ADVANCED THERMOELECTRIC

Technical Data Sheet

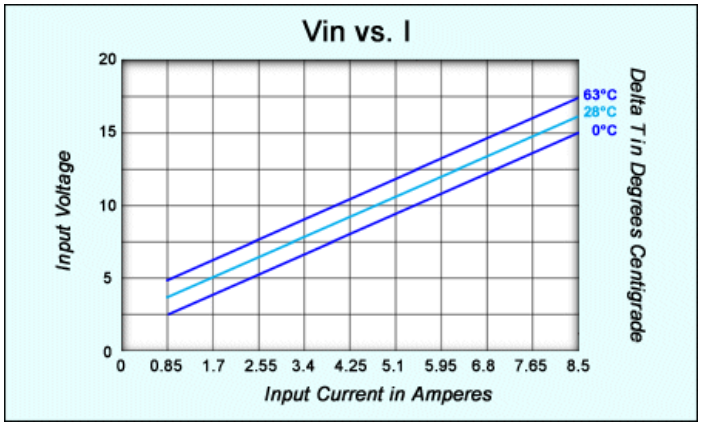
ST-127-1.4-8.5

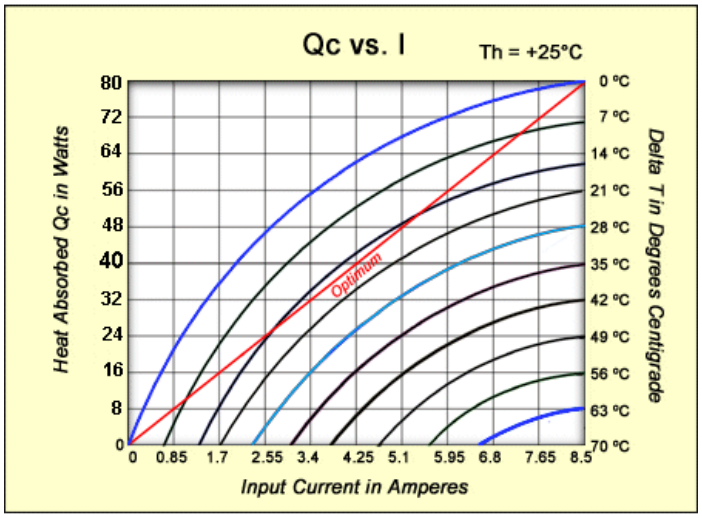
Standard Series Thermoelectric Module

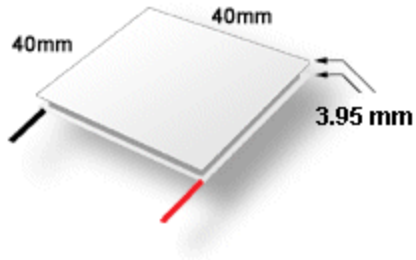
UNIT CODE	DESCRIPTION
ST-127-1.4-8.5	Thermoelectric Cooling Module

SPECIFICATIONS			
Current I_{max}	Voltage V_{max}	Cooling Capacity Q_{max}	Maximum Delta T DT_{max}
8.5 Amps	17.5 Volts	80 Watts	70 °C

PERFORMANCE CURVES (T_h = 25 °C)







ST-127-1.4-8.5 is our most powerful single-stage thermoelectric module, in the 40 x 40 mm footprint, intended for use with 12 to 15-volt DC power sources. Having the greatest Qmax also means having to eject the greatest amount of heat and this module may require a fabricated forced convection heat sink, or liquid heat sink, in order to limit the hot-side temperature increase to an acceptable level.

ST-127-1.4-8.5 may be used for cooling, heating and temperature stabilization and is employed in a wide range of applications including consumer, industrial, lab/scientific, biomedical, telecommunications, military and aerospace. Also available with porch, metallized and tinned surfaces and in strings from 2-12 modules long. A High Performance version is available and should be selected for thermal cycling.

100% QC (C of C available by Lot)
Operating temperature -50°C +150°C
Height, flatness and parallel variance: ± 0.02mm

Option Suffix designations:
Anti-corrosion Potting = "P"
Epoxy edge sealing = "E"
Lapping to ± 0.01mm = "L"
(for example ST-127-1.4-8.5"PE")

Module Characteristics and Value Descriptions:

I_{max} is the maximum (optimal) input current in amperes.
V_{max} is the maximum input voltage in volts when the current is optimal (I_{max}).
Q_{max} is the maximum amount of heat the module is capable of pumping. This value is achieved when there is no difference in the temperature (DT=0) on the modules two surfaces. If your application requires cooling, the heat pumping capacity will be less.

DT_{max} or DT_{max} is the maximum temperature differential between the hot and cold side of the module with no heat load (Q=0). As the thermal mass of the object to be cooled increases the ΔT becomes fewer degrees until Q_{max} is reached and ΔT=0.

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