

5A_{RMS} 28V VBUS Current-Sink Protection Load Switch

Features

- 3V to 32V Operating Voltage Range
- 35V Abs. Max. Rating at IN and OUT
- 5A Continuous Current Rating
 - ▶ TBDA 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
 - ▶ 33V Internally Fixed
 - ▶ 4V to 23V External Resistor Programmable for USB PD 3.1 PPS in SPR mode
 - ▶ 15V to 31V External Resistor Programmable for USB PD 3.1 AVS in EPR mode
- “Ideal Diode” Reverse-Current Protection (RCP)
 - ▶ RCP Fast Recovery without $\overline{\text{ACOK}}$ Indication
- Supports 140W USB Power Delivery (USB PD) Revision 3.1 specification
- Short-Circuit Protection (SCP) at OUT
- Over-Current Protection (OCP)
- Over-Temperature Protection (OTP)
- Transient Voltage Suppression (TVS) at IN
 - ▶ ±100V Surge Protection (IEC61000-4-5)
 - ▶ ±8kV ESD Contact Discharge (IEC61000-4-2)
 - ▶ ±15kV ESD Air Gap Discharge (IEC61000-4-2)
- $\overline{\text{EN}}$ (KTS1898A) or EN (KTS1898B) Enable Logic
- Auto-Retry after All Faults
- $\overline{\text{ACOK}}$ Open-Drain Output Flag
- -40°C to 85°C Operating Temperature Range
- 25-bump WLCSP 2.560mm x 2.560mm (0.500mm pitch)

Brief Description

The KTS1898 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 28V and must withstand up to 35V on VBUS.

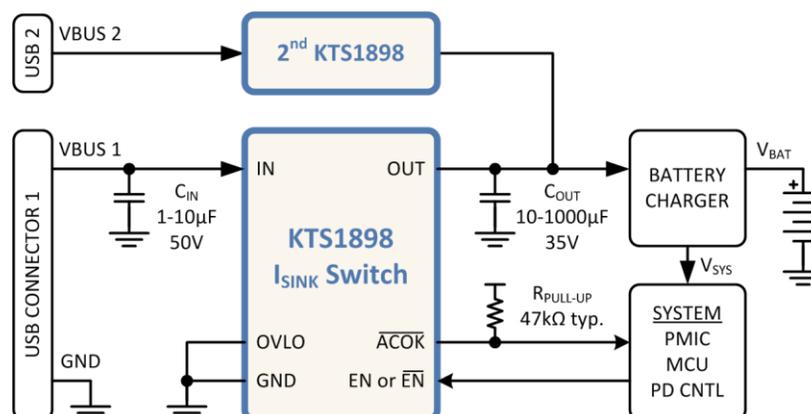
Automatic reverse-current protection acts as an “ideal diode” and isolates VBUS when charging or powering the system via another port, regardless of the enable status. Soft-start limits inrush current when turning on with large capacitors at the output. The integrated TVS provides IEC industry standard ESD and ±100V surge ratings.

The KTS1898 is packaged in advanced, fully “green” compliant, 2.560mm x 2.560mm, 25-bump Wafer-Level Chip-Scale Package (WLCSP).

Applications

- Notebooks, Gaming PCs
- Mini Desktop PCs, Docking Stations, Monitors

Typical Application



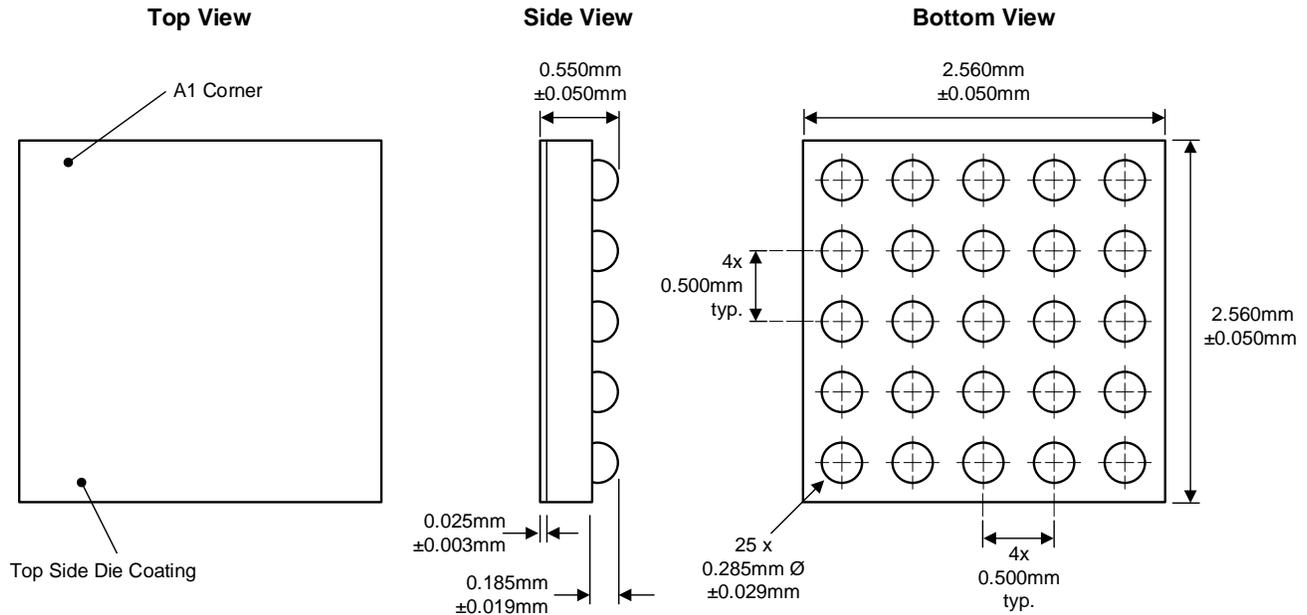
Ordering Information

Part Number	Marking ¹	Enable Polarity	Operating Temperature	Package
KTS1898AEOD-TR	__XXYYZZZ	\overline{EN}	-40°C to +85°C	WLCSP-25
KTS1898BEOD-TR	SHXXYYZZZ	EN	-40°C to +85°C	WLCSP-25

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

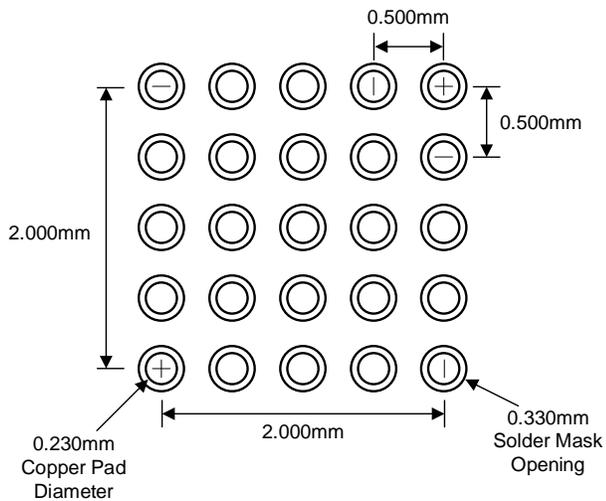
Packaging Information

WLCSP55-25 (2.560mm x 2.560mm x 0.550mm)



Recommended Footprint

(NSMD Pad Type)



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