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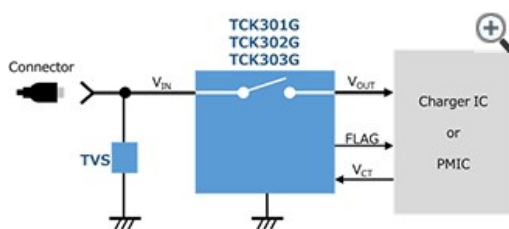
[Video](#)

Reference Design Center

[A new window will open](#)

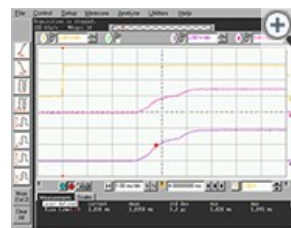
Load Switch IC TCK301G, TCK302G, TCK303 Application & Circuit

Main switch of a rapid-charging circuit



(Click the image to see the enlarged image)

Vout and Iout 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 mΩ (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	$V_{IN}=2.3\sim 28V$ /Inrush current reduction /Slew rate control/WCSP9
DF2S23P2CTC*	TVS Diode	1	$V_{ESD} \pm 30kV(max)/I_{PP}=14A(max)/V_{BR}=24.1V(typ)/CST2C$



* : 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

If you have any questions, click one of these links:

- Technical queries
 - ▶ [Inquiry sheet](#)
- Questions about purchasing, sampling and IC reliability
 - ▶ [Toshiba Global Sales](#)
 - ▶ [For Online Purchase](#)

