

Application Specific Design for Performance & Efficiency

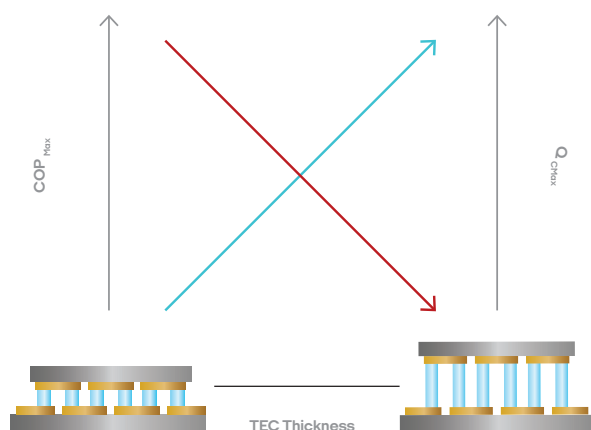
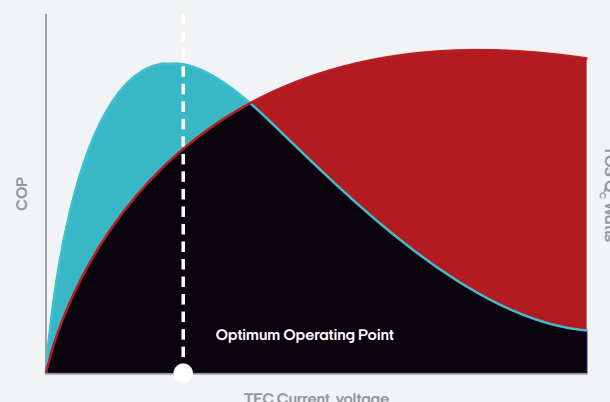
Considerations for Designing TECs for Performance & Efficiency

Good TEC Design

Optimizes coefficient of performance [COP] at TOSA operating condition.

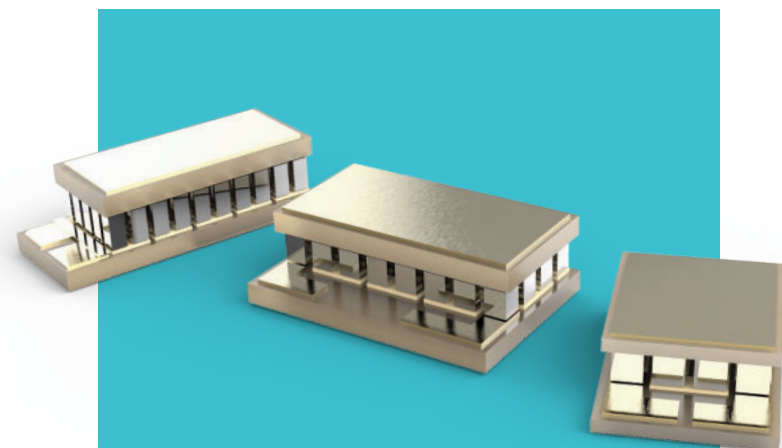
$$COP = Q_c / P_{TEC}$$

COP reaches maximum when $Q_C \ll Q_{C,max}$



Top considerations for performance:

- TEC size
- Heat pumping capability
- Package heat density
- Package operating temperature range
- Power consumption
- Active heat load v. total heat load
- Thermal resistance
- Thermal interface processing
- TEC driver



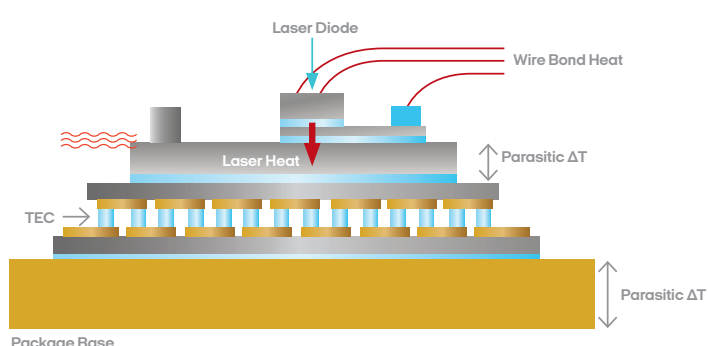
Optimizing the design

Phononic's industry-leading engineering team have decades of experience and prioritize quality of design at every stage of development to ensure our TECs enable the technology supporting the demands for high-speed data centers and other critical applications.

Our engineers know how to optimize for device size, parasitic temperature deltas, processing temperature range, integration options and more. They will help you identify the right BOM components so you can achieve the perfect balance of performance and part cost.

Prime considerations for quality & reliability:

- Application specific design ensures performance over time
- Next generation manufacturing processes assure stable ACR specs
- Products are certified towards ISO 9001:2015 and Telecordia, as well as JEDEC and MIL standards required by automotive application



Application-specific designs, ready for high-volume manufacturing



Best-in-class power consumption achieves high yield and low cost



Cost-effective solutions for multi-channel laser packages