USB Dedicated Charging Port Controller

Check for Samples: TPS2513, TPS2514

FEATURES

- **Supports USB DCP Shorting D+ Line to D– Line**
- **Supports USB DCP Applying 2 V on D+ Line and 2.7 V on D- line (or USB DCP Applying 2.7 V on D+ Line and 2 V on D– Line)**
- **Supports USB DCP Applying 1.2 V on D+ and D– Lines**
- **Automatically Switch D+ and D- Lines Connections for an Attached Device**
- **Dual Channel Controller, TPS2513**
- **Single Channel Controller, TPS2514**
- **Operating Range: 4.5 V to 5.5 V**
- **Available in SOT23-6 Package**

APPLICATIONS

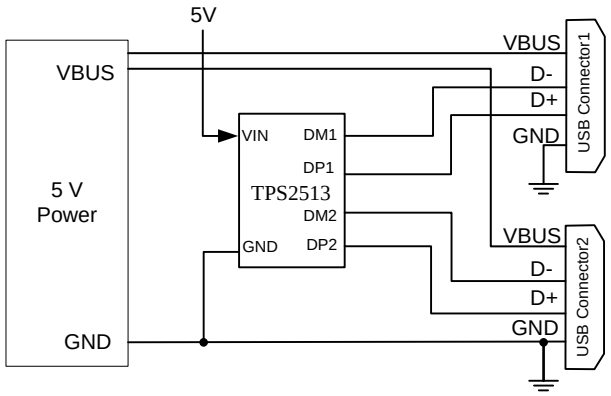
- **Vehicle USB Power Charger**
- **AC-DC Adapter with USB Port**
- **Other USB Charger**

DESCRIPTION

The TPS2513 and TPS2514 are USB dedicated charging port (DCP) controllers. An auto-detect feature monitors USB data line voltage, and automatically provides the correct electrical signatures on the data lines to charge compliant devices among the following dedicated charging schemes:

1. Divider 1 DCP, required to apply 2 V and 2.7 V on the D+ and D– Lines respectively
2. Divider 2 DCP, required to apply 2.7 V and 2 V on the D+ and D– Lines respectively
3. BC1.2 DCP, required to short the D+ Line to the D– Line
4. 1.2 V on both D+ to D– Lines

SIMPLIFIED APPLICATION



PRODUCT PREVIEW

PACKAGING INFORMATION

Orderable Device	Status (1)	Package Type	Package Drawing	Pins	Package Qty	Eco Plan (2)	Lead/Ball Finish	MSL Peak Temp (3)	Op Temp (°C)	Device Marking (4/5)	Samples
TPS2513DBVR	PREVIEW	SOT-23	DBV	6		Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	2513	
TPS2513DBVT	PREVIEW	SOT-23	DBV	6		Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	2513	
TPS2514DBVR	PREVIEW	SOT-23	DBV	6		Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	2514	
TPS2514DBVT	PREVIEW	SOT-23	DBV	6		Green (RoHS & no Sb/Br)	CU NIPDAU	Level-1-260C-UNLIM	-40 to 125	2514	

(1) The marketing status values are defined as follows:
ACTIVE: Product device recommended for new designs.
LIFEBUY: TI has announced that the device will be discontinued, and a lifetime-buy period is in effect.
NRND: Not recommended for new designs. Device is in production to support existing customers, but TI does not recommend using this part in a new design.
PREVIEW: Device has been announced but is not in production. Samples may or may not be available.
OBSOLETE: TI has discontinued the production of the device.

(2) Eco Plan - The planned eco-friendly classification: Pb-Free (RoHS), Pb-Free (RoHS Exempt), or Green (RoHS & no Sb/Br) - please check http://www.ti.com/productcontent for the latest availability information and additional product content details.
TBD: The Pb-Free/Green conversion plan has not been defined.
Pb-Free (RoHS): TI's terms "Lead-Free" or "Pb-Free" mean semiconductor products that are compatible with the current RoHS requirements for all 6 substances, including the requirement that lead not exceed 0.1% by weight in homogeneous materials. Where designed to be soldered at high temperatures, TI Pb-Free products are suitable for use in specified lead-free processes.
Pb-Free (RoHS Exempt): This component has a RoHS exemption for either 1) lead-based flip-chip solder bumps used between the die and package, or 2) lead-based die adhesive used between the die and leadframe. The component is otherwise considered Pb-Free (RoHS compatible) as defined above.
Green (RoHS & no Sb/Br): TI defines "Green" to mean Pb-Free (RoHS compatible), and free of Bromine (Br) and Antimony (Sb) based flame retardants (Br or Sb do not exceed 0.1% by weight in homogeneous material)

(3) MSL, Peak Temp. -- The Moisture Sensitivity Level rating according to the JEDEC industry standard classifications, and peak solder temperature.

(4) There may be additional marking, which relates to the logo, the lot trace code information, or the environmental category on the device.

(5) Multiple Device Markings will be inside parentheses. Only one Device Marking contained in parentheses and separated by a "~" will appear on a device. If a line is indented then it is a continuation of the previous line and the two combined represent the entire Device Marking for that device.

continues to take reasonable steps to provide representative and accurate information but may not have conducted destructive testing or chemical analysis on incoming materials and chemicals.
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