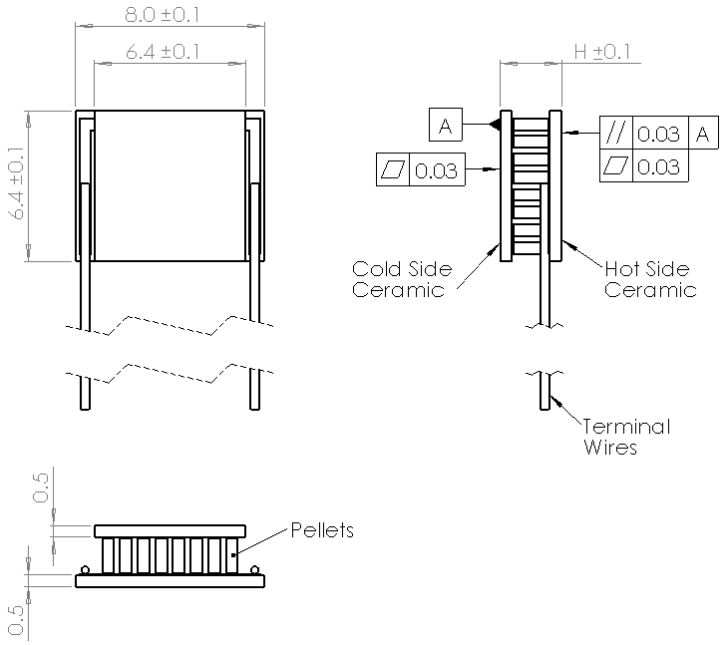
APHM04-032-XX

THERMOELECTRIC MODULE





CHARACTERISTICS

	ΔTmax	Vmax	Imax	Qmax	Elect R	Length	Height
	[K]	[V]	[A]	[W]	[Ohm]	[mm]	[mm]
APHM04-032-XX (N=32)							
APHM04-032-03	65	3.9	2.3	5.3	1.28	6.4	1.4
APHM04-032-05	68	4	1.4	3.4	2.1	6.4	1.6
APHM04-032-08	70	4	0.9	2.2	3.34	6.4	1.9
APHM04-032-10	71	4	0.7	1.8	4.16	6.4	2.1
APHM04-032-12	71	4	0.6	1.5	4.98	6.4	2.3
APHM04-032-15	71	4	0.5	1.2	6.21	6.4	2.6

Features

- ROHS & REACH Compliant
- Precise temperature control
- Solid-state reliability

Applications

- Automotive
- Industrial
- Telecommunications
- Medical
- Aerospace

MANUFACTURING OPTIONS

STANDARD SPEC

SnSb solder (Tmax -230°C)
Aluminium Nitride ceramics (not metalised)
Terminal wires: Tinned copper wires

CUSTOMISATIONS

Integrated thermistors and custom tracking/plating
Customer specified connector harnesses

OPTIONS

SOLDER:
AuSn solder (Tmax 280°C)

CERAMICS:
High purity Al2O3 (99.6%), Al2O3 (96%)
Metalisation – (Au plating)

WIRING:
Insulated wires, colour coded

METALISATION AND PRE-TINNING WITH:

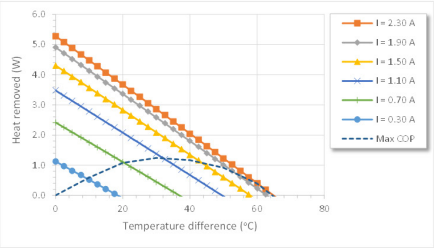
Solder 117 (In-Sn, Tmelt =117°C)
Solder 138 (Sn-Bi, Tmelt = 138°C)
Solder 143 (In-Ag, Tmelt = 143°C)
Solder 157 (In, Tmelt = 157°C)
Solder 183 (Pb-Sn, Tmelt = 183°C)
Optional (specified by Customer)

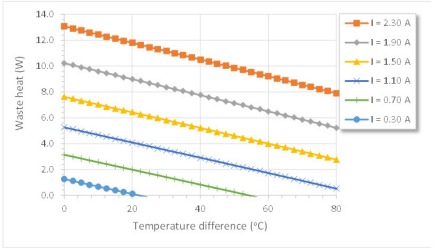
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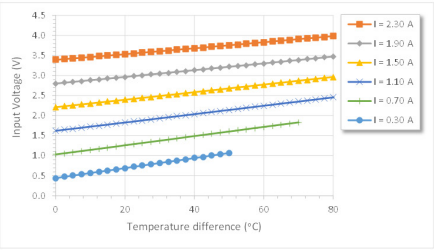
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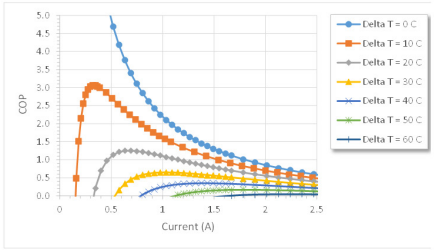
APHM04-032-03

Hot side temperature 25°C

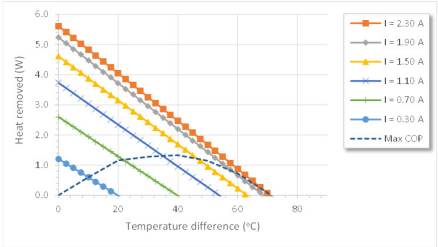


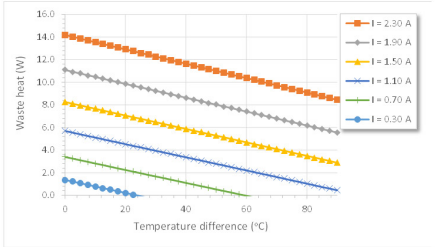


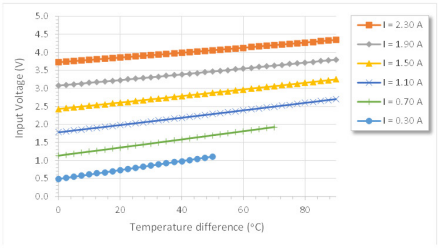


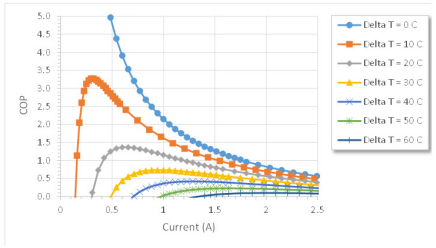


Hot side temperature 50°C

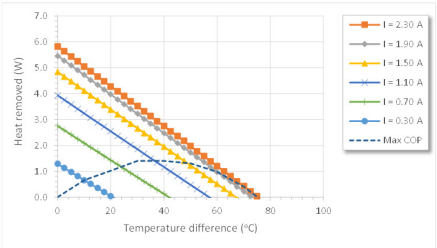


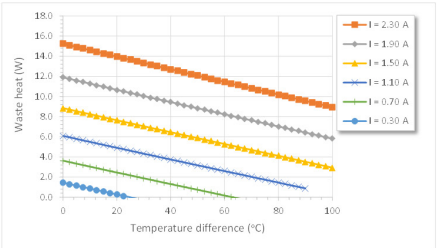


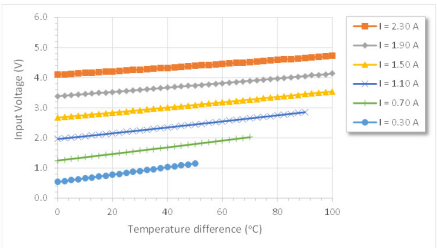


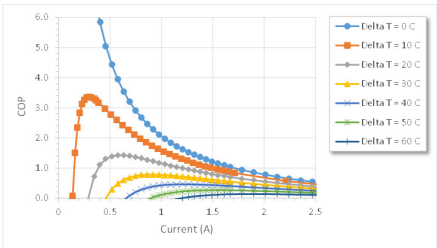


Hot side temperature 75°C







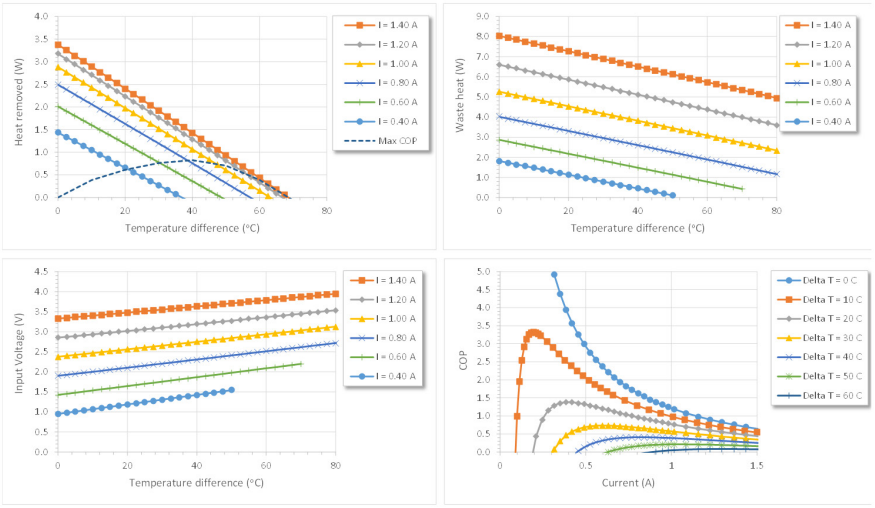


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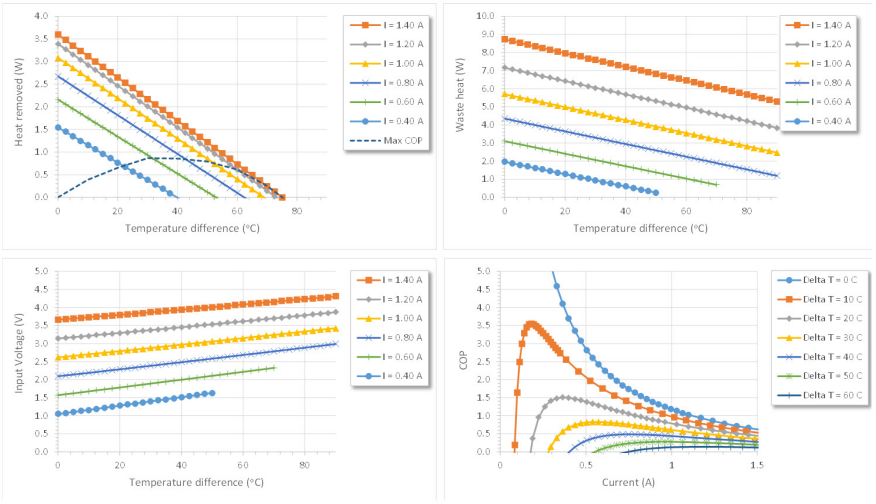
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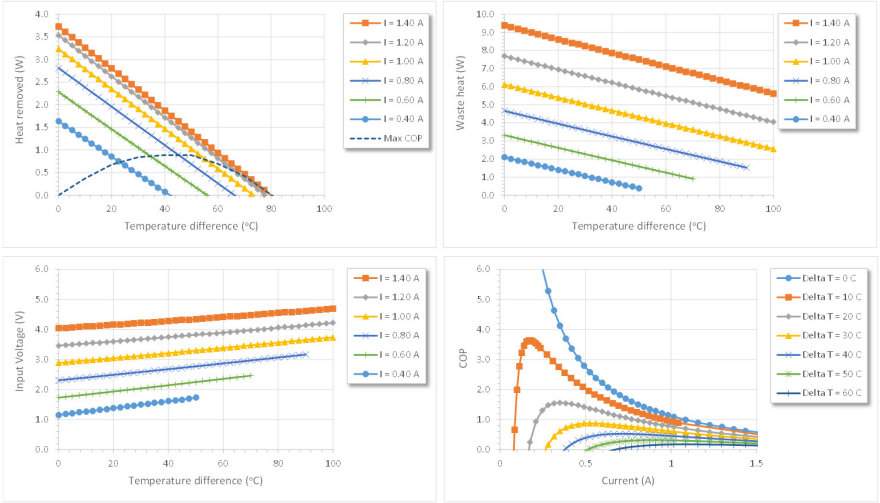
Hot side temperature 25°C



Hot side temperature 50°C



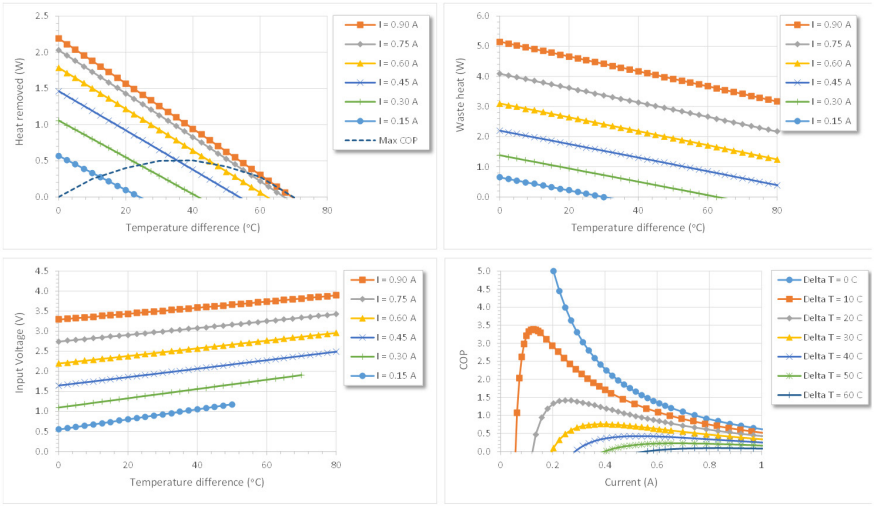
Hot side temperature 75°C



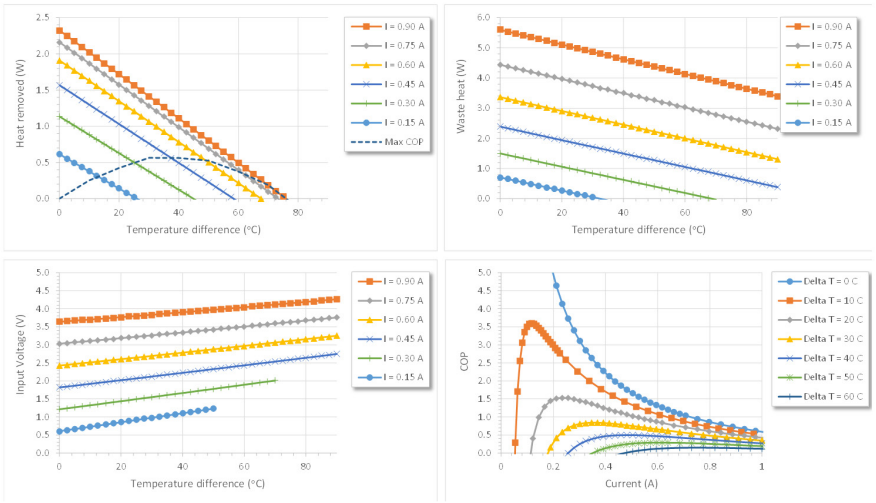
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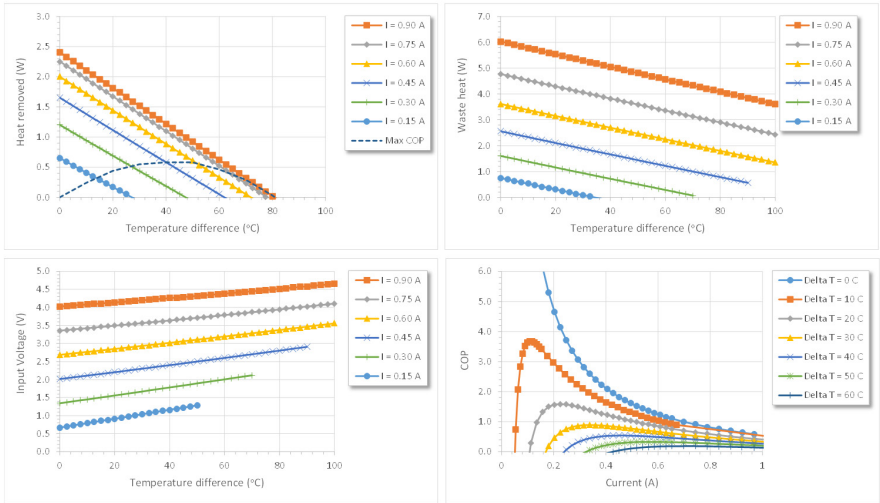
Hot side temperature 25°C



Hot side temperature 50°C



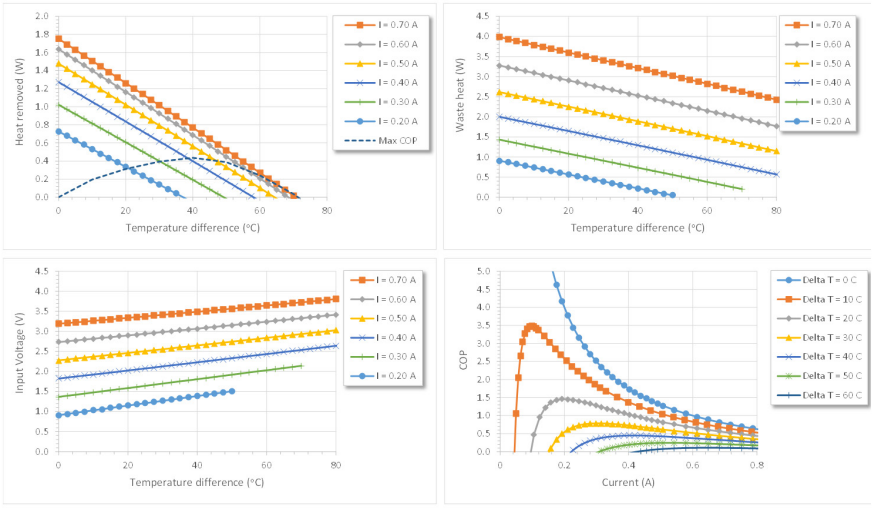
Hot side temperature 75°C



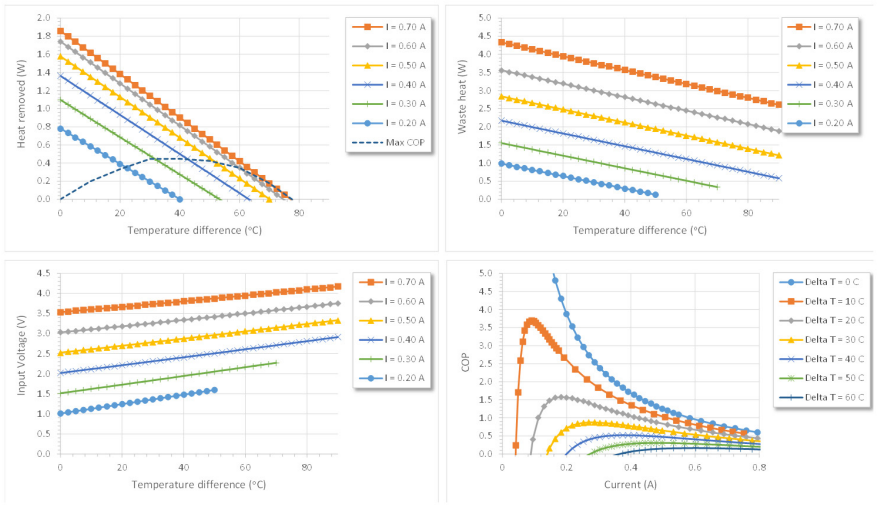
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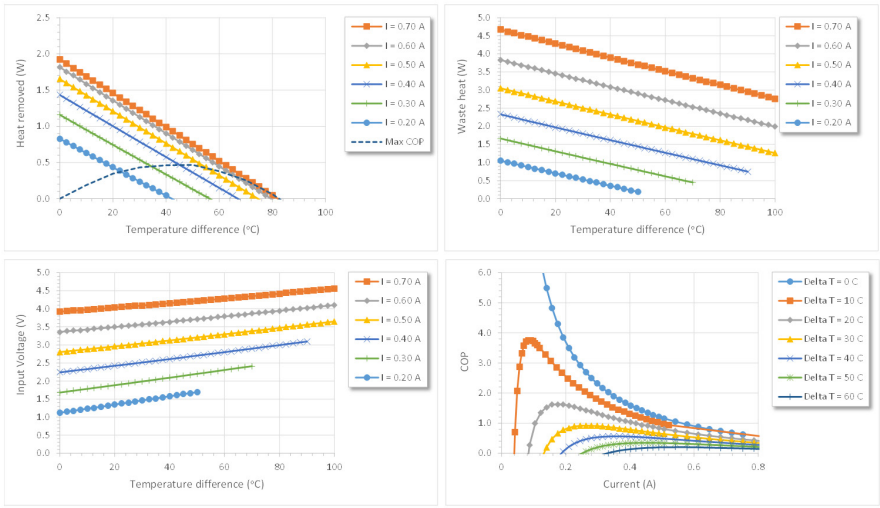
Hot side temperature 25°C



Hot side temperature 50°C



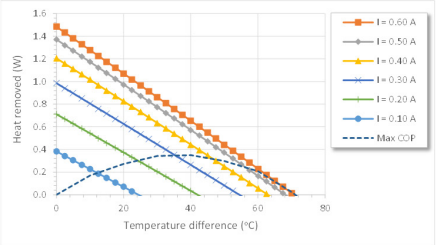
Hot side temperature 75°C

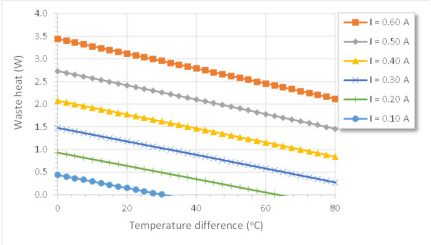


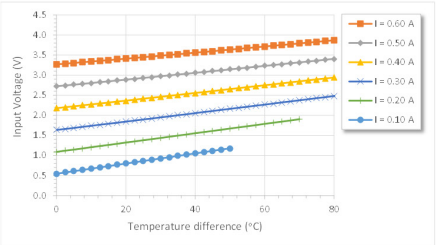
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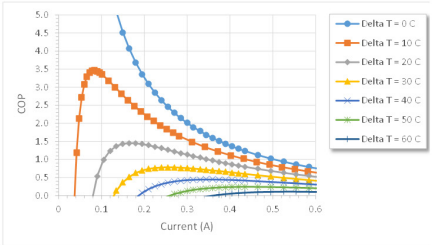
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Hot side temperature 25°C

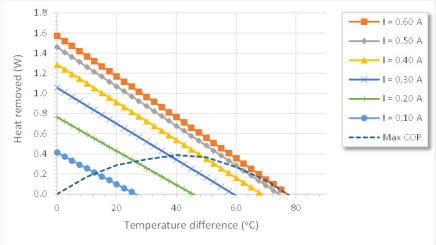


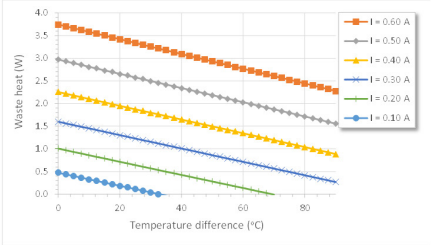


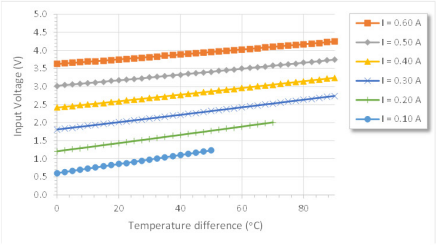


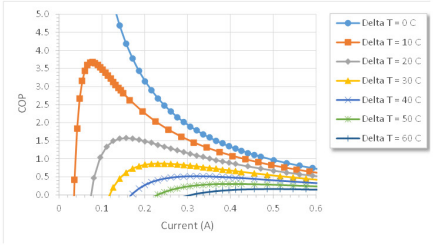


Hot side temperature 50°C

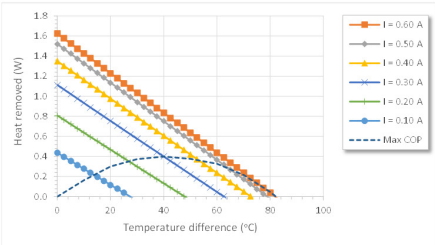


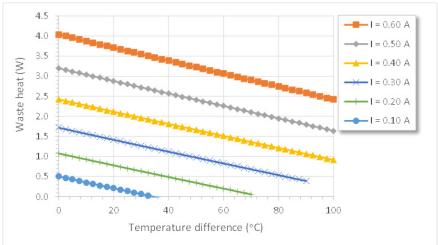


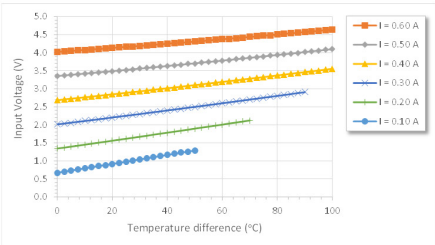


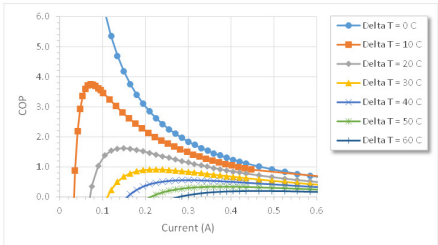


Hot side temperature 75°C







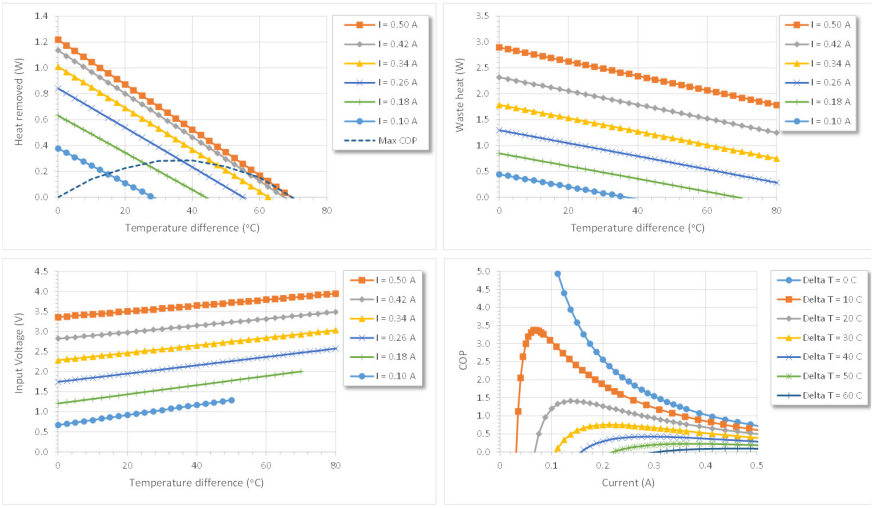


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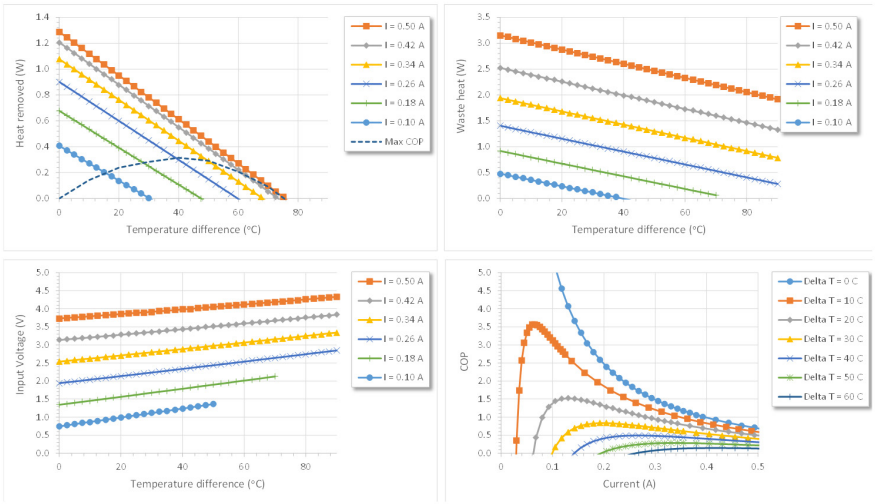
PERFORMANCE DATA

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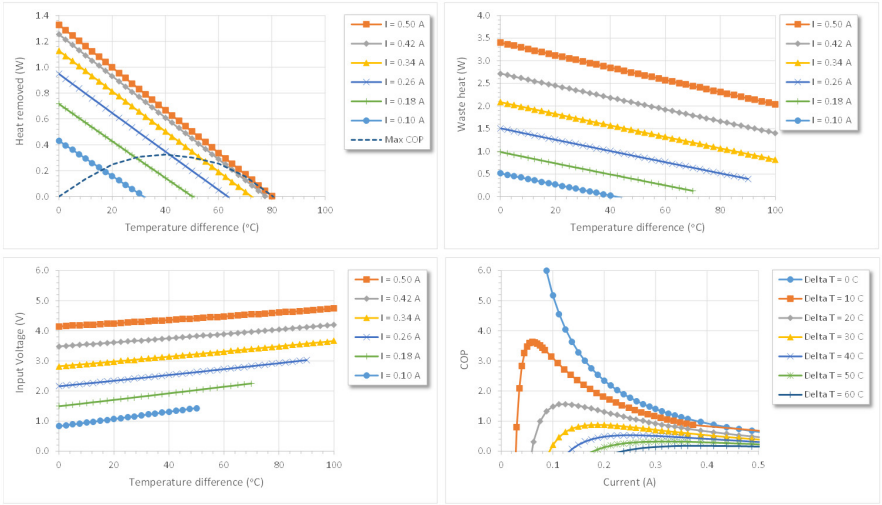
Hot side temperature 25°C



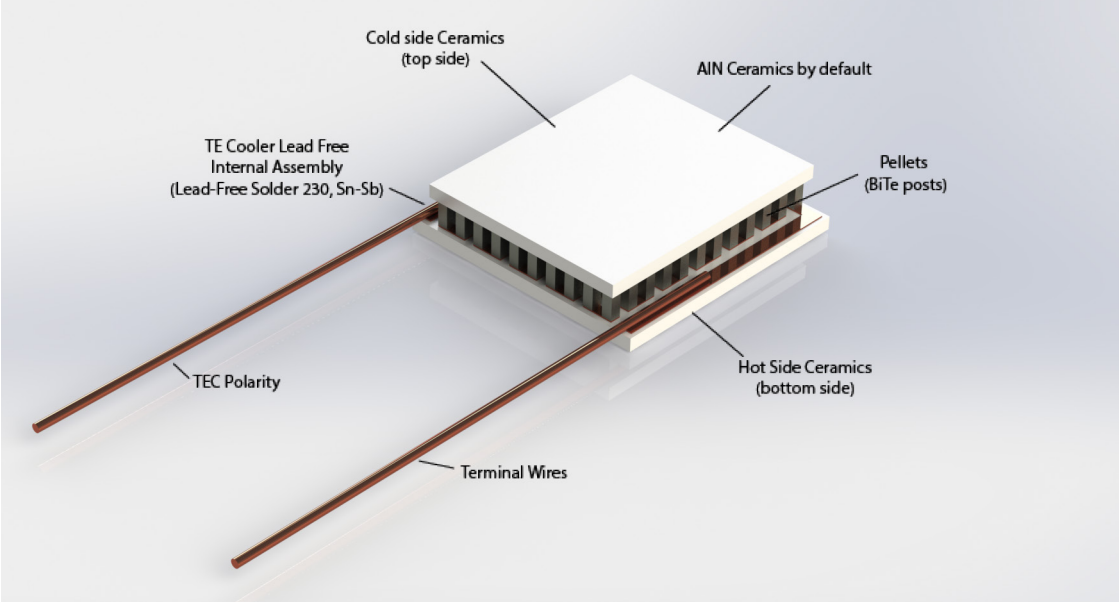
Hot side temperature 50°C



Hot side temperature 75°C



THERMOELECTRIC COOLER OVERVIEW



ADDITIONAL OPTIONS

Tec Polarity
TEC Polarity can be modified upon request.

Terminal Wire Options
The default wires are blank (not isolated) tinned Copper. Multiple options including isolated wires and flexible multicore wires are avaliable upon request.

Customised AU Patterns
Selective Pre-tinning over pattern and customised AU patterns are avaliable on request.

Modification for WB Process
Thermoelectric coolers can be modified for wire bonding process. Avaliable upon request.

TEC Height Modification
Using cermatics of different thickness, standard TEC height can be modified without effecting performance.

NOTES

- TEC performance in this datasheet is specified in two standard ambient condition modes (vacuum, +27°C and dry nitrogen (N2) + 50°C). The performance may differ under other conditions.
- ACR and Umax values are sensitive to ambient temperature.
- Qmax raises with ambient temperature.
- Best perfomance temperature: +80 to +90°C
- The performance will be lower at temperatures below 0°C

- Do not exceed 200°C when heating the thermoelectric module.
- A heat sink must be atached at the hot (bottom) side when using the thermoelectric module.
- Do not apply DC current higher than Imax.
- Connect the thermoelectric module to DC power supply according to polarity.