Electronic Module for Energy Harvesting

USING PIEZO ACTUATORS FOR ENERGY GENERATION

E-821

- Constant output voltage
- Usable energy 8.7 mJ
- Uses pulsed or continuous excitation
- Adaptation to customer application on request

OEM electronic module for energy harvesting

For generating energy from vibration. Use in combination with DuraAct patch transducers. Adjustable output voltage. Processes input currents between 20 µA and 40 mA, voltage peaks are limited to 15 V. Custom version for operation with piezo stack actuators on request

Fields of application

Autonomous power supplies, e.g. for wireless sensor networks

Specifications

	E-821.00
Function	Electronic module for energy harvesting
Channels	1
Min. input current	20 µA
Max. input current	40 mA
Max. continuous input power	500 mW
Output voltage	3.3 V (adjustable from 1.8 to 5.0 V)
Output power (80 ms)	100 mW
Usable energy at the output (200 µF)	8.7 mJ
Interface and operation	
Piezo element (voltage input)	2- pin connector
Voltage output	4- pin connector
Miscellaneous	
Operating temperature range	0 to 50 °C
Dimensions	48 mm × 15 mm × 7 mm
Mass	3.5 g
Material	SMD board
Typ. current consumption	15 µA (during charging)
Typ. power consumption	30 % of the converted power

Ask about custom designs!
Not authorized for use in the USA and not available in the USA.

Order Information

E-821.00
Signal Conditioner Module for Energy Harvesting, 8.7 mJ

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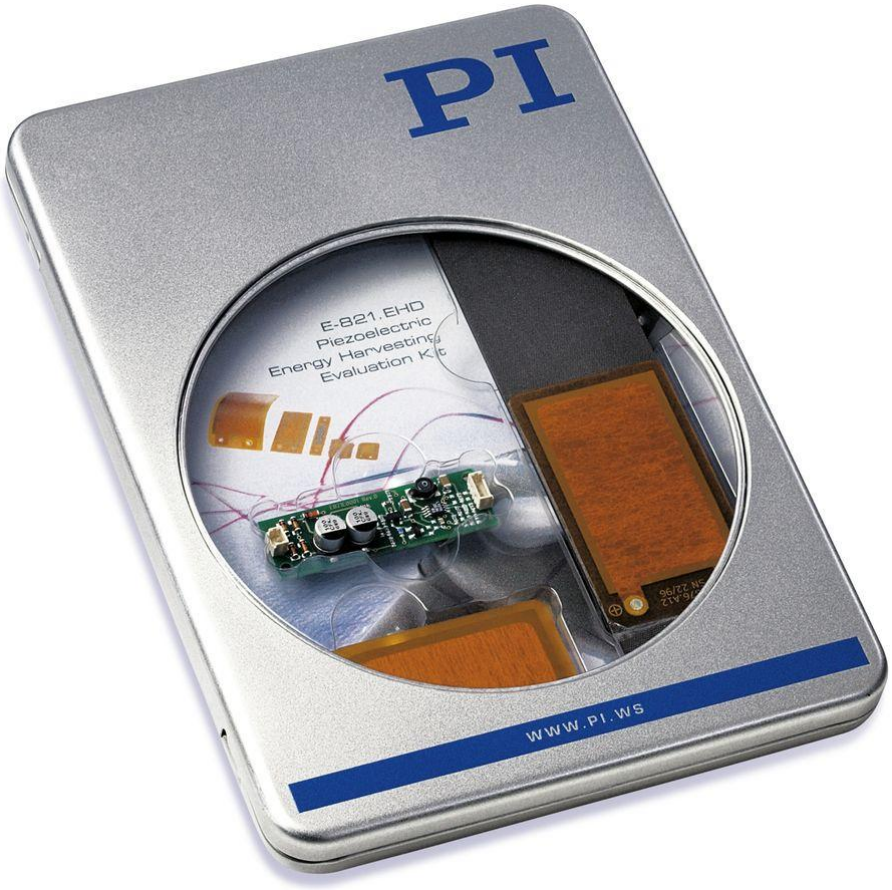
Related Products

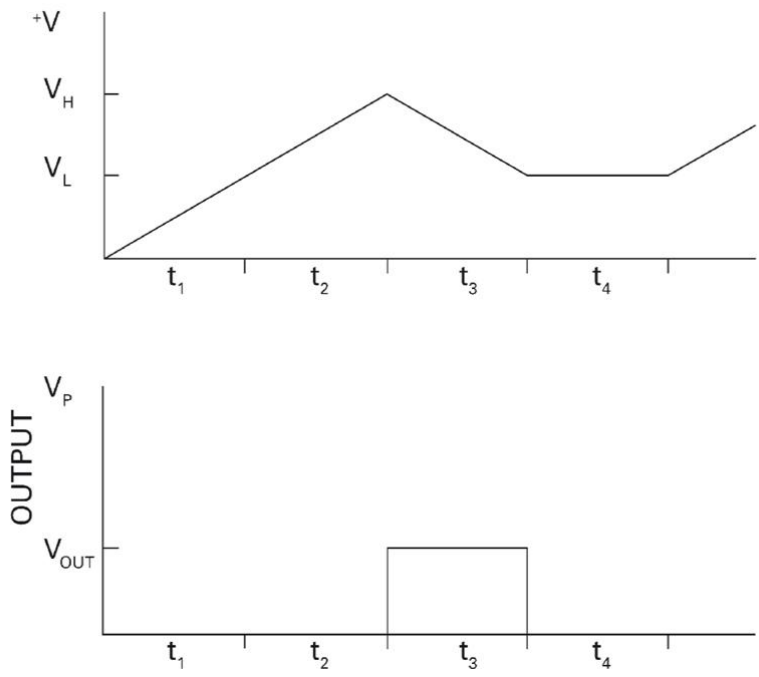
P-876 DuraAct Patch Transducer
P-882 – P-888 PICMA® Stack Multilayer Piezo Actuators

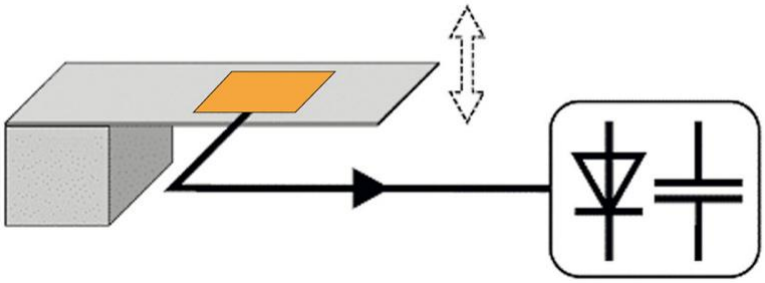
Drawings / Images



In addition to the transducer and storage electronics, the E-821.EHD evaluation kit contains the required cabling and corresponding DuraAct piezo transducers for the integration in an application. The output voltage of between 1.8 and 5 V can be used to operate commercially available electric circuits and systems

The E-821 energy harvesting electronics is designed to work best with P-876 DuraAct patch transducers





To dimension an energy harvesting system correctly, all important boundary conditions must be known and taken into account. The principle itself is simple: Ambient vibrations produce a charge separation in the piezoceramic DuraAct transducer. The electronic circuitry in the E-821 module then ensures a sufficiently stable output voltage that can be adjusted to the load