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Description

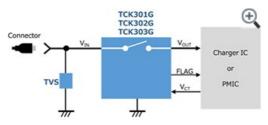
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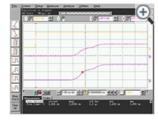
Load Switch IC TCK301G, TCK302G, TCK303 Application & Circuit

Main switch of a rapid-charging circuit



(Click the image to see the enlarged image)

Vout and lout waveforms



(Click the image to see the enlarged image)

Description

- Operation and application of the slew rate control circuitry designed for inrush current limiting
- Main switches of USB PD-enabled rapid-charging circuits for electronic devices with USB Type-C™ ports
- ▶ Main switches of 5- to 12-V power supply input circuits that support various modes of rapid charging and wireless power transfer
- Switches for the power management of systems requiring power-saving modes

Features

- ► Small package: 0.5 mm pitch WCSP9 (1.5 mm x 1.5 mm, t: 0.5 mm (Typ.)) , P_D = 1.65 W
- ► High input voltage: V_{IN} (Max) = 28 V
- ► High output current: I_{OUT} (DC) = 3.0 A
- ▶ Low ON resistance : R_{ON} = 73 m Ω (Typ.) at V_{IN} = 4.5 V, I_{OUT} = -1.0 A
- Inrush current reducing circuit (slew rate control)
- ▶ Over voltage lockout circuit: 6.6 V at 301G, 10.5 V at 302G, and 15.5 V at 303G (Typ.)
- ▶ Under voltage lockout circuit: 2.9 V (Typ.)

Reference design files

Design, Document

"Design Document" contains the documents listed below.

- · Circuit diagram
- -BOM
- ·Reference guide

Design, File

"Design File" contains the contents listed below.

Circuit schematic (OrCAD[®])

Toshiba items

Part Number	Device Category	Portion Usage	Description
TCK30xG*	Load Switch IC	1	V _{IN} =2.3~28V/Inrush current reduction /Slew rate control/WCSP9
DF2S23P2CTC*	TVS Diode	1	V _{ESD} ±30kV(max)/ _{IPP} =14A(max)/V _{BR} =24.1V(typ)/CST2C

* : New product

Documents

Application Note

Name	Outline	Date of issue	
Application Note for Power Multiplexer (PDF:1190KB)	Describes how to use 36V dual inputs- single output power Multiplexer IC, TCK32 series, that is ideal for mobile devices such as smartphones and tablet PCs.	9/2016	

Catalog

Name	Outline	Date of issue
Selection Guide Small Signal (PDF:2750KB)	Describes the lineups of Small Package(MOSFET/BJT/Diode/Linear IC/Logic/RF Device)	12/2017
TVS Diodes (ESD Protection Diodes) (Bilingual) (PDF:1686KB)	Describes the lineups of TVS diode (ESD Protection diode)	9/2017

Video

Contacts

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