

Surge Protected, Single Input, Dual Output Load Switch with OVP

Features

- Single Input, Dual Output Low On-Resistance Switch
 - ▶ VBUS to OUT: typ. 21mΩ
 - ▶ VBUS to BAT: typ. 12.5mΩ (Reverse Blocking)
- Wide Input Voltage Range: 2.7V – 13.5V
 - ▶ VBUS Abs Max: 28V
- Surge and ESD Protected Input
 - ▶ Surge Protection
 - IEC61000-4-5: > ±100V
 - ▶ ESD Protection
 - IEC61000-4-2 (Level 4) VBUS
 - Contact: ±8kV
 - Air Gap: ±15kV
 - HBM: 2kV All Pins
- Selectable Over-Voltage Protection (OVP)
 - ▶ KTS1679: VBUS to OUT: 13.9V ±400mV or 5.8V ±200mV
 - ▶ KTS1679-1: VBUS to OUT: 10.4V ±300mV or 5.8V ±200mV
 - ▶ VBUS to BAT: 5.8V ±200mV
- Maximum Continuous Current
 - ▶ VBUS to OUT: 3.5A
 - ▶ VBUS to BAT: 6A
- Dual Enable Control
 - ▶ Active LOW VBUS to OUT
 - ▶ Active HIGH VBUS to BAT
- Battery OVP Sense Pin
- VBUS to BAT FLAG
- Over Temperature Protection
- Pb-free 28-Bump, WLCSP 2.96mm x 1.67mm
- -40°C to 85°C Operating Temperature Range

Brief Description

The KTS1679 features two low resistance power switches configured as single input, dual output, change-over switch. The input to both switches is protected against VBUS surge voltages of up to ±100V, and is also protected against over-voltage, with preset trip points on both the VBUS to OUT and VBUS to BAT paths, providing protection to downstream components from abnormal input conditions.

The main switch (VBUS to OUT) features a unidirectional active –low enabled 3.5A rated MOSFET, with a selectable OVP trip point of 13.9V ±400mV or 5.8V ±200mV or 10.4V ±300mV or 5.8V ±200mV for KTS1679-1. The secondary switch (VBUS to BAT) is an active-HIGH enabled, reverse-blocking 6.0A rated MOSFET, with an OVP trip point of 5.8V ±200mV. The input to both switches is rated up to a maximum of 28V. A CMOS FLAG pin signals when VBUS to OUT switch is enabled.

The KTS1679 also features an OVP battery sense pin to prevent damage to the battery during charge, and also integrates over-temperature thermal shutdown protection. The over-voltage status will be latched and FLAG will be pulled LOW to indicate the fault. To reset this channel, EN2 is required to toggle from LOW to HIGH.

The KTS1679 is packaged in advanced, fully “green” compliant, 2.96mm x 1.67mm, Wafer-Level Chip-Scale Package (WLCSP).

Applications

- Smartphones and Tablets
- Mobile Internet Devices
- Wearables, Portable Devices

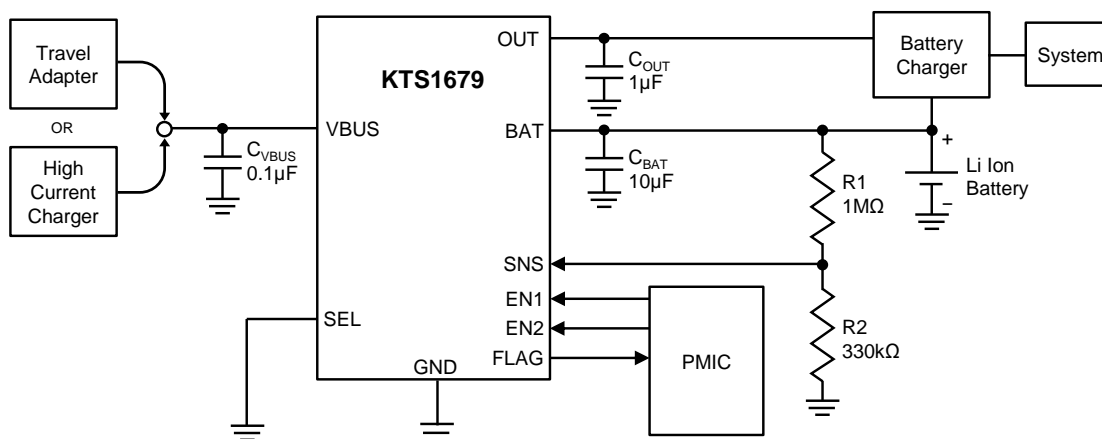
Ordering Information

Part Number	Marking ¹	SEL	VBUS to OUT OVP	VBUS to BAT OVP	Operating Temperature	Package
KTS1679EUQ-TR ²	XXYYZZ	FLOAT	13.9V ±0.4V	5.8V ±0.2V	-40°C to +85°C	WLCSP28
		GND	5.8V ±0.2V			
KTS1679EUQ-1-TR	JZYYZZ	FLOAT	10.4V ±0.3V			
		GND	5.8V ±0.2V			

1. “XXYYZZ” or “JZYYZZ” is the device ID, date code and assembly code.

2. Contact sales for availability

Typical Application



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