

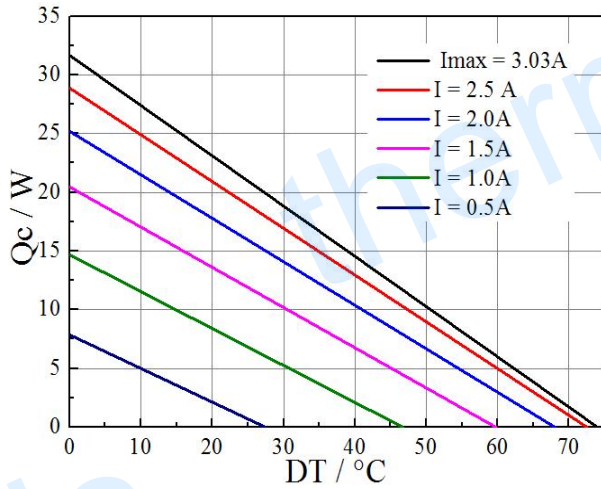


### Operation Cautions

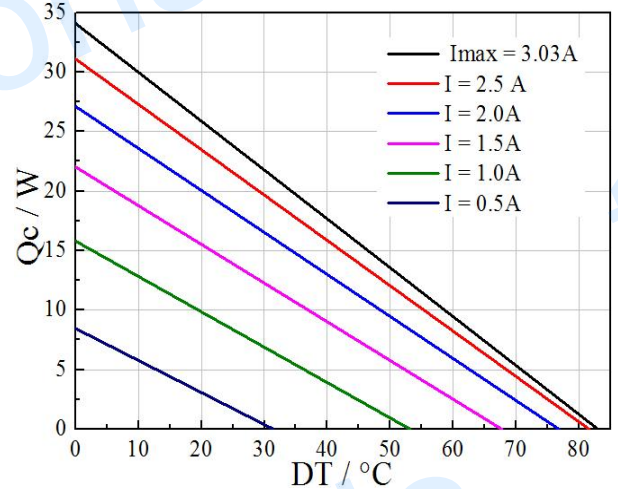
- Attach the cold side of module to the object to be cooled
- Attach the hot side of module to a heat radiator for heat dissipating
- Operation below  $I_{max}$  or  $V_{max}$
- Work under DC

### Performance Curve

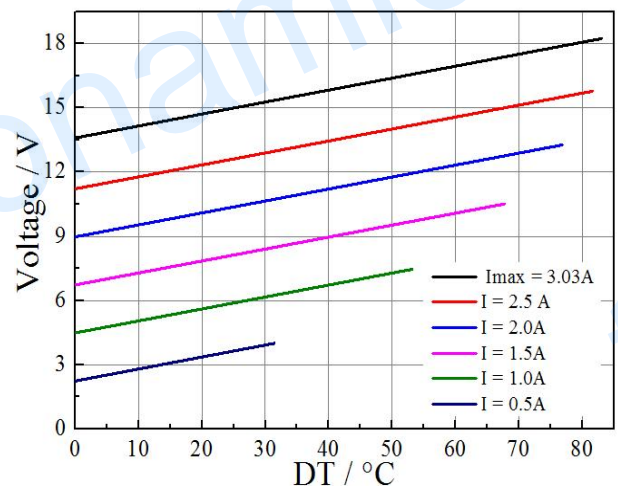
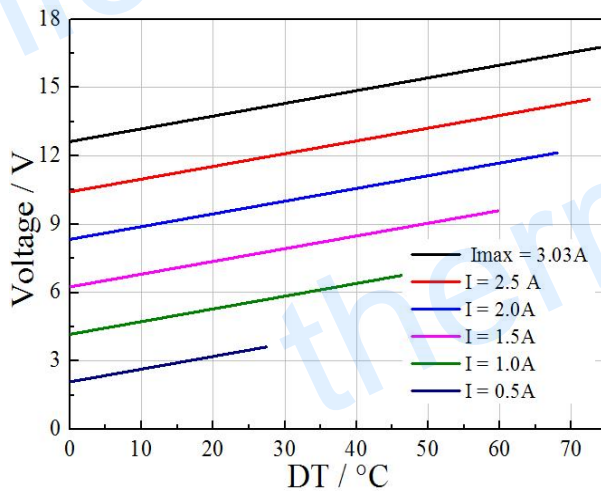
#### Performance Curves at $T_h=27^\circ\text{C}$



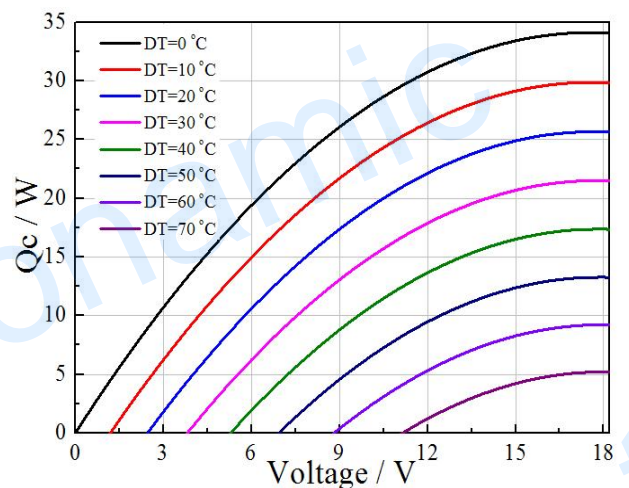
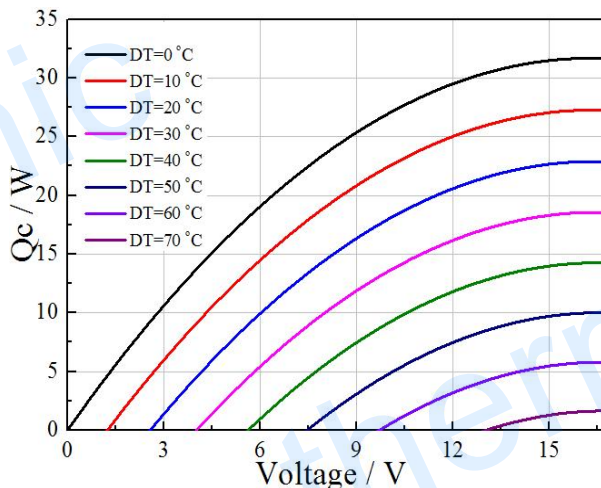
#### Performance Curves at $T_h=50^\circ\text{C}$



Standard Performance Graph  $Q_c = f(DT)$



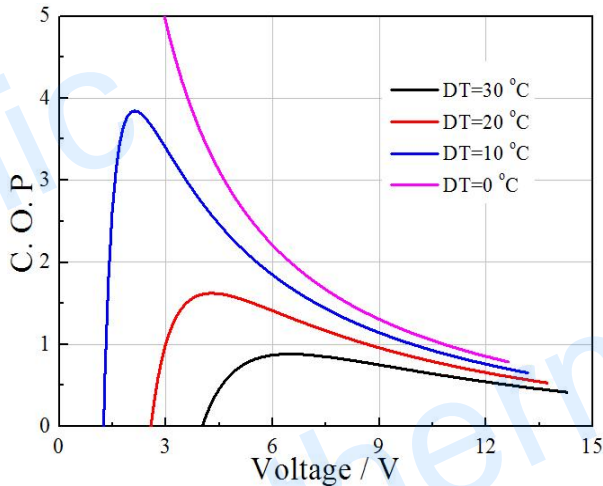
Standard Performance Graph  $V = f(\Delta T)$



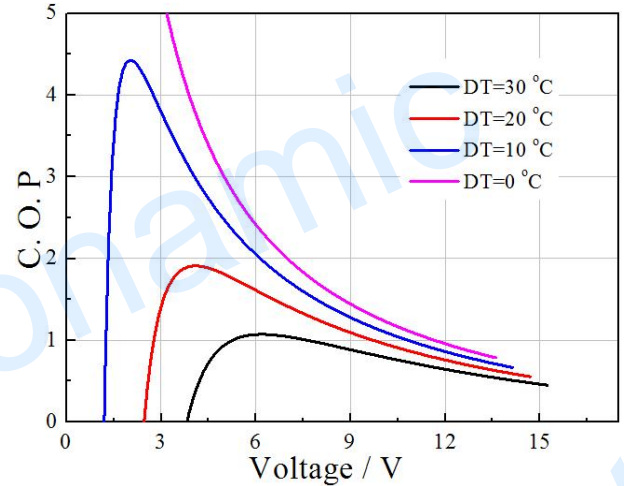
Standard Performance Graph  $Q_c = f(V)$

Creative technology with fine manufacturing processes provides you the reliable and quality products

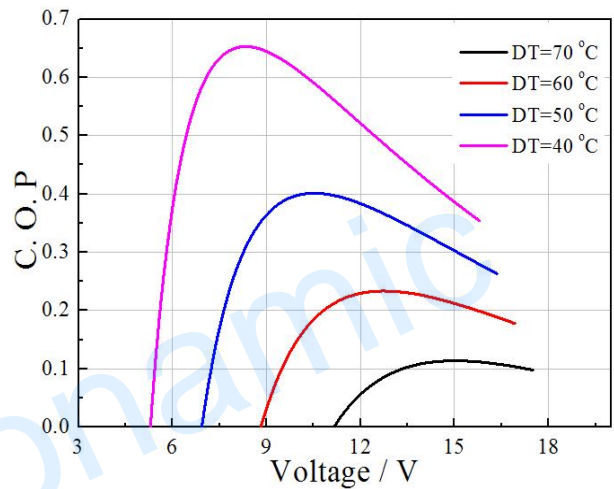
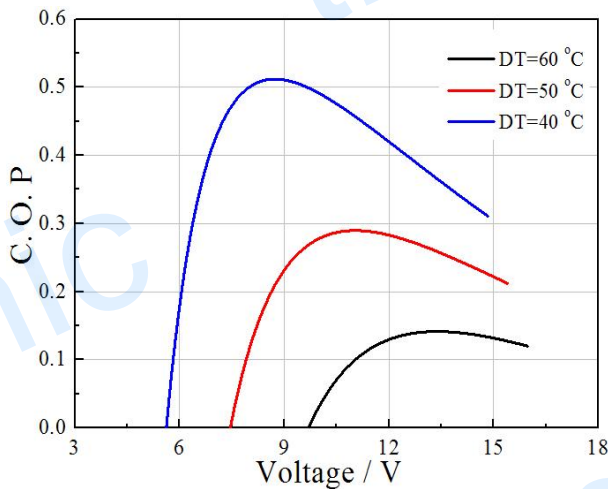
**Performance Curves at Th=27 °C**



**Performance Curves at Th=50 °C**



Standard Performance Graph COP = f(V) of ΔT ranged from 0 to 30 °C

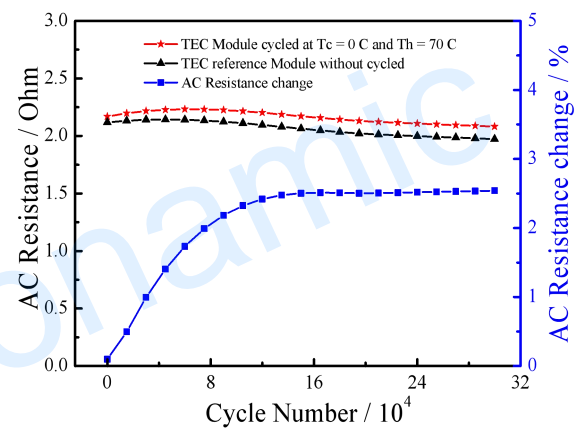
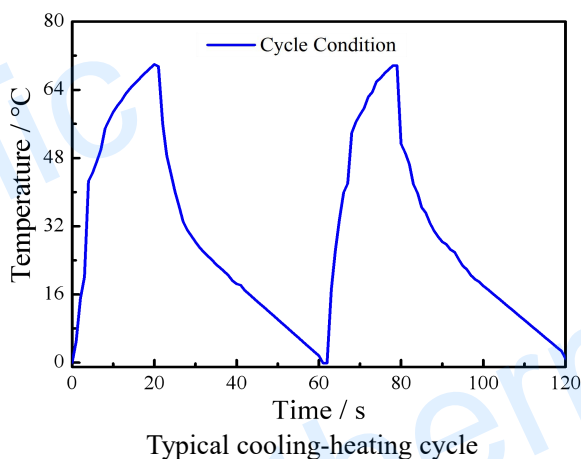


Standard Performance Graph COP = f(V) of ΔT ranged from 40 to 60/70 °C

Remark: The coefficient of performance (COP) is the cooling power  $Q_c$ /Input power ( $V \times I$ ).

A typical 127 couples module is fabricated by the unique “soft” process and has demonstrated that it only has 2.5% degrading after 300,000 thermal cycling. The below graphic shows that in beginning 120,000 cycles, it degrade about 2.5%, and then go on stable with very tiny degrading in further 180,000 thermal cycles. It is derived out that the modules can go over million thermal cycles.

**TEC Thermal Cycle Lifetime Test On TETC1-12706**



The Chart for AC Resistance and AC Resistance Changes vs Cycle Number