

7A_{RMS} VBUS Current-Sink Protection Load Switch

Features

- 3V to 23V Operating Voltage Range
- 29V Abs. Max. Rating at IN and OUT
- 7A Continuous Current Rating
 - ▶ 15A Pulse Current Rating (duration Pd limited)
- 11mΩ typ. On-Resistance from IN to OUT
- Soft-Start (SS) Limits Inrush Current
- Over-Voltage Protection (OVP) at IN
 - ▶ 23V Internally Fixed
 - ▶ 4V to 23V External Resistor Programmable
- “Ideal Diode” Reverse-Current Protection (RCP)
 - ▶ RCP Fast Recovery without Fault Indication
- Short-Circuit Protection (SCP) at OUT
- Over-Current Protection (OCP)
- Over-Temperature Protection (OTP)
- Transient Voltage Suppression (TVS) at IN
 - ▶ ±90V Surge Protection (IEC61000-4-5)
 - ▶ ±8kV ESD Contact Discharge (IEC61000-4-2)
 - ▶ ±15kV ESD Air Gap Discharge (IEC61000-4-2)
- $\overline{\text{EN}}$ Active-Low Enable Logic Input
- Auto-Retry after All Faults
- $\overline{\text{ACOK}}$ Open-Drain Output Flag
- -40°C to 85°C Operating Temperature Range
- 25-bump WLCSP 2.70 x 2.70mm (0.5mm pitch)

Brief Description

The KTS1697A is a low-resistance, high-current load switch with soft-start, over-voltage protection, “ideal diode” reverse-current protection with fast recovery, short-circuit protection, over-current protection, over-temperature protection, and integrated TVS. It is optimized to protect systems with USB Type-C PD ports and barrel connectors that sink up to 140W at 20V and must withstand up to 29V on VBUS.

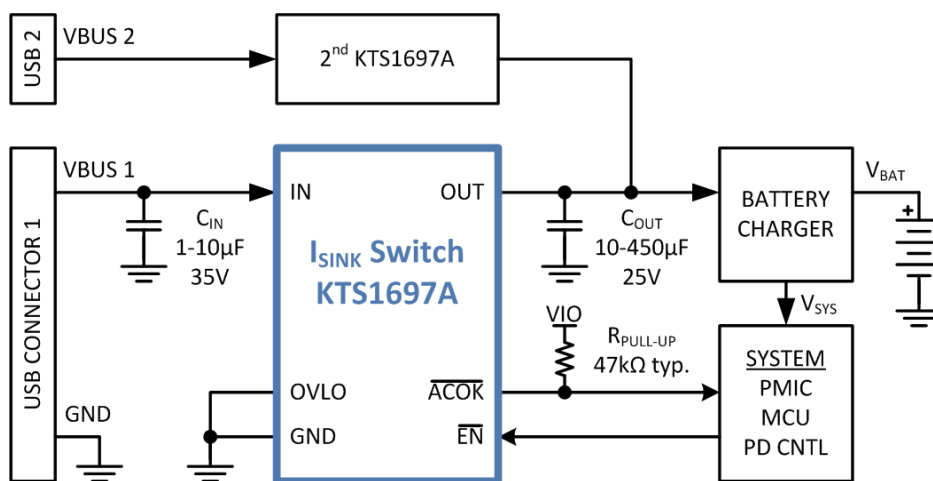
Automatic reverse-current protection acts as an “ideal diode” with fast recovery and isolates VBUS when charging or powering the system via another port, regardless of the enable status. Soft-start limits inrush current when turning on with large capacitors at the output. The integrated TVS provides IEC industry standard ESD and ±90V surge ratings.

The KTS1697A is packaged in advanced, fully “green” compliant, 2.70 x 2.70mm, 25-bump Wafer-Level Chip-Scale Package (WLCSP).

Applications

- Notebooks, Netbooks, Ultra-Books, Tablets
- Mini Desktop PCs, Docking Stations, Monitors

Typical Application



Ordering Information

Part Number	Marking ¹	Operating Temperature	Package
KTS1697AEOAB-TR	QYXXYYZZZZ	-40°C to +85°C	WLCSP-25

1. QY = Device ID, XX = Date Code, YY = Assembly Code, ZZZZ = Serial Number.

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