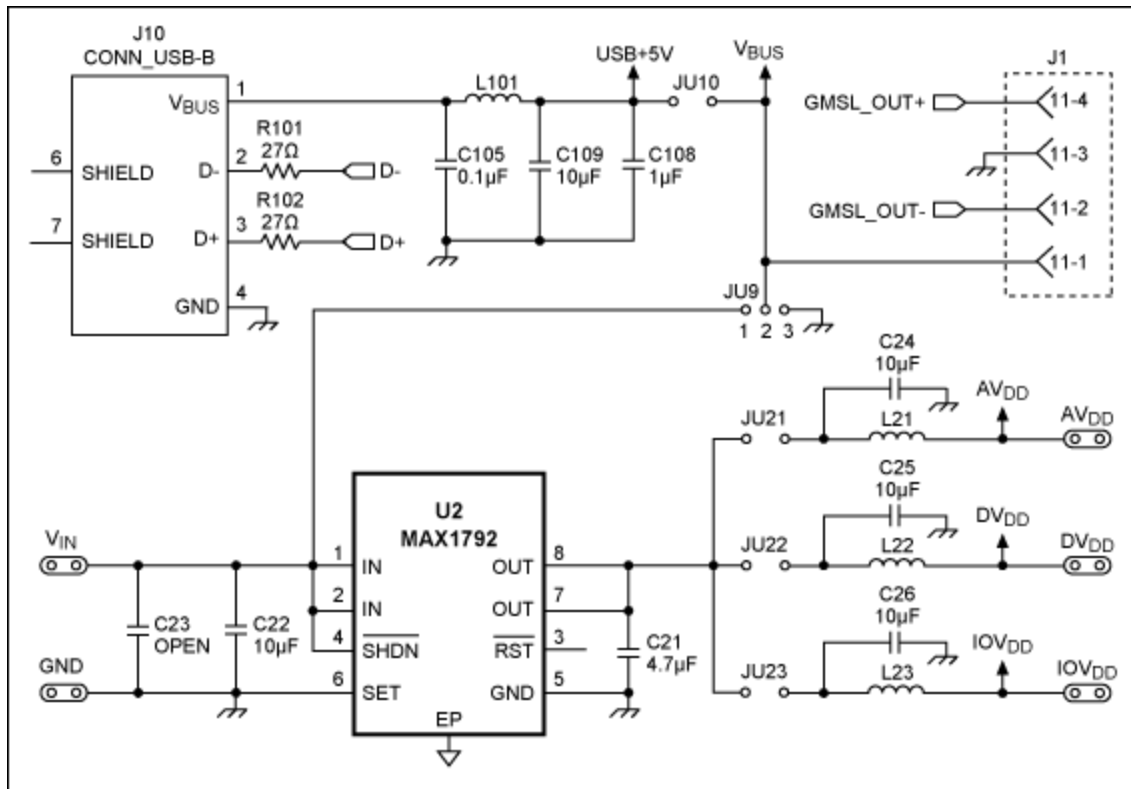


Figure 1. Power-supply portion of MAX9259EVKIT schematic.

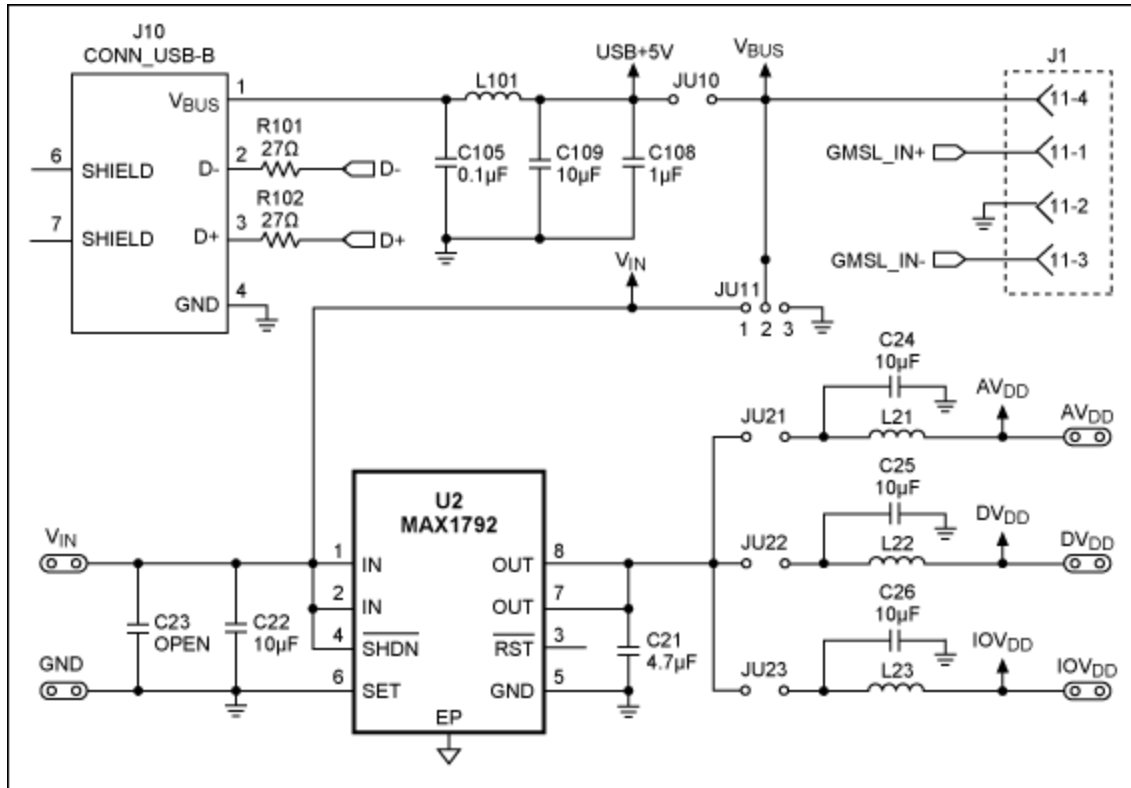


Figure 2. Power-supply portion of MAX9260EVKIT schematic.

The microcontroller that initializes audio peripherals like the S/PDIF-to-I²S converter and the audio digital-to-analog converter (DAC) on the EV kit is powered with USB+5V. Therefore special attention is needed to evaluate the MAX9259/MAX9260 with the audio I²S function, which is achieved by using jumper configurations 3 to 5 of Table 1. USB+5V needs an external 5V power supply to power up the microcontroller.

Related Parts

MAX9259	Gigabit Multimedia Serial Link with Spread Spectrum and Full-Duplex Control Channel	Free Samples
MAX9259EVKIT	Evaluation Kit for the MAX9259	
MAX9260	Gigabit Multimedia Serial Link with Spread Spectrum and Full-Duplex Control Channel	Free Samples
MAX9260EVKIT	Evaluation Kit for the MAX9260	

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