

# Thermoelectric Module



## Scope

This specification is applied to Multicomp thermoelectric modules  
Revision of these specifications is carried out after consent

## Specifications

Parameters		Remarks
Internal resistance	0.41 $\Omega$ $\pm$ 10%	Note-1
I max.	8.5 A	Note-2
V max.	3.8 V	Note-3
-	Th = 25°C	-
Q max.	19 W	Note-4
$\Delta$ T max.	70°C	Note-5
Solder melting point	232°C	Note-6
Maximum compress	1 MPa	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 max. V max. and  $\Delta$ T = 0°C

Note-5 : Maximum temperature difference at I max. V max. and Q = 0 W  
(Maximum parameters are measured in a vacuum 1.3 P)

Note-6 : The solder melting point of thermoelectric module

Note-7 : Recommended maximum compression (not destruction limit)

## Recommendations:

Maximum temperature for short time: 200°C

Operation temperature up to 150°C for long lifetime;

ON / OFF cycling mode reliability at high temperature

Recommended operation current not higher than 0.7 of I max.

Preferable application; thermal management

E modules are epoxy sealed for moisture protection

## Specification Table

Thot = 27°C

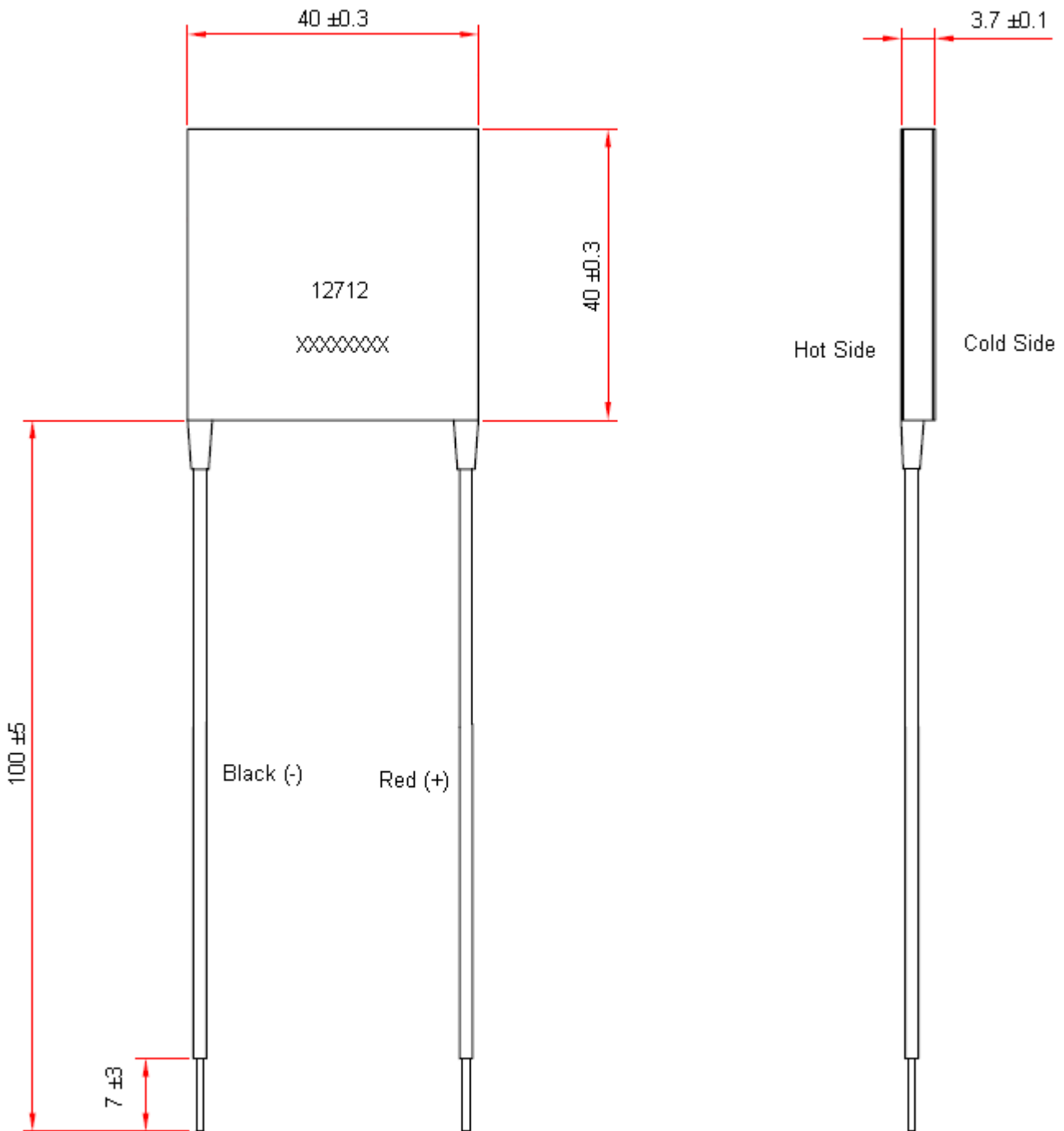
I max. (A)	U max. (V)	Qc max. W	dT max. °C	A	B	H	Part Number
8.5	3.8	19	70	20	20	3.8	MCPF-031-14-11

Dimensions : Millimetres

# Thermoelectric Module



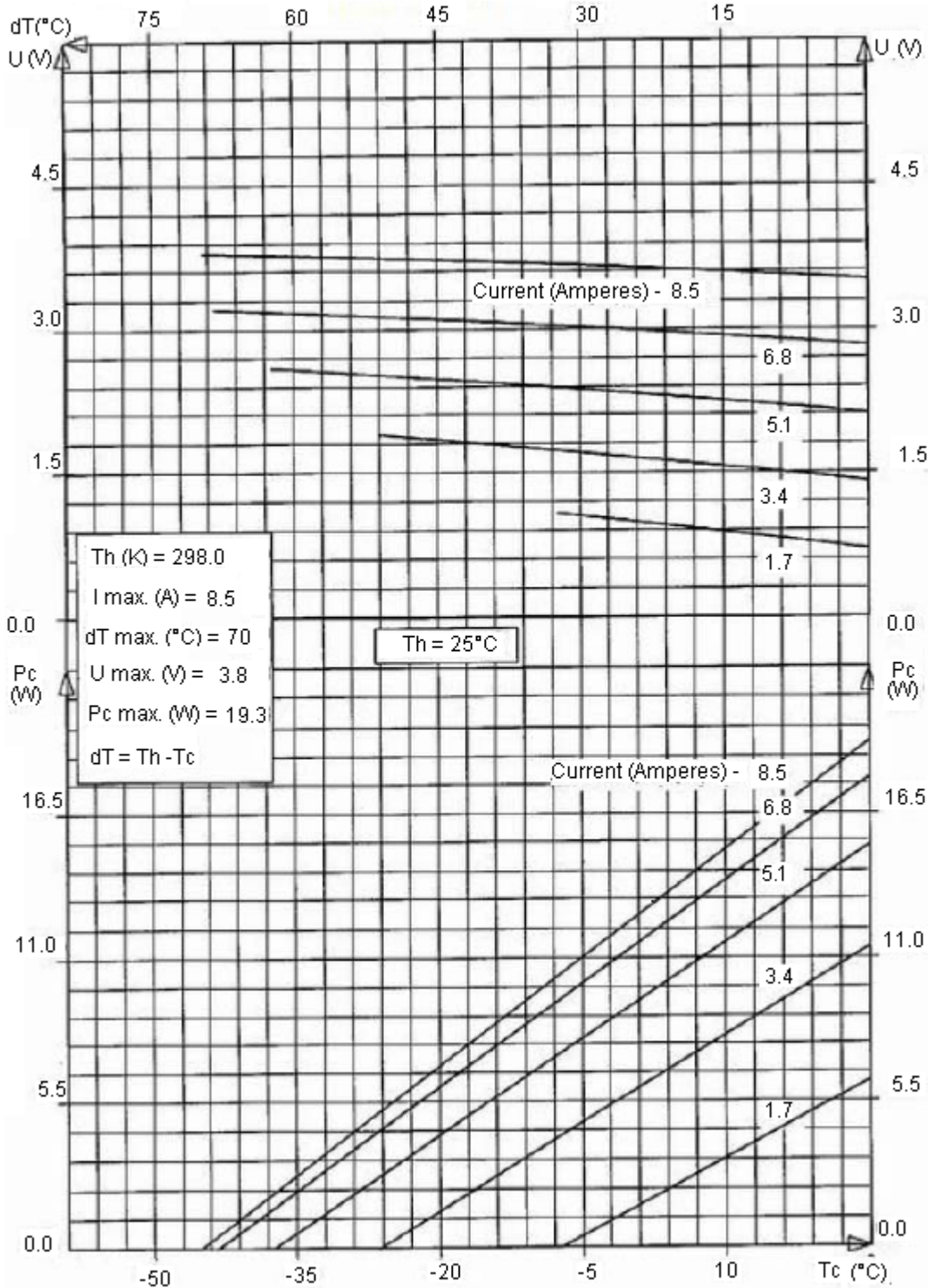
## Outline Drawing



Dimensions : Millimetres

# Thermoelectric Module

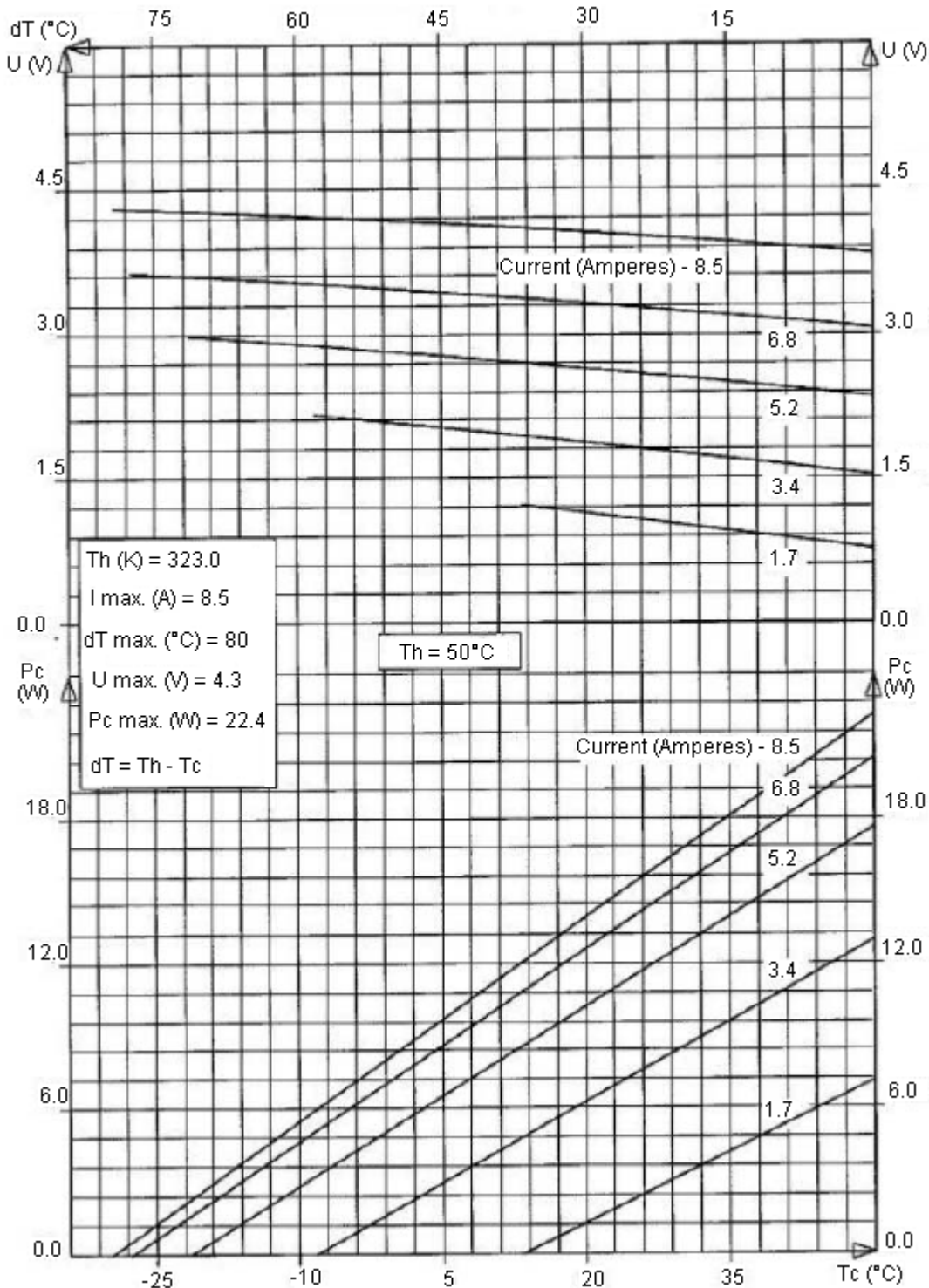
Performance Graph (298K and 323K Respectively)



# Thermoelectric Module



Performance Graph (298K and 323K Respectively)



$T_h$  (K) = 323.0  
 $I$  max. (A) = 8.5  
 $dT$  max. ( $^\circ\text{C}$ ) = 80  
 $U$  max. (V) = 4.3  
 $P_c$  max. (W) = 22.4  
 $dT = T_h - T_c$

$T_h = 50^\circ\text{C}$

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