

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

Features

- Single Input, Dual Output Low- R_{ON} Switch
 - ▶ VBUS to VOUT: 20m Ω typ
 - ▶ VBUS to SYS: 35m Ω typ
 - ▶ Reverse Blocking on Both Switch Paths
- Wide Input Voltage Range: 2.7V – 13.2V
 - ▶ VBUS Abs Max: -6V to 28V
- Surge Protected VBUS
 - ▶ IEC61000-4-5: > $\pm 200V$
- ESD Protection
 - ▶ IEC61000-4-2 (Level 4) VBUS
 - Contact: $\pm 8kV$
 - Air Gap: $\pm 15kV$
 - ▶ HBM: 2kV All Pins
- Integrated Over-voltage Protection (OVP)
 - ▶ VBUS to VOUT: 13.9V
 - ▶ VBUS to SYS: 5.25V
- Maximum Continuous Current
 - ▶ VBUS to VOUT: 3.5A
 - ▶ VBUS to SYS: 6A
- OTG Compatible Power-Up
- Dual Enable Control with Independent Shutdown Control
 - ▶ Active LOW VBUS to VOUT
 - ▶ Active HIGH VBUS to SYS
 - ▶ Active HIGH Shutdown
- VBUS detection LDO
- VBUS to SYS FLAG
- VBUS Active Discharge Control Input
- Over Temperature Protection
- Pb-free 42-Bump, WLCSP 2.71mm x 3.01mm
- -40°C to 85°C Operating Temperature Range

Brief Description

The KTS1656 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 $\pm 200V$, and is also protected against over-voltage, with preset trip points on both the VBUS-to-VOUT and VBUS-to-SYS paths, providing protection to downstream components from abnormal input conditions.

The main switch (VBUS-to-VOUT) is an active-LOW enabled, reverse-blocking 3.5A rated MOSFET, with an OVP trip point of 13.9V. The secondary switch (VBUS-to-SYS) is an active-HIGH enabled, reverse-blocking, 6.0A rated MOSFET, with an OVP trip point of 5.25V. The VBUS input is rated from -6V to 28V.

When VBUS is greater than 2.5V typ, the LDO output provides an “always ON” power source, regardless of the OVLO, $\overline{EN1}$ and EN2 state, to power downstream components, thereby permitting operation without an installed battery.

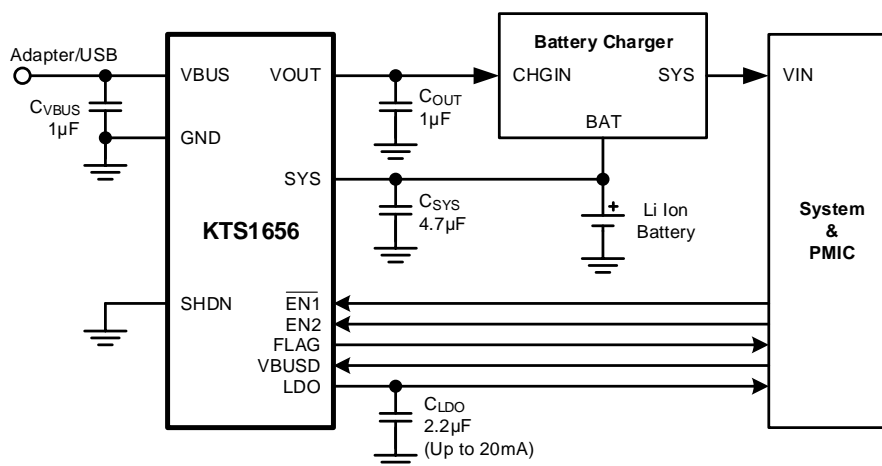
The KTS1656 also features an active-HIGH SHDN pin to conserve power and an over-temperature thermal protection.

The KTS1656 is packaged in advanced, fully “green” compliant, 2.71 x 3.01mm, Wafer-Level Chip-Scale Package (WLCSP).

Applications

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

Typical Application



Ordering Information

Part Number	Marking ¹	Operating Temperature	Package
KTS1656EUY-TR	LAXXYZZZZ	-40°C to +85°C	WLCSP42

1. "LAXXYZZZZ" is the device ID code, date code, assembly code and serial number.

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