

EHA-PA1AN1-R03

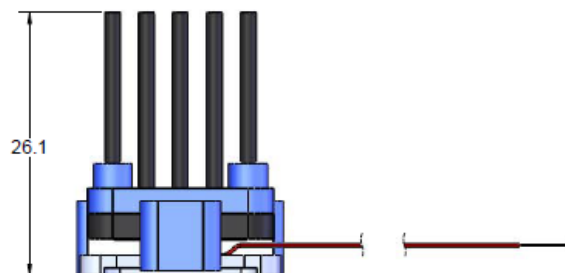
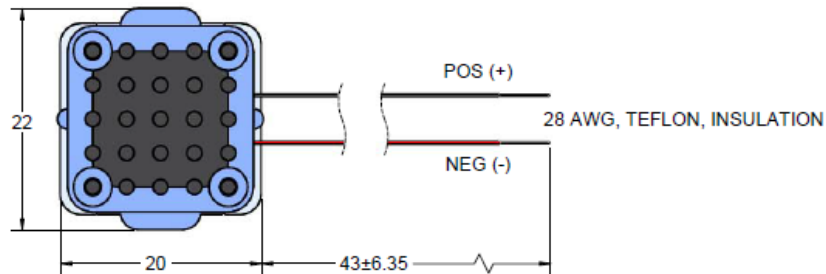
Mini-Harvester Thermal Energy Generator
Solid to Air



TYPICAL PERFORMANCE VALUES

AC Resistance @27°C (Ω):	1.1
Max Hot Side Temp (C):	85°C
Thermal $R_{Base - Amb}$ @ 0mph (C/W)	135
Thermal $R_{Base - Amb}$ @ 3mph (C/W)	57
Typical Load (Ω)	(1.2-5)
Optimal Load (Ω)	1.5 Ω

MECHANICAL CHARACTERISTICS

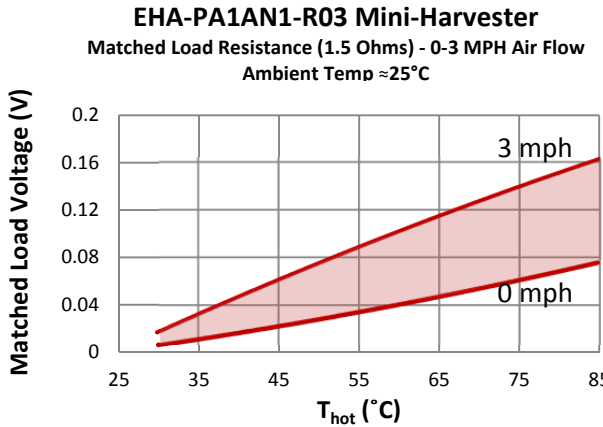
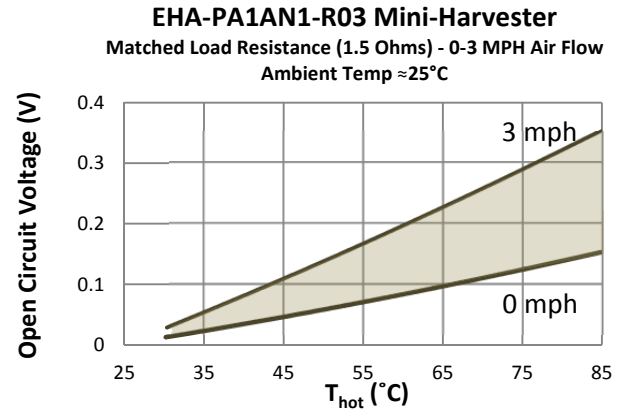
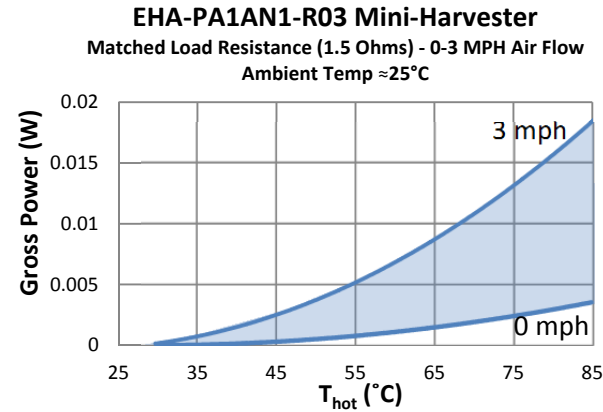


ORDERING OPTIONS

Model Number	Description
EHA-PA1AN1-R03	Mini-Harvester Energy Generator Assembly Solid to Air

PRODUCT FEATURES

- Low cost, small package thermal energy harvester.
- Alternative for replaceable primary cell batteries.
- Compatible with vertical and horizontal surfaces.
- Compatible with commercially available power management electronics.
- Non-invasive installation.
- Anodized for corrosion protection.
- Maximum hot side temperature of 85°C.



Air Flow (MPH)	0	3	0	3
Hot Side Temperature (°C)	85	85	55	55
Cold Side Temperature (°C)	25	25	25	25
Gross Power (W)	0.003	0.018	0.0005	0.005
Open Circuit Voltage (V)	0.15	0.35	0.075	0.175
Matched Load Voltage (V)	0.08	0.16	0.038	0.1

Power Output

Power from the harvester is generated by converting heat energy into electrical energy. The amount of electrical power produced is a function of the temperature differential between source and ambient, as indicated by the performance curves. Voltage boost and power conditioning electronics and reference designs are commercially available from many semiconductor manufacturers. These include the Texas Instruments BQ25504, EM Microelectronic EM8900, and Linear Technologies LTC3107, LTC3108, LTC3109.

Installation

Recommended mounting methods: Remove insulation and any remaining debris from the surface to allow effective thermal contact. Assembly should be adhered to surface with a thermally conductive adhesive or epoxy suited for the application environment. Bond line should be minimized to reduce thermal interface resistance.

Operation Cautions

For maximum reliability, ambient temperatures are limited between -40°C to 60°C during continuous operation. Maximum hot side temperatures are restricted to 85°C.

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