




### Integrated Dual MOSFET Bridge Rectifier

#### EVAL Kit Physical Contents

Item #	Description	Quantity
1	KTA1170 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

#### Links for Documents

IC Datasheet	EVAL Kit Landing Page
 <a href="https://www.kinet-ic.com/kta1170">https://www.kinet-ic.com/kta1170</a>	 <a href="https://www.kinet-ic.com/kta1170gvae-mmev01/">https://www.kinet-ic.com/kta1170gvae-mmev01/</a>
Application Note – AN167	
 <a href="https://www.kinet-ic.com/wp-content/uploads/2025/09/AN167-04a.pdf">https://www.kinet-ic.com/wp-content/uploads/2025/09/AN167-04a.pdf</a>	

Note: The full EVAL Kit Manual is available for download on the EVAL Kit Landing Page.

#### User-Supplied Equipment

1. IEEE standards compliant PSE (Power Sourcing Equipment) for IN1/IN2/IN3/IN4 inputs – 57V up to 1A capable, as needed for the intended application.
  - a. If you are using a non-standards compliant supply such as a bench power supply, refer to Application Note [AN167](#) providing guidelines to design with the KTA1170.
  - b. Another approach to power using a bench power supply would be to set the maximum slew rate to 3V/μs (The IEEE 802.3 specification clearly defines the worst-case condition as the following: fastest rise time is 15μs from 10%-90% of 57V (maximum from POWER\_ON to POWER\_UP.))
2. Digital Multimeters – one or more, used to measure input/output voltages and currents.
3. Load – Electronic Load, power resistors, or an actual system load.
4. Oscilloscope (Optional) – for testing of input and output voltages (and input or load currents with a current probe, if available).

#### Quick Start Procedures

KTA1170 includes two diode bridges. First, the diode bridge with inputs IN1-IN2 is checked. Then the procedure is repeated for the other diode bridge IN3-IN4.

1. Connect one pair of Banana-to-Banana power cables to the banana connectors at IN1 and IN2 (either polarity is fine).

2. Before connecting the IN1 and IN2 on the EVAL board to the PSE input supply, turn on the supply and adjust the voltage as close to 0V as possible. Then turn off or disable the supply output. While off, connect the banana ends of the Banana-to-Banana power cables to the input bench supply.
3. Turn on the supply and ramp the output voltage to an appropriate level, such as 48V. While ramping VIN, use the supply's output current indication (or a digital multimeter) to monitor the VIN current. Please note if a non-standards compliant PSE or bench supply is used for input power, set the slew rate as described above in section "User-Supplied Equipment – 1b".
4. With valid VIN voltage of 48V, use a digital multimeter to check the output voltage between the K\_VCC and K\_GND terminals on the evaluation board. It should be nearly the same as the input voltage.
5. Use a digital multimeter to check the no-load supply current to IN1. Consult the KTA1170 datasheet for the expected current range at the IN1 voltage condition in use. For conditions of VIN1-VIN2 = 48V, and no-load, the input supply current should be around 55 $\mu$ A.
6. Repeat steps 1 to 5 for the other diode bridge with inputs IN3-IN4.