

# SPECIFICATION

Product : Thermoelectric module

Part Number : HPE-71-10-08

## 1 . Scope

- 1—1 This specification is applied to thermoelectric modules supplied by GCS
- 1—2 Revision of these specifications is carried out after consent.

## 2 . Specification

### 2 - 1 Parameters

Parameters		Remarks
Internal resistance	1.21 $\Omega \pm 10\%$	Note-1
I <sub>max.</sub>	6.0 A	Note-2
V <sub>max.</sub>	8.9 V	Note-3
	Th=25°C	
Q <sub>max.</sub>	32.1 W	Note-4
$\Delta T_{max.}$	69°C	Note-5
solder melting point	138 °C	Note-6
Maximum. compress.	1MPa	Note-7

Note-1 Measured by AC 4-terminal method at 25°C.

Note-2 Maximum current at  $\Delta T_{max.}$

Note-3 Maximum voltage at  $\Delta T_{max.}$

Note-4 Maximum cooling capacity at I<sub>max.</sub>, V<sub>max.</sub> and  $\Delta T = 0^\circ\text{C}$ .

Note-5 Maximum temperature difference at I<sub>max.</sub>, V<sub>max.</sub> and Q = 0W.

( Maximum parameters are measured in a vacuum 1.3P )

Note-6 The solder melting point of thermoelectric module

Note-7 Recommended maximum compression (not destruction limit)



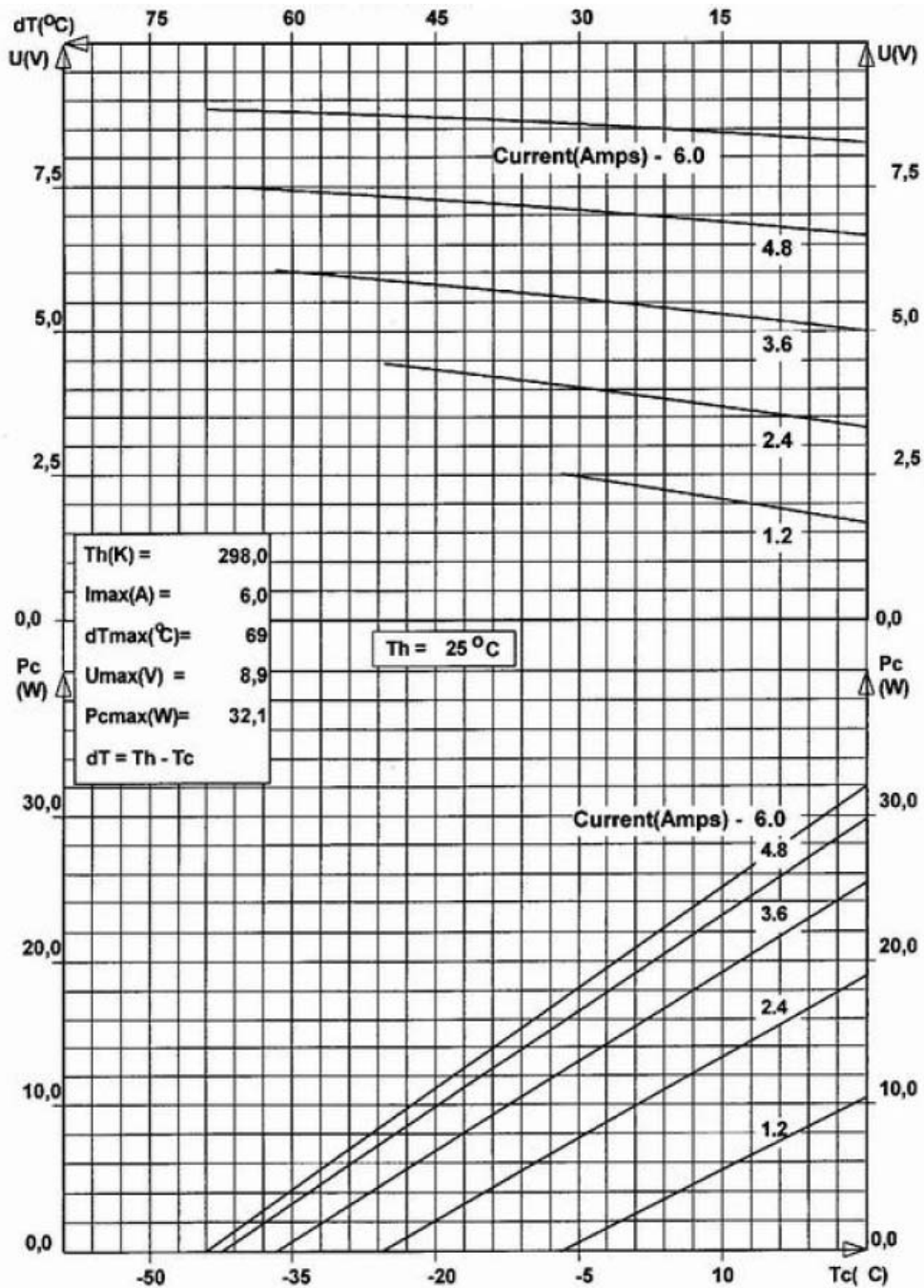
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## 2 -2 Recommendations:

- high cooling capacity from a small surface and long lifetime in power cycling applications with change of current polarity
- operation temperature up to 90°C for long lifetime;
- with operation current close to 0.5 I<sub>max</sub> extremely high COP (coefficient of performance possible)

## 2 - 3 Performance Graph (298K)



## 2-4 Performance Graph (323K)

