G2-40-0313 Thermoelectric Power Generation Module Specifications

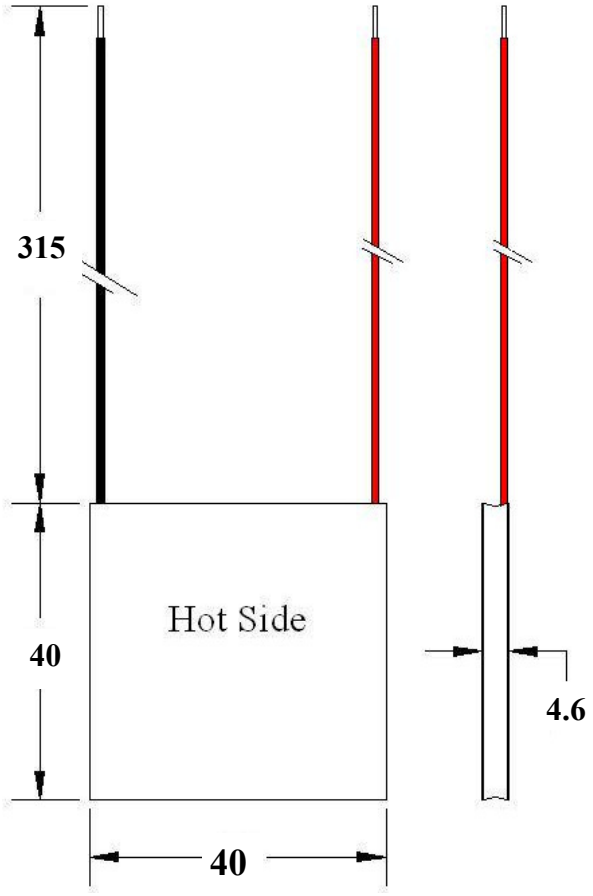
The proprietary bonding technique used to assemble Tellurex power generation modules enables them to be used in unequaled temperature ranges with unequaled thermal cycling capabilities. The G2 thermoelectric power generation module alloy is tuned for optimal operation in the temperature range of 200-250°C and can withstand continuous operating temperatures of 330°C.

Standard configuration is:

- Teflon insulated leads 300 to 330 mm (12 to 13 inches) stripped ends approx. 6mm (1/4 inch)
- 40 mm by 40 mm (1.575 inches by 1.575 inches)
- Silicone perimeter seal dielectric protection
- Black graphite thermal interface material applied to hot and cold side
  (hot side indicated by embossed graphite)

Performance Specifications	Optimum*	Application**	
Parameter	T_{hot} 300°C T_{cold} 30°C	T_{hot} 250°C T_{cold} 80°C	(explanation of parameter)
Open circuit voltage	10.8	6.8	No load voltage measured at TEG
Matched load voltage	5.4	3.4	Voltage output when load resistance equals internal resistance
Matched load current	1.0	0.61	Current output when load resistance equals internal resistance
Matched load power	5.4	2.1	Power resultant at the load (P=IxV)
Matched load resistance	5.4	5.7	Internal resistance of TEG module at the operating temperature
Heat flow through TEG	~113	~70	Approximate watts of heat flowing through the thermoelectric generator
Heat flux density	~12.9	~7.8	Approximate watts of heat per square centimeter
AC resistance (@27°C)	3.4 ohms		Internal resistance measured at room temperature

dimensions in millimeters



Operation Cautions:

- T_{hot} not to exceed 400°C intermittent
- T_{cold} not to exceed 175°C
- Do not apply heat without adequate heat sink

*Optimum specification is an example of material performance
**Application specification is an example of a typical assembly performance

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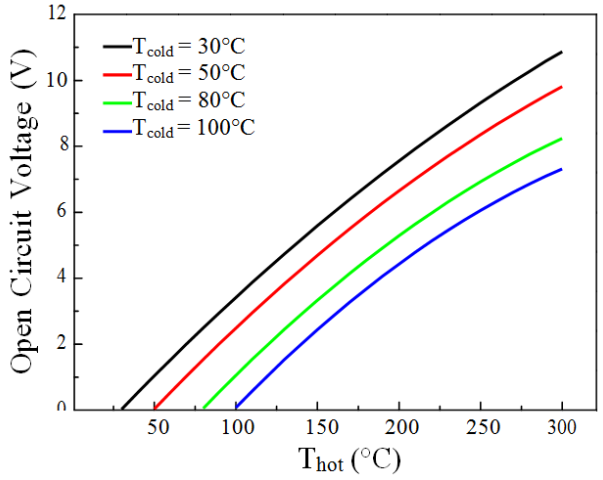
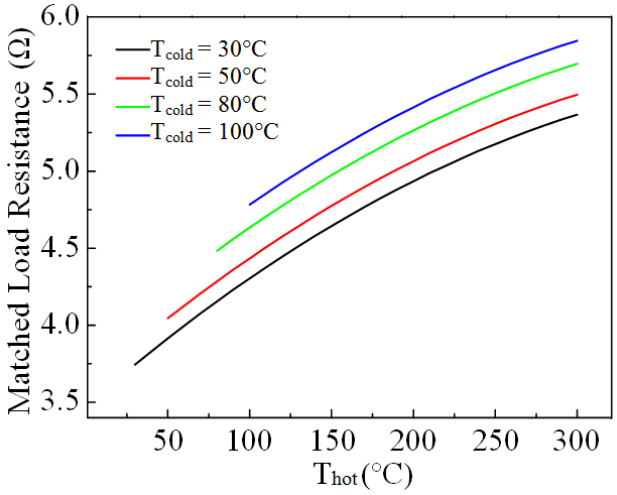
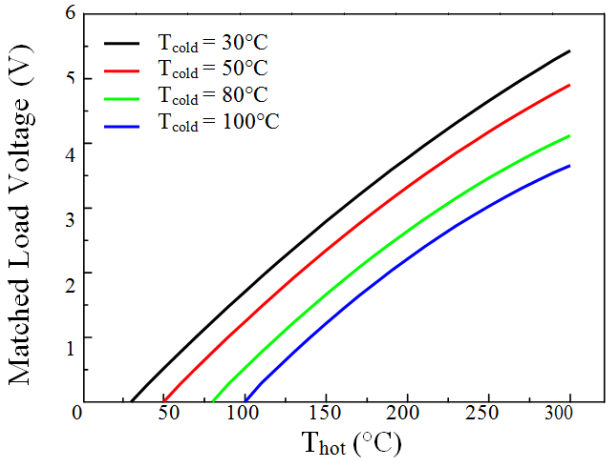
Open Circuit Voltage



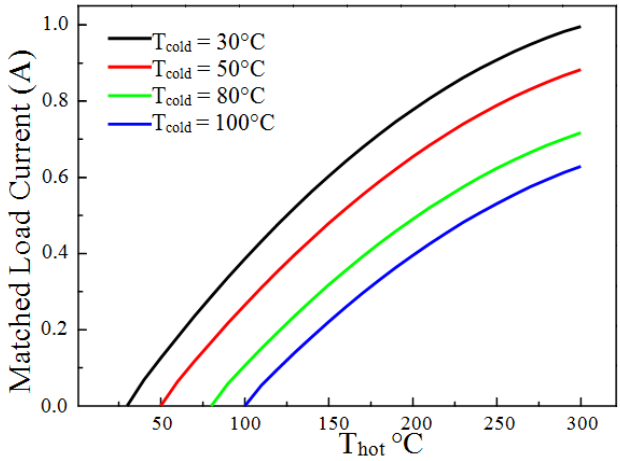
Matched Load Resistance



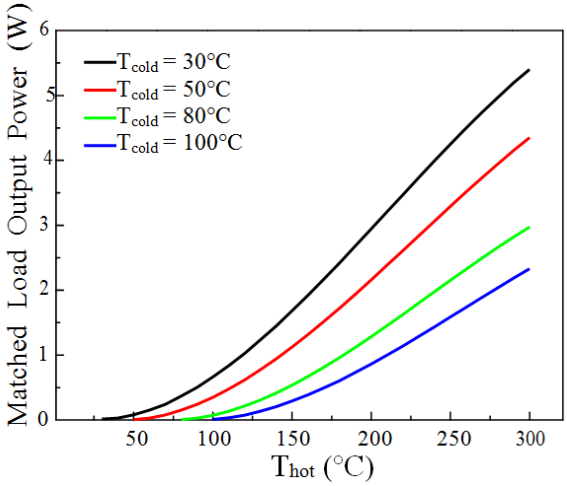
Matched Load Voltage



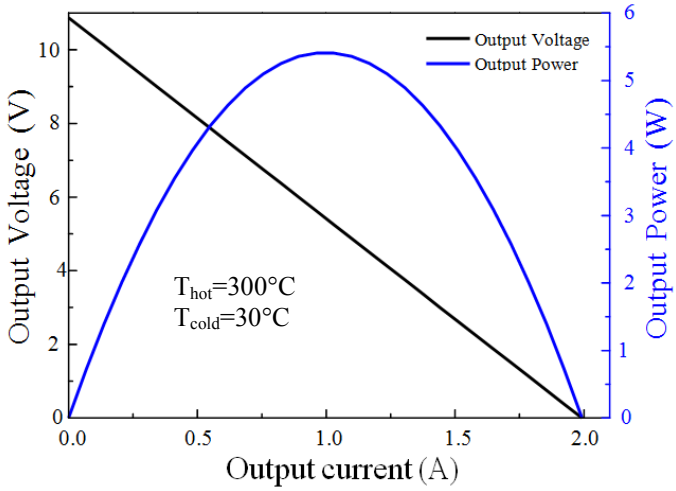
Matched Load Current



Matched load power output



Effect of load voltage on power output



Performance Graphs and specifications are based on tests and measurements in controlled laboratory conditions.
Actual performance in applications may be influenced by conditions not present in laboratory testing.
Specifications and materials are subject to change without notice.