

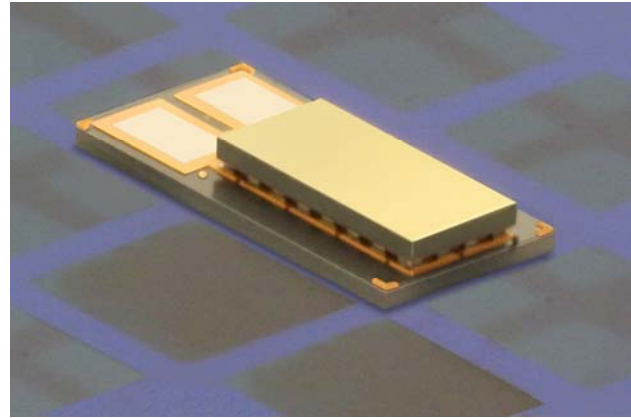
eTEG™ UPF40 Power Generator

Part #: NGU-4004047-0203A_W Part #: NGU-4004047-0203A_S

Preliminary Data Sheet

Description:

Nextreme eTEG UPF40 power generators are a new technology for low-profile energy harvesting and heat energy conversion systems. The technology combines thin-film thermoelectric materials with thin-film interconnect processing for converting waste heat into useful electrical energy. This technology can be scaled and optimized to generate larger waste heat recovery systems.



eTEG UPF40
Thermoelectric Power Generator

Features:

- Handles small or large ΔT
- Extremely thin 0.650 mm profile
- Small 2.5mm X 5.1mm footprint

Typical Performance Specifications:

		$\Delta T = 70^{\circ}\text{C}$	$\Delta T = 120^{\circ}\text{C}$
Output Power	P_{out}	80 mW	236 mW
Open Circuit Voltage	V_{oc}	329 mV	563 mV
Short Circuit Current	I_{sc}	979 mA	1678 mA
Electrical Load Resistance	R_{load}	336 m Ω	336 m Ω
Thermal Resistance	R_{thermal}	15 K/W	

APPLICATIONS:

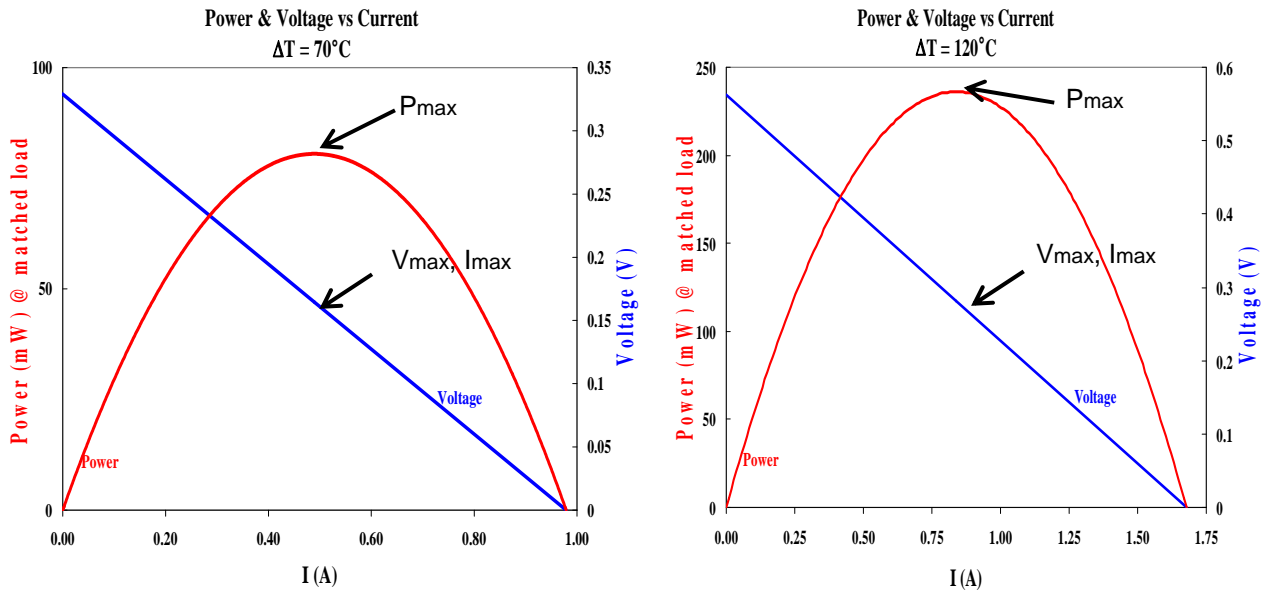
- Industrial heat waste
- Automotive systems
- Increased fuel efficiency
- Battery charging
- Wireless sensors
- Implantable Medical Devices

eTEG™ UPF40 Power Generator

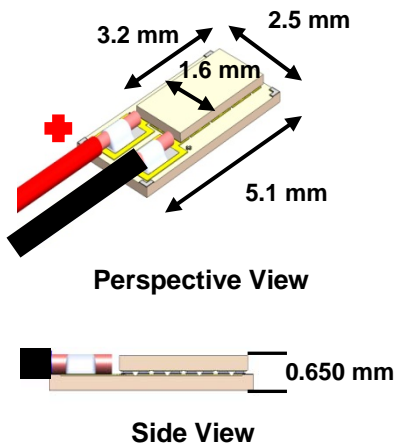
Preliminary Data Sheet

TYPICAL eTEG DEVICE CHARACTERISTICS

Representative curves into a matched electrical load are depicted. Actual curves for a specific eTEG device will vary due to the thermal interfaces with the heat source, the heat rejection system and the electrical load.



Product Dimensions



Ordering Information

1. All devices come with Au on the top and back surfaces.
2. W part #: 32 AWG wires attached with BiSn - melting point 138°C
3. S part #: solderable Sn bond pads - wires not attached

Definitions

P_{out}	The output power of the thermoelectric generator
V_{oc}	The open circuit voltage of the device
I_{sc}	The short circuit current of the device
I_{max}	Current at maximum power
V_{max}	Voltage at maximum power
R_{load}	The load resistance matched to the internal resistance of the device for maximum power
$R_{thermal}$	Thermal resistance