

Load Switch with OVP and Reverse Polarity Protection

EVAL Kit Physical Contents

Item #	Description	Quantity
1	KTS1642AQ EVAL fully assembled PCB	1
2	Anti-static bag	1
3	Quick Start Guide, printed 1 page (A4 or US Letter)	1
4	EVAL Kit box	1

QR Links for Documents

IC Landing Page	EVAL Kit Landing Page
 https://www.kinet-ic.com/kts1642aq/	 https://www.kinet-ic.com/kts1642aqgdv-mmeev01/

User-Supplied Equipment

Required Equipment

1. Bench Power Supply for VIN – 14V/30V and 0.5A/6A, as needed for the intended application. For testing over-voltage protection and withstand voltage, a 30V or 40V adjustable bench power supply is preferred.
2. Bench Power Supply for VIO – 1.5V to 5V, low current. Needed for enable mode (EN = VIO = High) and fault monitoring (FLAG pull-up voltage).
3. Digital Multimeter – one or more, used to measure input/output voltages and currents.

Optional Equipment

1. Oscilloscope – for dynamic testing of voltages (and currents with a current probe, if available).
2. Load – either an eLoad, power resistors, or an actual system load.
3. Additional Digital Multimeters

Quick Start Procedures

1. Set Jumper to default: EN = VIO (High)
2. Connect one pair of Banana-to-Banana power cables to the connectors at VIN and GND.
3. Before connecting the EVAL Kit to the VIN bench supply, turn on the supply and adjust the voltage as close to 0V as possible. Then turn off the supply. While off, connect the Banana-to-Banana power cables to the VIN bench supply.
4. Connect a pair of banana-to-clip test leads from VIO power supply to EVAL board VIO testpoint and GND. Turn on the VIO power supply to 3.3V.
5. Turn on the VIN bench supply and very slowly ramp its voltage to an appropriate voltage, such as 14V. While ramping VIN slowly, use the bench supply's output current indication (or a digital multimeter) to monitor the VIN current. If the current becomes high, reduce the VIN voltage quickly to prevent damage.
6. With valid VIN voltage, use a digital multimeter to check the output voltage between the KVOUT and GND terminals on the EVAL Kit. It should be nearly the same as the input voltage.
7. Use a digital multimeter to check the no-load supply current at VIN. Consult the KTS1642AQ datasheet for the expected current range at the VIN voltage condition in use. For conditions of VIN = 14V, EN = VIO, and no-load, it should be close to 145μA.