

FEATURES

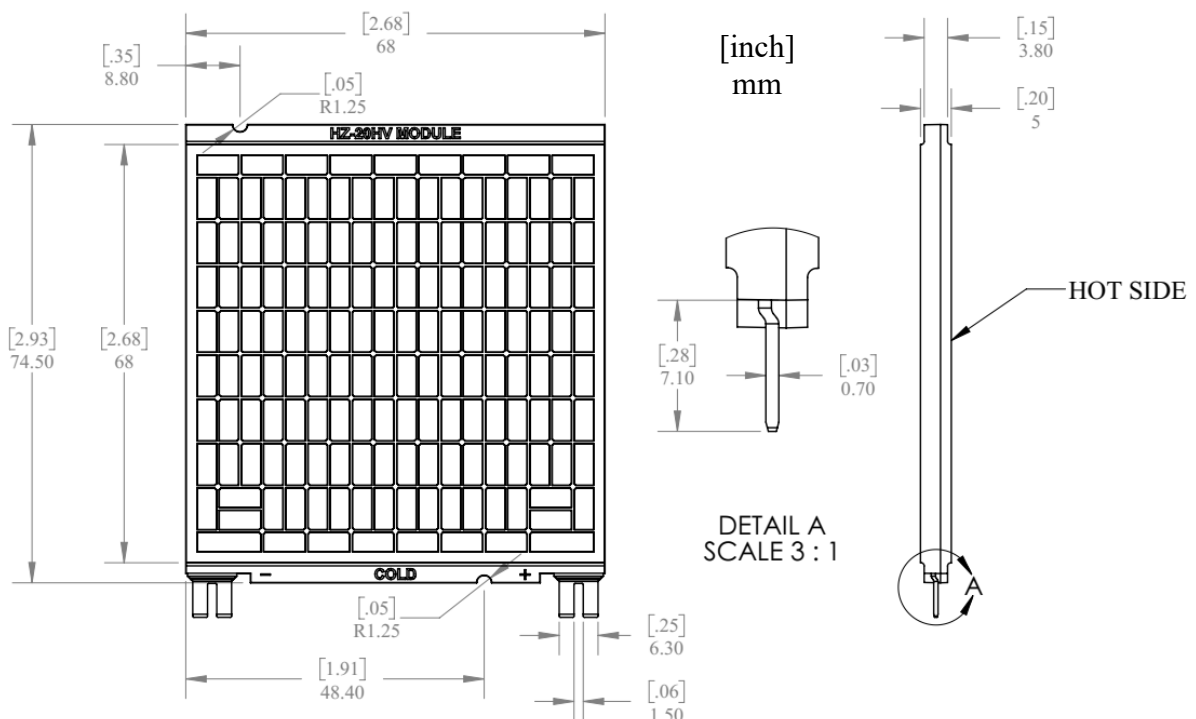
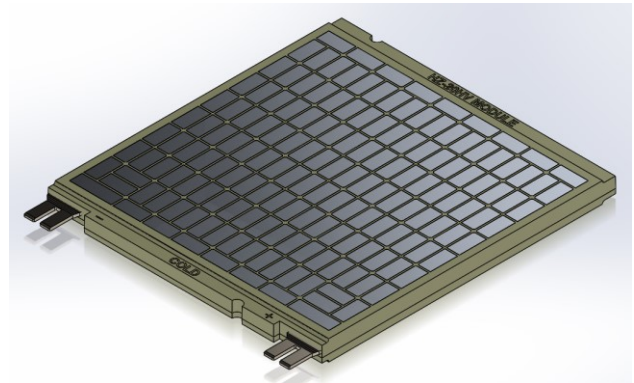
- Produces 20W or more electrical power @ Th = 250°C, Tc = 50°C (see Note 1)
- Maximum hot side temperature 350°C (see Note 2)
- Rugged Construction (no brittle structural ceramic, no solders, fiber glass reinforced framework tolerant to abuse)
- Good resistance to mechanical impact
- Long lifetime (~1-3% annual power degradation @ Th = 250°C)
- Not vulnerable to thermal shock or quick thermal cycling
- Strong embedded electrical terminals compatible for Quick-Disconnect connectors, soldering and spot welding
- Notches (used with lock pins) for easy precise alignment & installation

DESCRIPTION

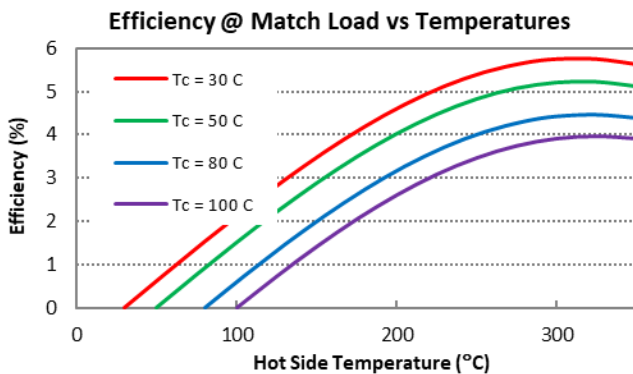
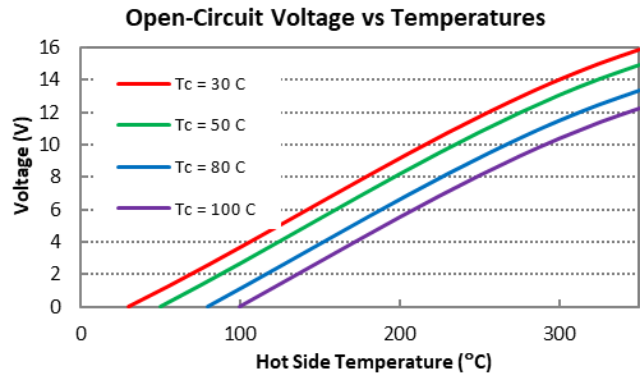
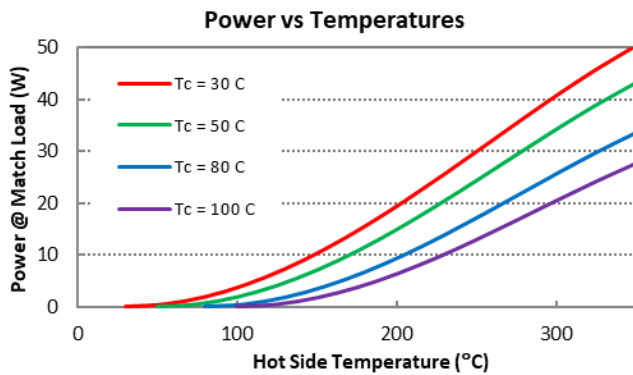
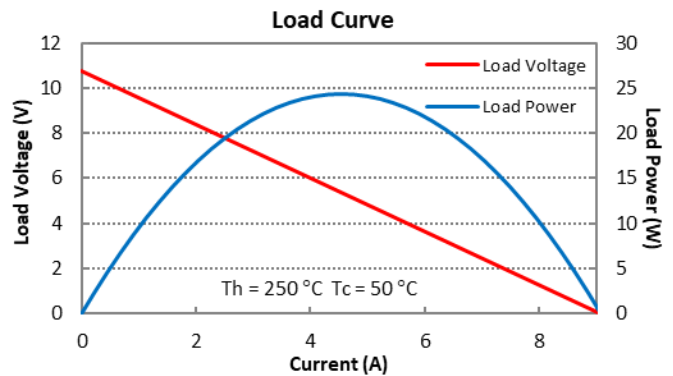
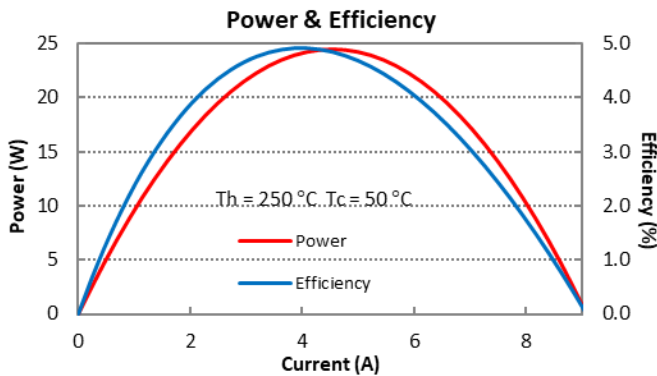
This high wattage TEG module produces more electrical power than most bismuth telluride modules on the market for the same temperatures. Its superior reliability and high power output make it an ideal choice for a high power thermoelectric power generation system that needs a large number of ‘trouble-free’ modules.

This ‘eggcrate’ type TEG module is especially robust and able to tolerate temporary hot side temperature up to 350°C and thermal cycling.

While the module’s standard form and dimensions are specified below, custom dimensions, shape and terminal configuration may be available.



Estimated Thermal and Electrical Characteristics					
Parameter	Conditions	Min	Typical	Max	Units
Power	Th=250°C, Tc=50°C @matched load	23.1	24.3	25.5	W
Open Circuit Voltage	Th=250°C, Tc=50°C	10.3	10.8	11.3	V
Matched load Voltage	Th=250°C, Tc=50°C	5.1	5.4	5.7	V
Internal Resistance	Th=250°C, Tc=50°C	1.1	1.2	1.3	Ω
	Th = Tc = 27°C	0.72	0.76	0.80	Ω
Current	Th=250°C, Tc=50°C @matched load	4.2	4.5	4.8	A
	Th=250°C, Tc=50°C @short circuit	8.4	9.0	9.6	A
Heat Flow	Th=250°C, Tc=50°C @matched load	479	504	529	W
	Th=250°C, Tc=50°C @open circuit	354	373	392	W
Heat Flux	Th=250°C, Tc=50°C @matched load	9.5	10	10.5	W/cm ²
Mass		69	70	71	g



Notes

- The module temperatures are all assumed to be measured on the hot & cold side metal interconnects. To achieve the specified 200°C temperature difference across the module, the temperature difference between the hot & cold side heat transfer components (heat exchanger, heat spreader or heatsink etc) should be ~35°C higher due to the temperature drops across the interfaces.
- Our tests indicate that the module can temporarily tolerate temperatures up to ~350°C without being damaged (on an intermittent basis). However the module performance degrades faster at higher temperatures. For maximum life expectancy (> 10 years) the hot side temperature should not exceed 230°C while 250°C can be a good choice for a balanced performance between lifetime and power/efficiency.