ADVANCED THERMOELECTRIC

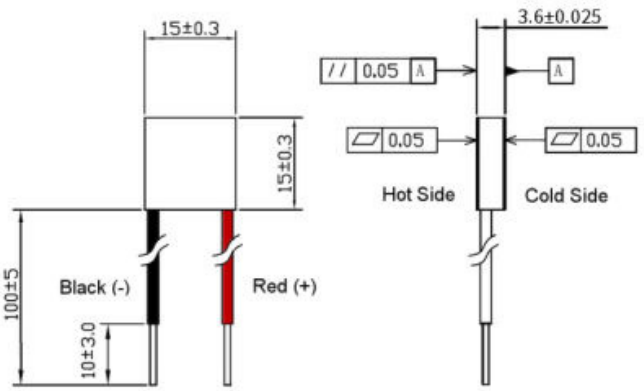
Technical Data Sheet

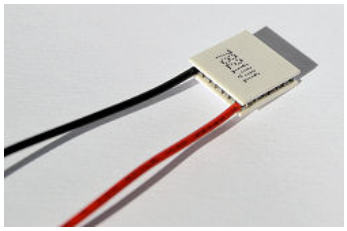
# TM-31-1.0-4.0

Thermoelectric Module

## Specifications (Hot-Side Temperature 27 °C)

| $I_{max}$ maximum current at $\Delta T_{max}$ | $V_{max}$ maximum voltage at $\Delta T_{max}$ | $Qc_{max}$ maximum cooling capacity at $I_{max}$, $V_{max}$ and $\Delta T$ = 0 °C | $\Delta T_{max}$ maximum temperature difference at $I_{max}$, $V_{max}$ and Qc = 0W | Internal Resistance |
|---|---|---|---|---|
| 4.0 Amps | 3.8 Volts | 8.6 Watts | 70 °C | 0.85 Ω ± 10% |



Operating temperature range: -50 °C ~ +200 °C
(Solder melting point: +235 °C)

Thickness tolerance: ± 0.025mm
Flatness and parallel variance: ± 0.05mm
(Lapping to ± 0.01mm available.)

Standard lead wires: 22 AWG, Tin (Sn) plated at module interface, with a maximum temperature of +105 °C
(Other wiring options available)

Maximum recommended compression: 1Mpa

Ceramics: Alumina ($AL_2O_3$)
Available with metalized and tinned surfaces

Lot number (only) printed on the cold-side ceramic.

RoHS Compliant

*Are you a manufacturer and need a slightly different module? Our TE modules can be customized in a variety of ways and we can likely provide precisely what you require. Let us know what you need and we'll be happy to let you know what we can do for you.*

TM 31-1.0-4.0 is a general purpose single-stage thermoelectric module, with mid-range cooling capacity in the 15 x 15 mm footprint. Slightly more powerful than the 3-amp version of this module, TM 31-1.0-4.0 provides roughly 20% more cooling capacity with the ability to cool or stabilize slightly greater loads.

TM 31-1.0-3.0 is used for cooling, heating and temperature stabilization and is employed in a wide range of applications including medical, analytical, laboratory & scientific instruments, electro-optics, telecommunications and military. A version for thermal cycling is available.

In electro-optic and photonic applications, TM 31-1.0-3.0 is commonly used to maintain a constant temperature in order to stabilize the wavelength of a diode, detector or sensor.

Standard Options (PN Suffix):

RTV Edge sealing = "RTV"
Epoxy edge sealing = "E"
Lapping to ± 0.01mm = "L"

(for example TM-31-1.0-4.0 "EL")

TM 31-1.0-4.0 Web Page

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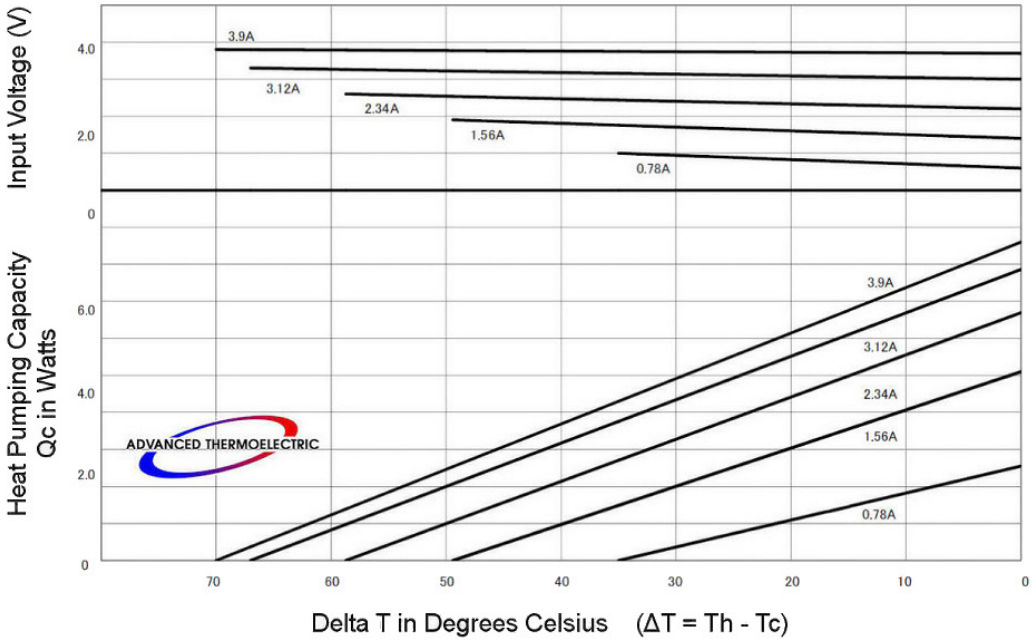
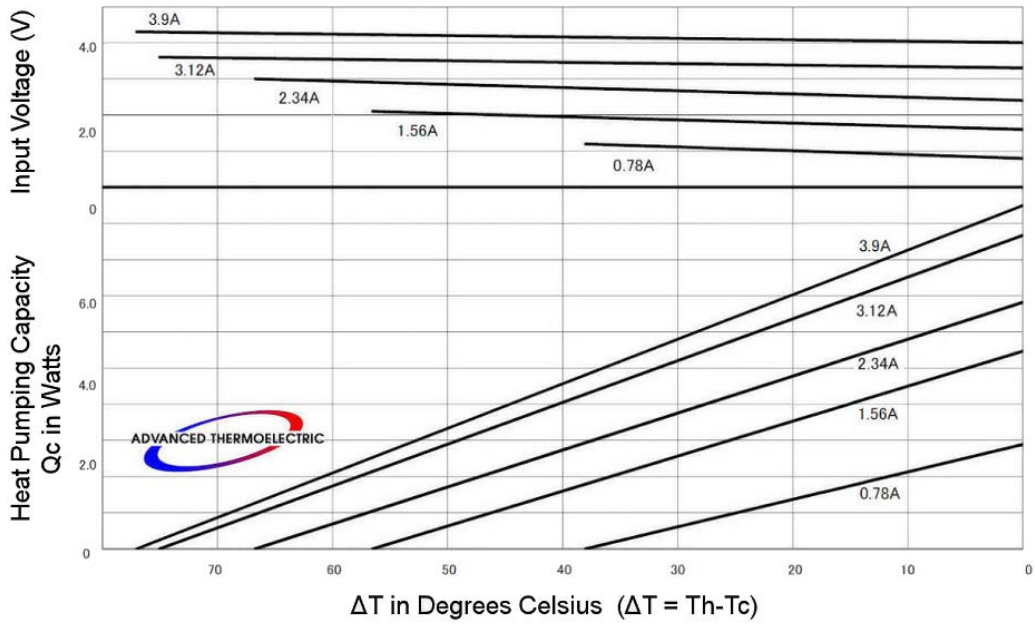
# TM 31-1.0-4.0

Thermoelectric Module

TM 31-1.0-4.0 Performance Curves Th = 27 °C




TM 31-1.0-4.0 Performance Curves Th = 50 °C

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