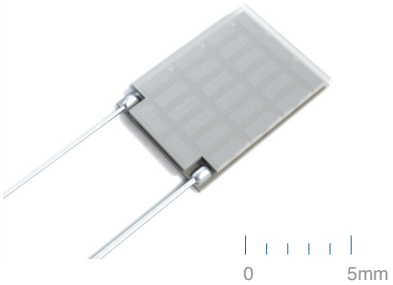
THERMOELECTRIC COOLER PERFORMANCE

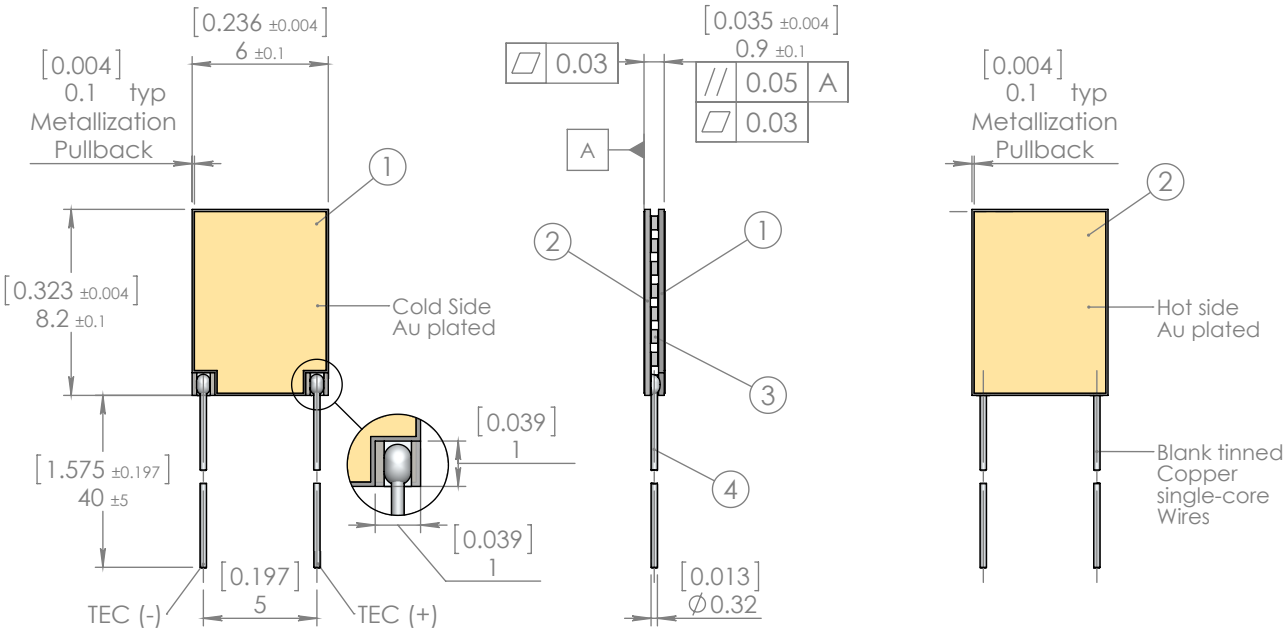


ΔTmax K	Qmax W	Imax A	Umax V	ACR Ohm	Ambient Temperature	Conditions
65	11.0	6.6	2.8	0.3	+27°C / 300K	Vacuum
70	12.0	6.5	3.1	0.4	+50°C / 323K	Dry N2
76	12.9	6.4	3.4	0.4	+75°C / 348K	Dry N2
78	13.3	6.4	3.5	0.4	+85°C / 358K	Dry N2

Note: Thermoelectric Cooler performance values are specified for optimal conditions, assuming that TEC hot side (T_{hot}) is stabilized at ambient temperature (T_{amb})

TECHNICAL DRAWING 1ML07-023-03t

Dimensions are in mm
Dimensions in [ ] are in inches



TEC DESCRIPTION

- Ceramics: Al_2O_3 (100%)
- Internal Assembly: Solder Sn-Sb (T_{melt}=230°C)
- Cold Side Surface: Au plated (0.2 - 0.3um)
- Hot Side Surface: Au plated (0.2 - 0.3um)
- Terminal Contacts: AWG-28 Wires, blank
- TEC Polarity: standard
- Bi-Te Material: high-grade, hot-extruded type
- Protective Coating: N/A (available by request)
- Integrated Thermistor: N/A (available by request)

KEY FEATURES

- Regular BiTe pellets placement technology
- RoHS EU Compliant
- REACH EU Compliant
- TELCORDIA GR-468 (MIL-883) qualified
- Classical shape (equal size of top and bottom)
- WB configuration is available by request
- Up to 225°C short time processing (for mounting)
- Wide range of additional manufacturing options (see Pages 3,4)

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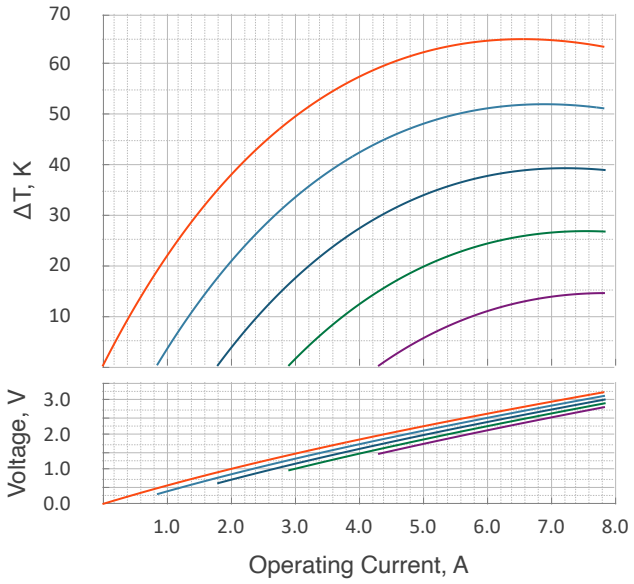
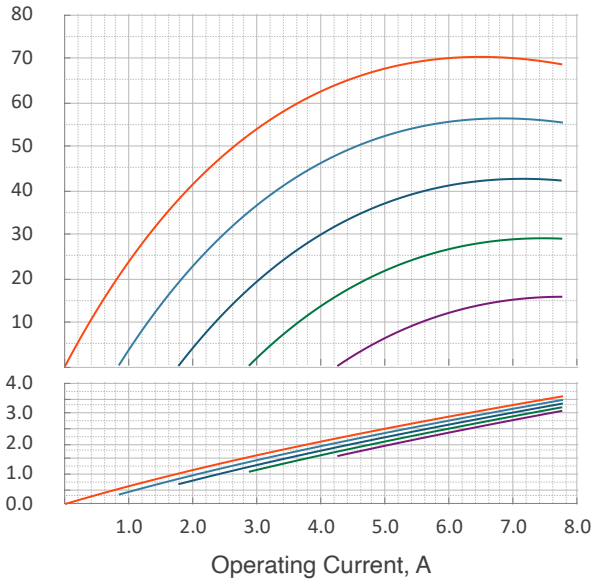
PERFORMANCE PLOTS

@27°C, Vacuum	ΔTmax K	Qmax W	Imax A	Umax V
1ML07-023-03t	65	11.0	6.6	2.8



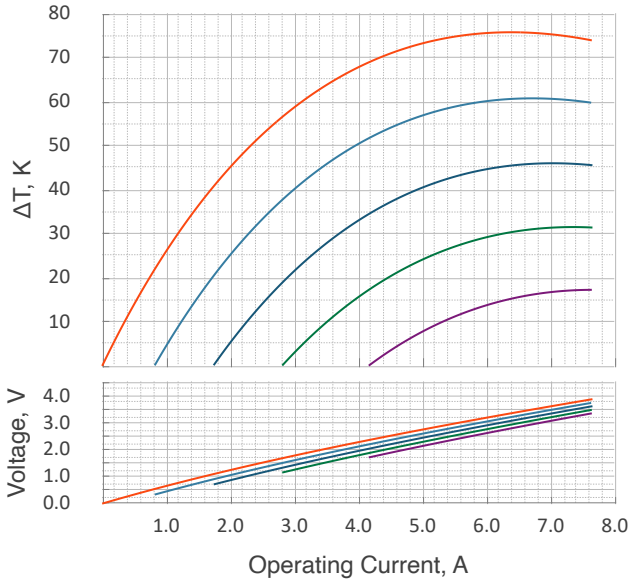
Heatload, W	0.0	2.2	4.4	6.6	8.8
% from Qmax	0%	20%	40%	60%	80%

@50°C, Dry N2	ΔTmax K	Qmax W	Imax A	Umax V
1ML07-023-03t	70	12.0	6.5	3.1



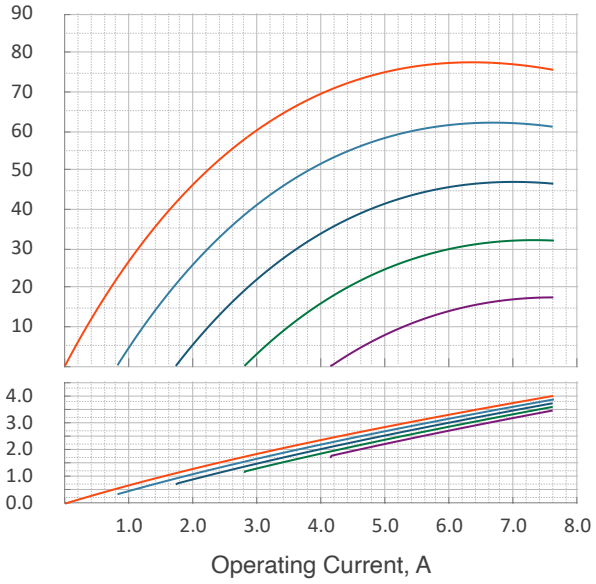
Heatload, W	0.0	2.4	4.8	7.2	9.6
% from Qmax	0%	20%	40%	60%	80%

@75°C, Dry N2	ΔTmax K	Qmax W	Imax A	Umax V
1ML07-023-03t	76	12.9	6.4	3.4



Heatload, W	0.0	2.6	5.2	7.8	10.3
% from Qmax	0%	20%	40%	60%	80%

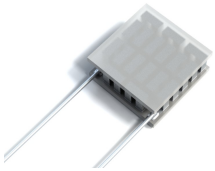
@85°C, Dry N2	ΔTmax K	Qmax W	Imax A	Umax V
1ML07-023-03t	78	13.3	6.4	3.5



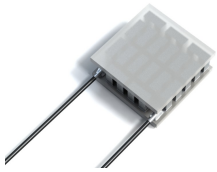
Heatload, W	0.0	2.7	5.3	8.0	10.6
% from Qmax	0%	20%	40%	60%	80%

Note: Thermoelectric cooler performance values and plots are specified at optimal conditions, assuming TEC hot side is stabilized at ambient temperature (T_{hot}=T_{amb}). The performance data is specified for four most common ambient condition modes. Please, contact TEC Microsystems GmbH directly for estimations under different conditions, if required.

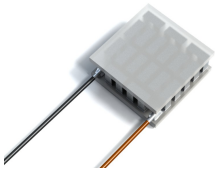
THERMOELECTRIC COOLER TERMINAL CONNECTION OPTIONS



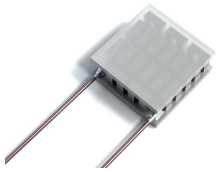
- [x] Blank Wires



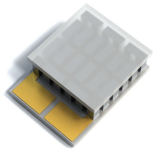
- [ ] Insulated Wires



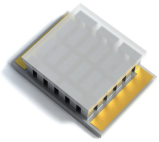
- [ ] Insulated Color-coded Wires



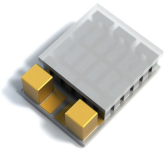
- [ ] Varnished Wires



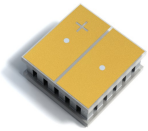
- [ ] Front WB Pads



- [ ] Side WB Pads



- [ ] WB Posts

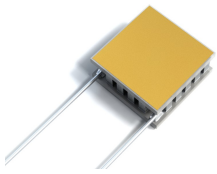


- [ ] SMD / Flip-chip (contacts on hot side)

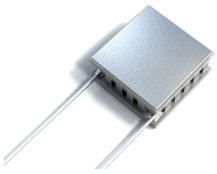
- By default thermoelectric cooler is provided with blank tinned single-core Copper wires. Various TEC terminal connection options are available by request. In the case of a thermoelectric cooler with wires, customer can select the wire type, diameter, and length.

THERMOELECTRIC COOLER SURFACE OPTIONS

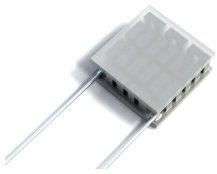
Standard ceramics surface options are available without price change.
Pre-tinning can be applied to one side of the TEC or both.
Different solder types are available for pre-tinning.



- [x] Au plated

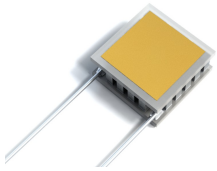


- [ ] Pre-tinned with solder

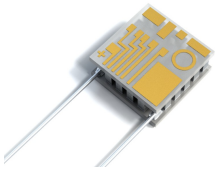


- [ ] Blank ceramics (w/o metallization)

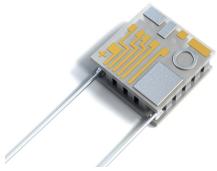
Advanced ceramics surface options, available by request.
Surface customization can be applied to one side of the TEC or both.



- [ ] Custom gap



- [ ] Customized Au pattern



- [ ] Selective pre-tinning over pattern

- By default thermoelectric cooler is provided with Au plated ceramics surfaces (both sides). Au plated surface is the universal solution, suitable for soldering and gluing. Surface type and configuration can be specified individually for each TEC side (top and bottom ceramics surfaces).