

Kinetic Technologies Announces Lowest Resistance USB Current-Sink Protection Switch Enabling Power Delivery up to 140W

KTS1696A: Low 11mΩ Resistance Load Switch with Overvoltage and Reverse Blocking, Protects Against ±90V Input Surges

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/EINPresswire.com/ -- Power management and video/audio interface leader, [Kinetic Technologies](#), has announced the highest power addition to its comprehensive range of power protection solutions with the KTS1696A. This robust protection device has been designed to isolate and protect against abnormal voltage and current conditions through a slew-rate controlled, reverse-blocking, 11mΩ, low-resistance MOSFET switch in a tiny 2.7x2.7mm 25-bump WLCSP package.



“In addition to its ability to protect USB inputs from abnormal power supply voltage and surge currents, the KTS1696A features an incredibly low 11mΩ resistance switch with reverse-blocking capability up to 29V.” says Jia Hu, Kinetic Technologies Senior Director of ESIA Product Marketing. “Increasing USB Power Delivery above 100W is a future trend, pushing the USB limits, with Kinetic leading the way. This low resistance switch allows product designers to do that without worrying about excessive power loss through heat dissipation.”

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*Jia Hu, Kinetic Technologies
Senior Director of ESIA
Product Marketing*

In addition to the low-resistance MOSFET switch, the KTS1696A features slew-rate turn-on control, preventing

excessive voltage overshoot and large inrush currents. The device also features several

additional protection functions – including input $\pm 90V$ surge protection, input over – and under – voltage protection, over-temperature protection, short-circuit protection and current-limiting protection. The over-voltage protection is internally set at typically 23V but can also be used in adjustable mode using two external resistors to set the trip point between 4V and 23V. The short-circuit and current-limiting protection is designed to turn-off the switch during hard or soft short circuits at the output. At detection, the switch is turned OFF and if no other fault is detected, the device will auto-retry to start until such time as the fault is removed or the input power removed. During any fault condition the ("ACOK") \square , power good flag will be de-asserted.

Featuring an active high enable, the KTS1696A operates over a wide-input voltage range of 3V to 29V and covers USB PD applications, enabling the device to offer essential protection to enhancing system reliability.

The KTS1696A is available in a green compliant, 2.7mm x 2.7mm, Wafer-Level, Chip-Scale Package (WLCSP).

Key applications for the Kinetic Technologies KTS1696A include mini-desktop PCs, notebooks, tablets, docking stations, monitors, portable devices and USB Type-C/PD current sink ports.

KTS1696A is available and shipping now. [Visit Kinetic Technologies](#) for more information.

Product features include:

- 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)
- 11m Ω 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)
- Short-Circuit Protection (SCP) at OUT
- Over-Current Protection (OCP) at OUT
- Over-Temperature Protection (OTP)
- Transient Voltage Suppression (TVS) at IN
- $\pm 90V$ Surge Protection (IEC61000-4-5)
- $\pm 8kV$ ESD Contact Discharge (IEC61000-4-2)
- $\pm 15kV$ ESD Air Gap Discharge (IEC61000-4-2)
- EN Active-High Enable Logic Input
- Auto-Retry after All Faults

- ("ACOK") □ Open-Drain Output Flag
- Pb Free 25-bump WLCSP 2.70 x 2.70mm (0.5mm pitch)
- RoHS and Green Compliant
- -40°C to 85°C Operating Temperature Range

About Kinetic Technologies

Kinetic Technologies designs, develops and markets proprietary high-performance analog and mixed-signal power and protection semiconductors across consumer, communications, industrial, automotive and enterprise markets, to deliver protected solutions tolerant of real-world fault conditions. The company's product sit "Behind Every Port™", deliver solutions to not only provide, protect, regulate, and monitor power consumed by analog and digital semiconductors and other electronic loads, but to also switch, transform and protect high resolution video, audio and data signals. Kinetic Technologies develops application-specific products that solve audio-video interface, protection, and power management needs across smartphones, tablets and wearables, as well as serving a wide range of industrial, automotive and enterprise solutions. Kinetic Technologies, a Cayman Corporation, has R&D centers in Silicon Valley and Asia, with operations and logistics based in Asia. For more information, please visit <http://www.kinet-ic.com/>.

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