**CUI** DEVICES

date 10/18/2019

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#### SERIES: CP40 **DESCRIPTION: PELTIER MODULE**

#### **FEATURES**

- arcTEC™ structure on select models
- solid state device
- precise temperature control
- quiet operation





MODEL	IDEL input input voltage¹ current²		internal output resistance <sup>3</sup> Qmax <sup>4</sup>		•	•		
	max (Vdc)	max (A)	typ $(\Omega \pm 10\%)$	T <sub>h</sub> =27°C (W)	T <sub>h</sub> =50°C (W)	<b>T<sub>h</sub>=27°C</b> (°C)	T <sub>h</sub> =50°C (°C)	
CP40136	3.8	4.0	0.80	8.1	9.0	66	72	
CP40236	8.6	4.0	2.0	18.7	21.8	66	72	
CP40336	15.4	4.0	3.5	33.4	37.3	66	72	
CP40147	2.1	4.0	0.42	4.2	4.6	68	75	
CP40247	3.8	4.0	0.77	7.5	8.3	68	75	
CP40301547	4.2	4.0	0.87	8.4	9.2	68	75	
CP40347 <sup>6</sup>	8.6	4.0	1.76	19.6	21.6	70	77	
CP40439 <sup>6</sup>	19.5	4.0	4.18	45.0	49.5	68	75	
CP404046 <sup>6</sup>	24.1	4.0	4.94	55.7	61.2	68	75	
CP40447 <sup>6</sup>	15.4	4.0	3.15	32.0	35.2	70	77	
CP4055485 <sup>6</sup>	29.8	4.0	5.97	63.0	69.0	70	77	

Notes:

- 1. Maximum voltage at  $\Delta T$  max and  $T_h$ =27°C
- 2. Maximum current to achieve ΔT max

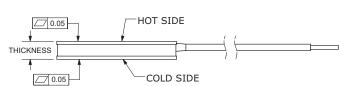
- Measured by AC 4-terminal method at 25°C
  Maximum heat absorbed at cold side occurs at I<sub>max</sub>, V<sub>max</sub>, and ΔT=0°C
  Maximum temperature difference occurs at I<sub>max</sub>, V<sub>max</sub>, and Q=0W (ΔT max measured in a vacuum at 1.3 Pa)
  Designed with arcTEC™ structure.

#### **SPECIFICATIONS**

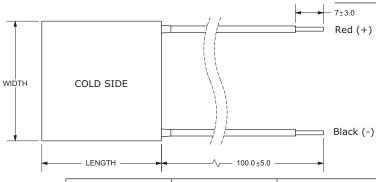
parameter	conditions/description	min	typ	max	units
solder melting temperature	connection between thermoelectric pairs CP40347, CP40447, CP40147, CP40247, CP40301547, CP404046, CP40439, CP4055485 all other models	235 138			°C °C
assembly compression				1	MPa
RoHS	yes				

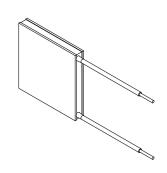
#### **MECHANICAL DRAWING**

units: mm



	MATERIAL	PLATING	
ceramic plate	96% AL <sub>2</sub> O <sub>3</sub>		
wire leads (3.6 mm models)	22 AWG	tin	
wire leads (all other models)	20 AWG	tin	
sealer	silicon rubber 703 RTV (between cold and hot side plates)		
joint cover	silicon rubber 703 RTV		
marking	P/N & S/N printed on cold side surface		

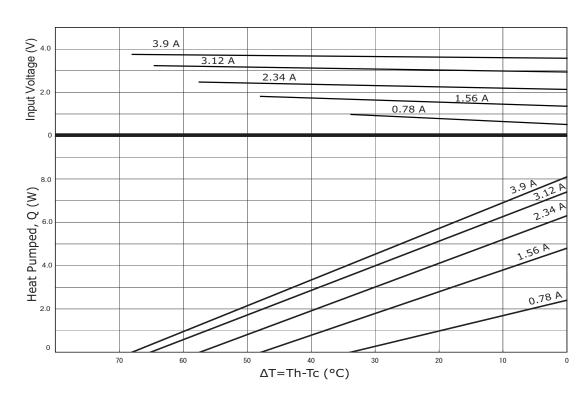




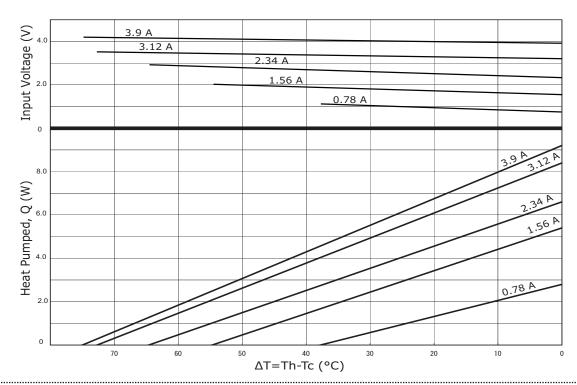
MODEL NO.	LENGTH (mm)	WIDTH (mm)	THICKNESS (mm)
CP40136	15 ±0.3	15 ±0.3	3.6 ±0.1
CP40236	20 ±0.3	20 ±0.3	3.6 ±0.1
CP40336	30 ±0.3	30 ±0.3	3.6 ±0.1
CP40147	15 ±0.3	15 ±0.3	4.6 ±0.1
CP40247	20 ±0.3	20 ±0.3	4.6 ±0.1
CP40301547	30 ±0.3	15 ±0.3	4.6 ±0.1
CP40347 <sup>1</sup>	30 ±0.3	30 ±0.3	4.6 ±0.1
CP40439 <sup>1</sup>	40 ±0.3	40 ±0.3	3.9 ±0.1
CP404046	40 ±0.3	40 ±0.3	4.6 ±0.1
CP40447 <sup>1</sup>	40 ±0.3	40 ±0.3	4.6 ±0.1
CP4055485 <sup>1</sup>	55 ±0.3	55 ±0.3	4.85 ±0.1

Notes: 1. Wire lead strip length on models CP40347, CP40447, CP40439, & CP4055485 is  $10 \pm 3.0$  mm.

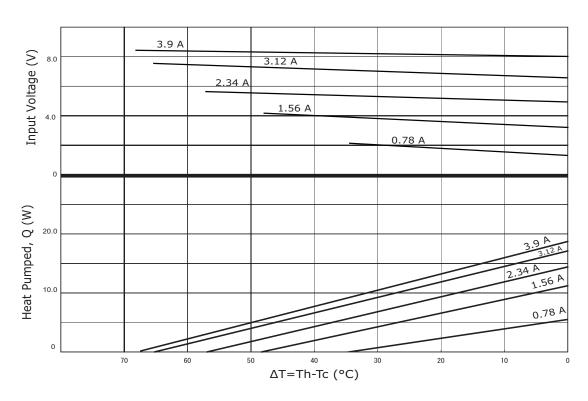
## CP40136 PERFORMANCE (Th=27°C)



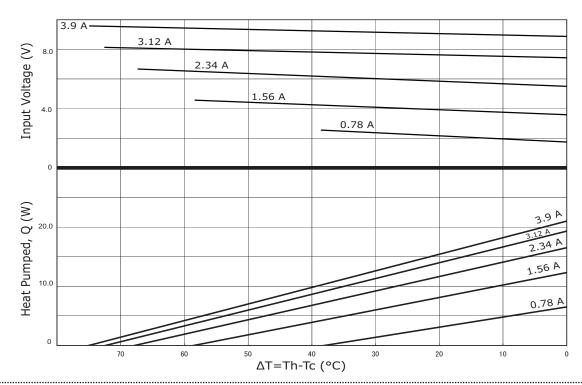
#### CP40136 PERFORMANCE (Th=50°C)



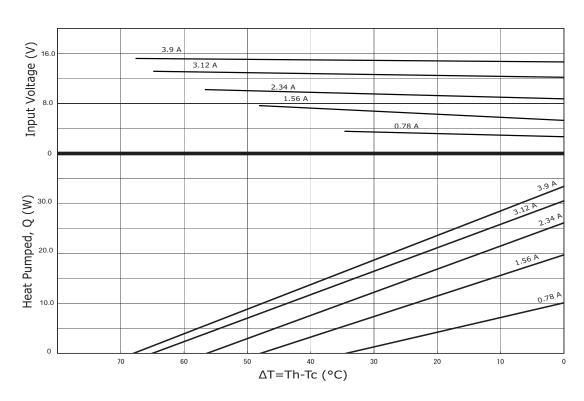
## CP40236 PERFORMANCE (Th=27°C)



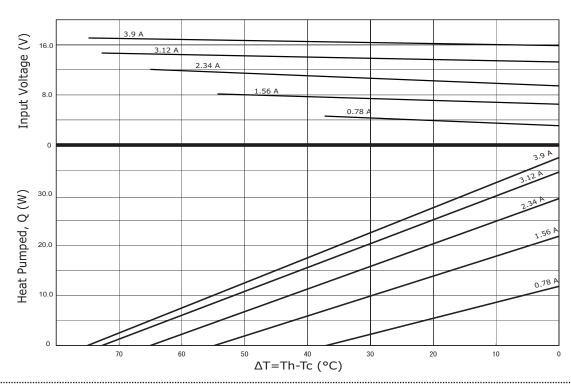
#### CP40236 PERFORMANCE (Th=50°C)



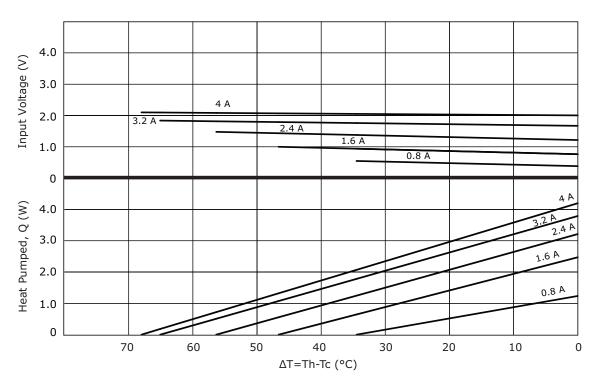
## CP40336 PERFORMANCE (Th=27°C)



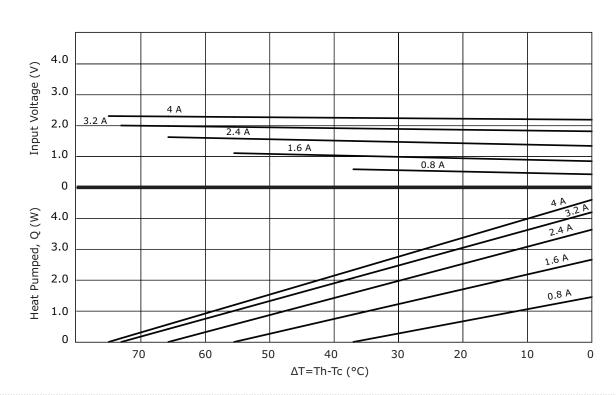
#### CP40336 PERFORMANCE (Th=50°C)



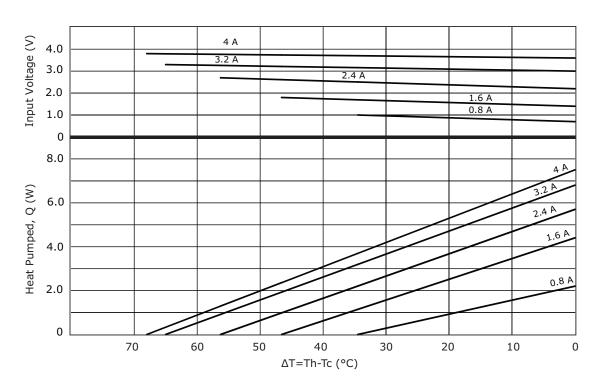
## CP40147 PERFORMANCE (Th=27°C)



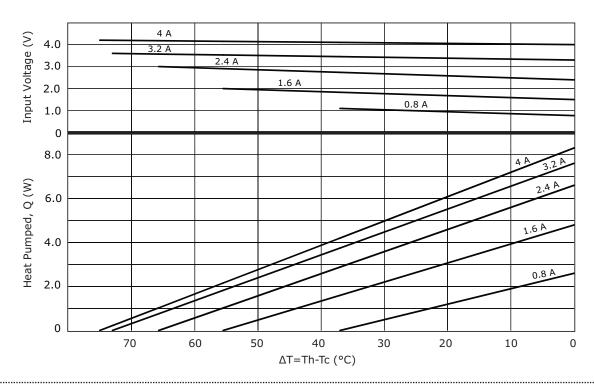
#### CP40147 PERFORMANCE (Th=50°C)



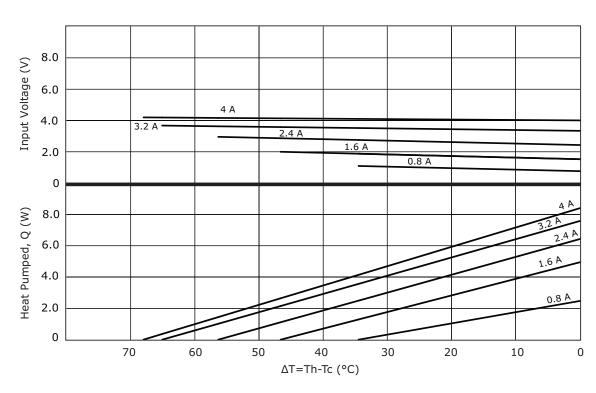
## CP40247 PERFORMANCE (Th=27°C)



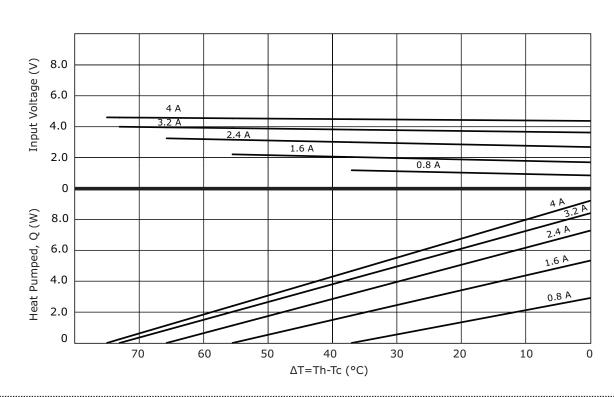
#### CP40247 PERFORMANCE (Th=50°C)



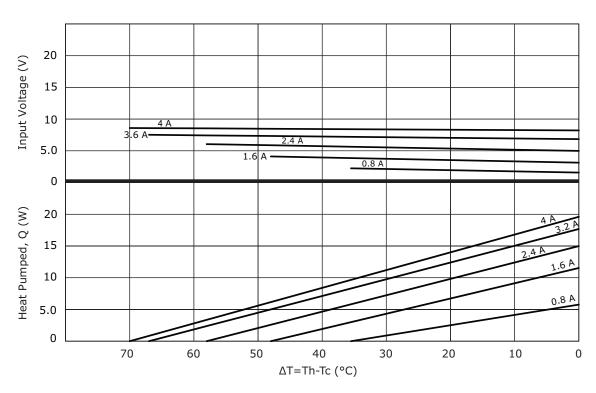
#### CP40301547 PERFORMANCE (Th=27°C)



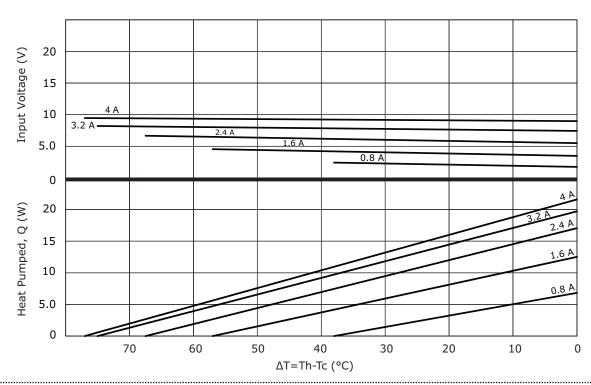
#### CP40301547 PERFORMANCE (Th=50°C)



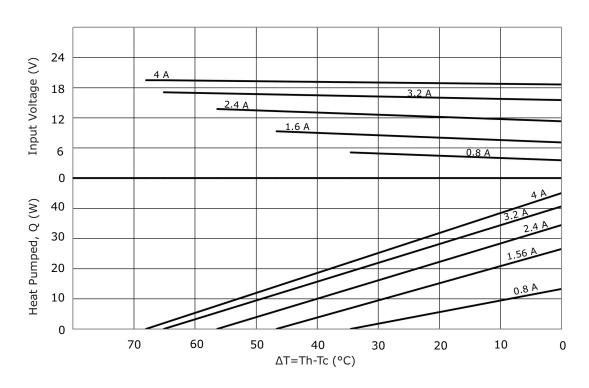
## CP40347 PERFORMANCE (Th=27°C)



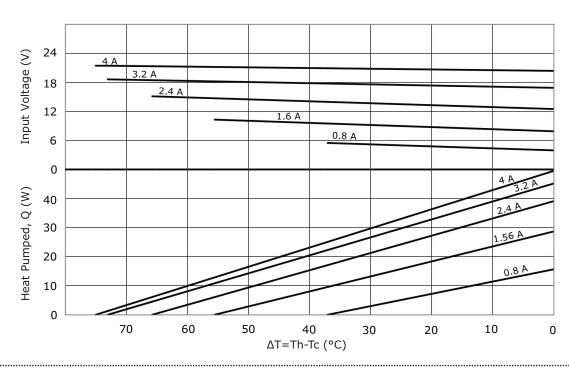
#### CP40347 PERFORMANCE (Th=50°C)



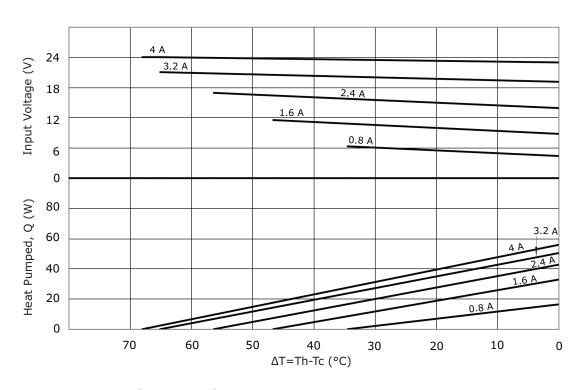
## CP40439 PERFORMANCE (Th=27°C)



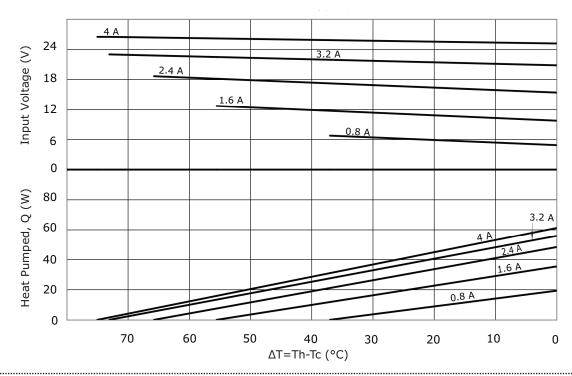
#### CP40439 PERFORMANCE (Th=50°C)



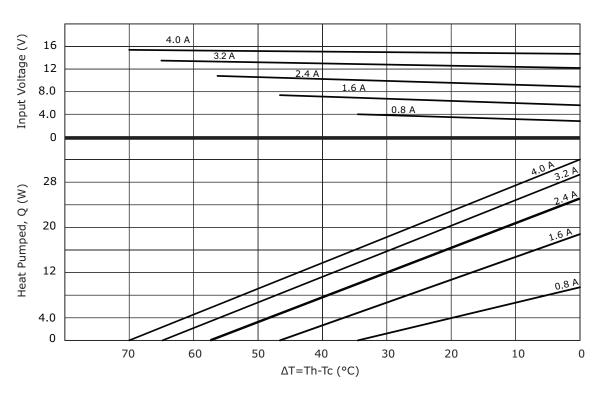
#### CP404046 PERFORMANCE (Th=27°C)



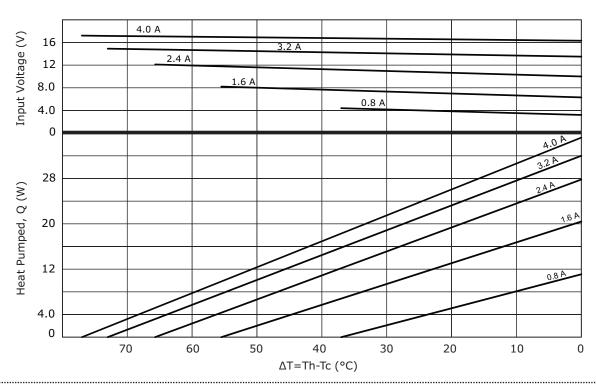
#### CP404046 PERFORMANCE (Th=50°C)



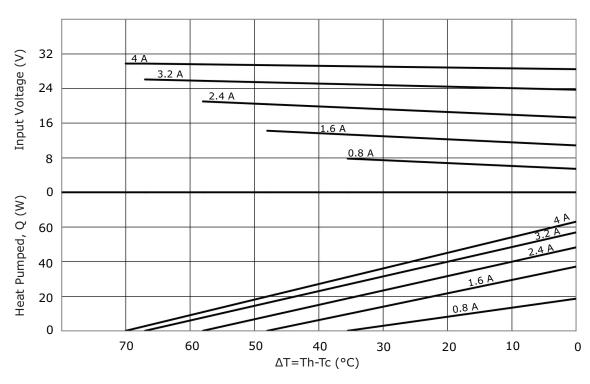
## CP40447 PERFORMANCE (Th=27°C)



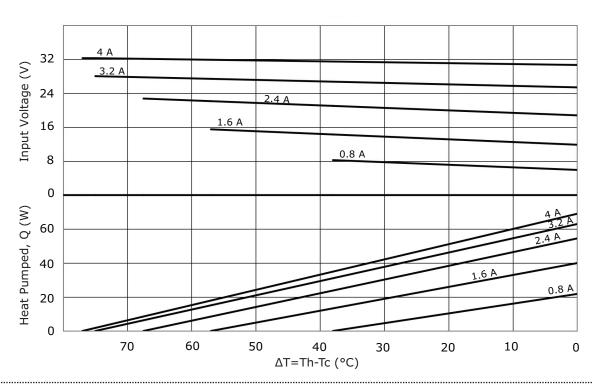
#### CP40447 PERFORMANCE (Th=50°C)



## CP4055485 PERFORMANCE (Th=27°C)



#### CP4055485 PERFORMANCE (Th=50°C)



Additional Resources: Product Page | 3D Model

CUI Devices | SERIES: CP40 | DESCRIPTION: PELTIER MODULE date 10/18/2019 | page 14 of 14

#### **REVISION HISTORY**

rev.	description	date	
1.0	initial release	09/03/2009	
1.01	applied new template	05/08/2012	
1.02	added new models	09/08/2016	
1.03	changed models CP40347 & CP40447 to arcTEC™ structure	12/01/2017	
1.04	changed thickness of CP40147, CP40247, CP40301547 models	09/19/2018	
1.05	added models CP40439, CP404046, CP4055485, brand update	10/18/2019	

The revision history provided is for informational purposes only and is believed to be accurate.

# **CUI** DEVICES

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