5A$_{RMS}$ VBUS Current-Sink Protection Load Switch

Features

- 3V to 23V Operating Voltage Range
- 29V Abs. Max. Rating at IN and OUT
- 5A Continuous Current Rating
  - ‣ 10A Pulse Current Rating (duration Pd limited)
- 25mΩ 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)
  - ‣ 20mV Forward Voltage and 15µs Fast Recovery
- Over-Current Protection (OCP) at OUT
- Short-Circuit Protection (SCP) at OUT
- 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)
- EN or $\overline{EN}$ Enable Logic Input Versions
- $\overline{ACOK}$ Open-Drain Power Good Flag
- -40°C to 85°C Operating Temperature Range
- 15-bump WLCSP 2.62 x 1.64mm (0.5mm pitch)

Brief Description

KTS1698 is a low-resistance, high-current load switch with soft-start, over-voltage protection, reverse-current blocking, over-current protection, short-circuit 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 100W at 20V and must withstand up to 29V on VBUS.
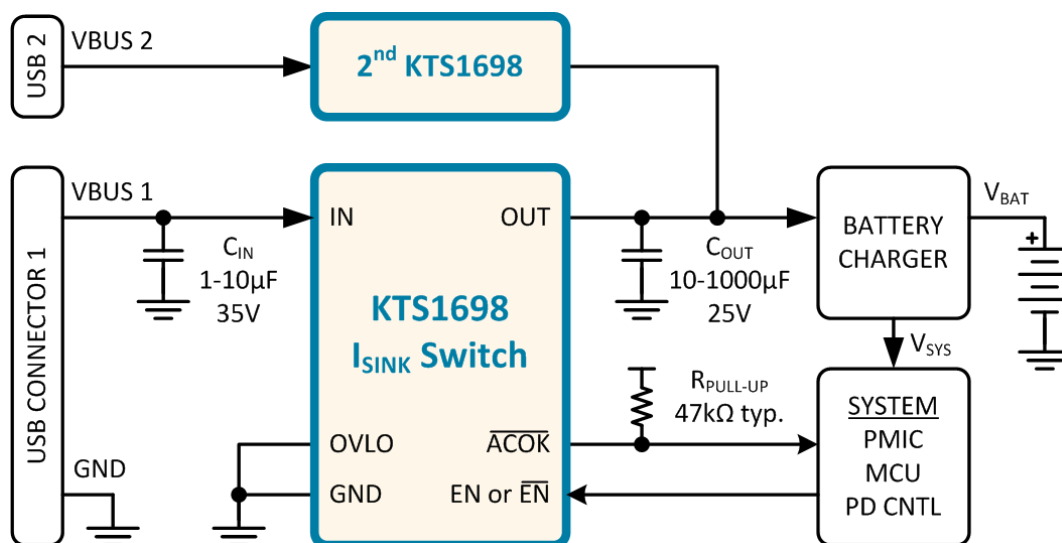
Automatic reverse-current blocking acts as an "ideal diode" and isolates VBUS when charging or powering the system via another port. Soft-start limits inrush current when turning on with large capacitors at the output. The integrated TVS provides IEC industry standard ESD and ±90V surge ratings. An $\overline{ACOK}$ flag indicates when power is good.

KTS1698 is packaged in advanced, fully "green" compliant, 2.62 x 1.64mm, 15-bump Wafer-Level Chip-Scale Package (WLCSP).

Applications

- Desktop, Notebooks, Netbooks, Ultra-Books, Tablets
- Docking Stations, Monitors, Accessories

Typical Application

Ordering Information

Part Number	Marking[1]	Enable Polarity	Operating Temperature	Package
KTS1698AEDAB-TA	REXXYYZZZZ	$\overline{EN}$	-40°C to +85°C	WLCSP-15
KTS1698BEDAB-TA	__XXYYZZZZ	EN	-40°C to +85°C	WLCSP-15

1. "XX" is the date code, "YY is the assembly code, and "ZZZZ" is the serial number.