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SPECIFICATIONS

PbTe-Based Thermoelectric Ingot

Introduction

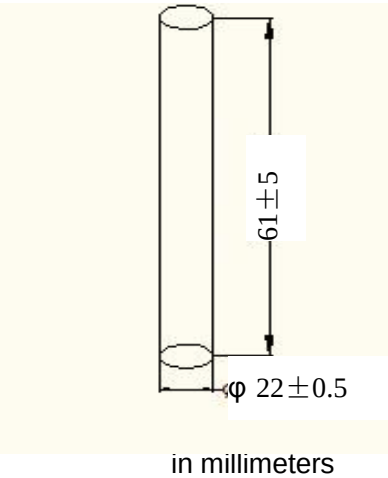
- The PbTe-based thermoelectric ingot is grown by delicate technique with the alloy of Pb, Te and others, and our unique crystallizing processes. The Lead Telluride thermoelectric ingot is used to fabricate the modules for power generation, good for converting 500-800K heat sources into electricity. The peak dimensionless figure of merit (*ZT)* of our p-type and n-type ingots is larger than 0.9 at around 650K, and good for waste heat recovery. Meanwhile, our ingot is featured with good mechanical strength and highly stable property, providing the key elements for producing the high performance and reliable power generation modules used for middle temperature range heat sources.

Application

- High performance and reliable power generation modules

Peformance Specification Sheet

Performance Specification	p-Type	n-Type	Note
Part Number	TIG-PbTe-P-1	TIG-PbTe-N-1	
Diameter (mm)	22±0.5	22±0.5	
Length (mm)	61±5	61±5	
Electrical Conductivity σ(10^2Sm^{-1})	900~1200	900~1200	300K
Seebeck Coefficient α(μVK^{-1})	100～180	250～350	500-700K
Thermal Conductivity □(Wm^{-1}K^{-1})	1.1~2	2.2~3	300-700K
Power Factor P(WmK^{-2})	⩾0.0018	⩾0.0048	600K
***Peak Dimensionless ZT* value**	⩾0.9	⩾1.1	



in millimeters

p type Ingot

n type Ingot

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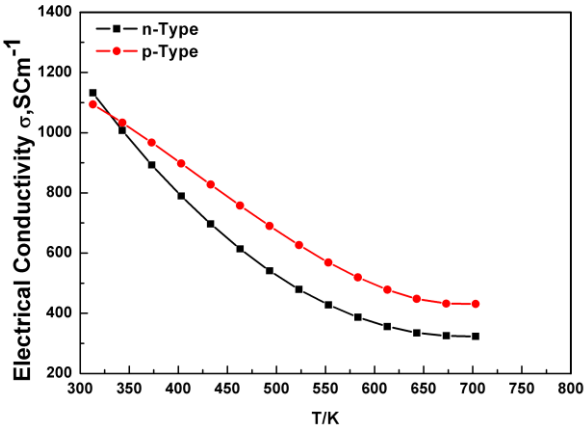
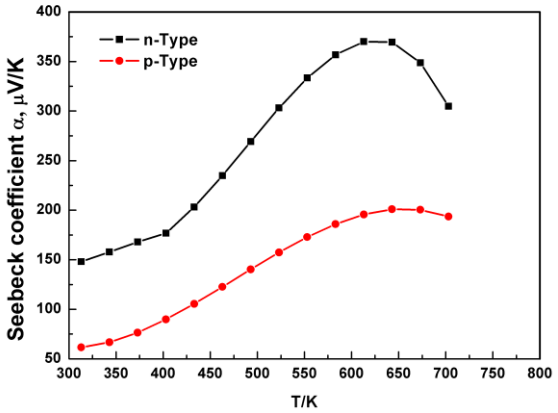
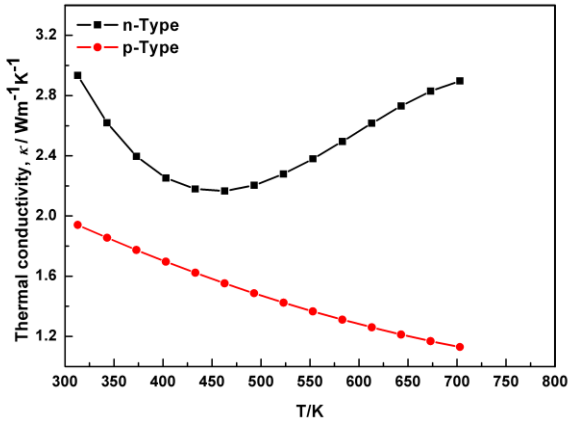


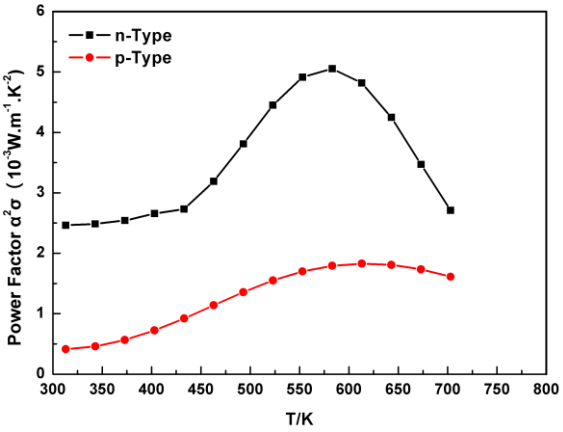
Electrical conductivity of the PbTe-based ingot



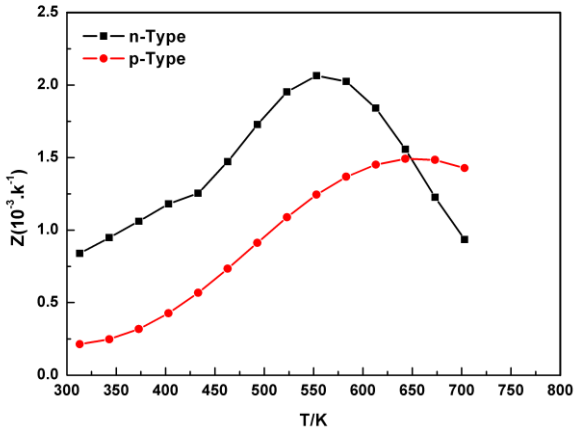
Seebeck coefficients of the PbTe -based ingot



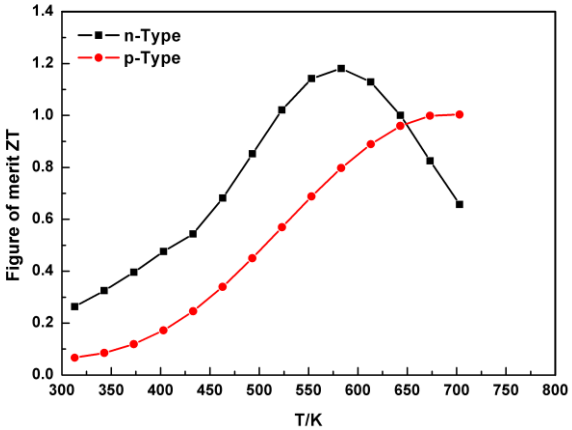
Thermal conductivity of the PbTe -based ingot



Power factors of the PbTe-based ingot



Z values of the PbTe -based ingot



ZT values of the PbTe -based ingot

Remarks

All measurements are performed in the temperature range from 300 to 700 K.