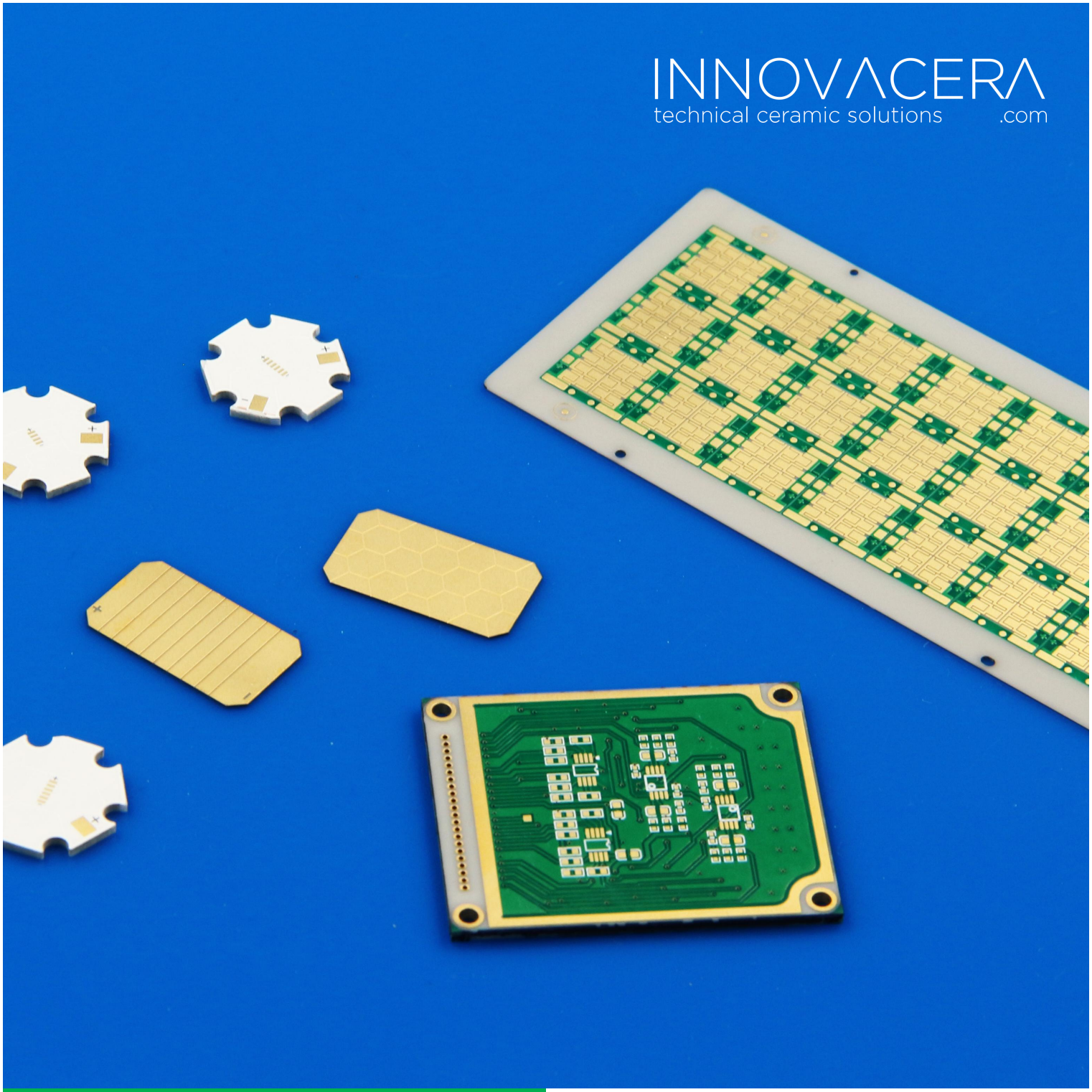
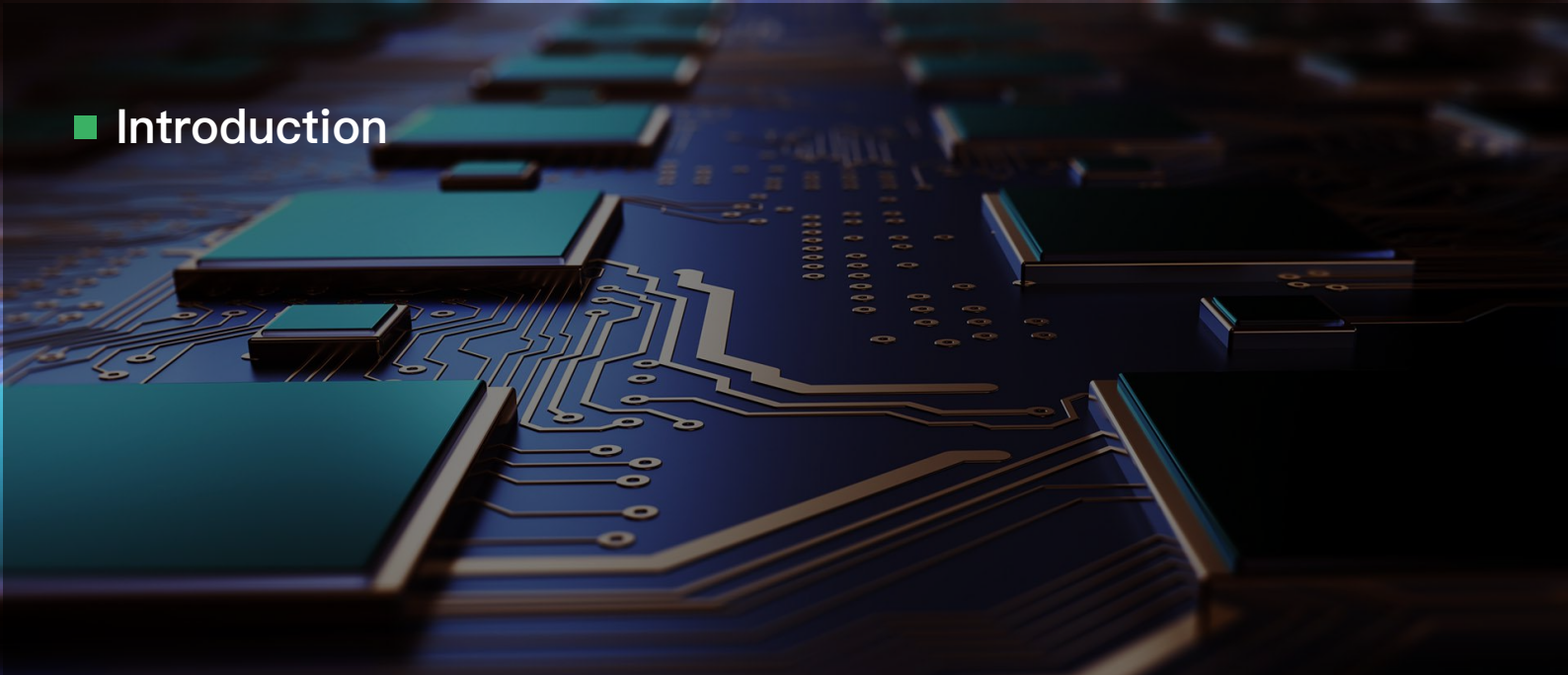
INNOVACERA
technical ceramic solutions .com

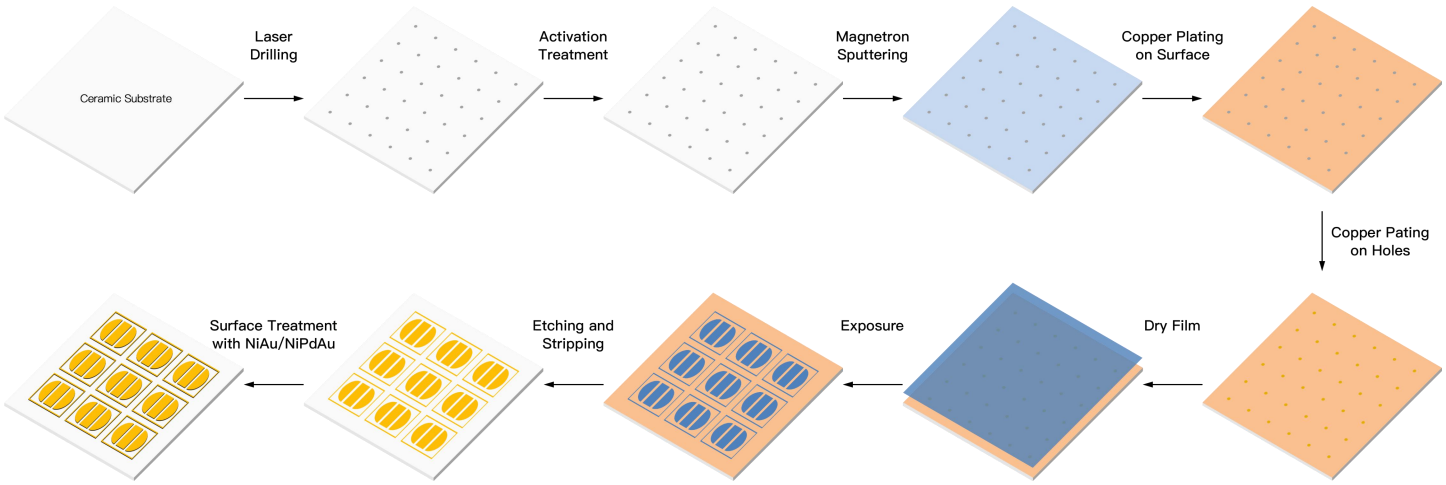


DPC – Direct Plated Copper

Introduction

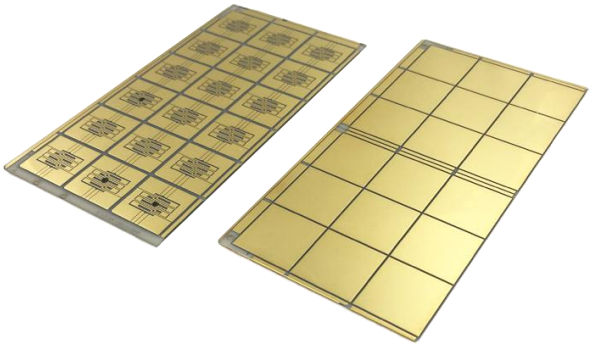


DPC is a newest development in the field of Ceramic Substrate PCBs, by magnetron sputtering technology to deposit a metal layer (Ti/Cu target) on the surface of the ceramic substrate which result in copper thickness' ranging from 10um to 130um, and then photolithography to form circuit patterns, electroplating is used to fill in the gaps and thicken the metal circuit layer, and the solderability and oxidation resistance of the substrate is improved through surface treatment, finally remove the dry film, and etch the seed layer to complete the substrate.

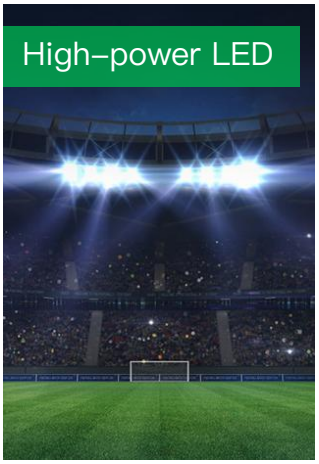


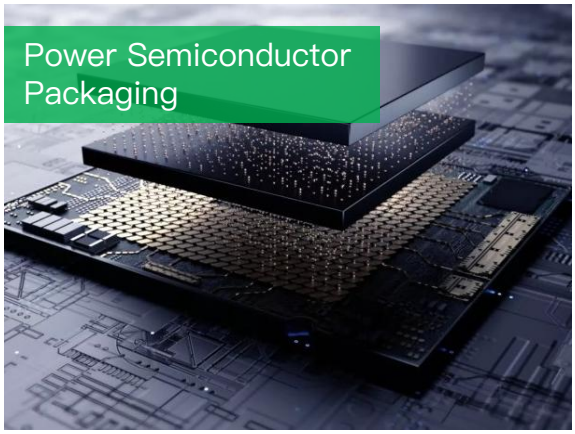
Features

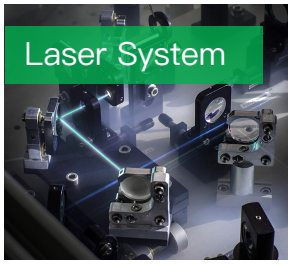
1. High thermal stability and excellent electrical conductivity
2. Excellent mechanical stability, good adhesion
3. High operating temperatures
4. Excellent electrical insulation
5. Good heat spreading

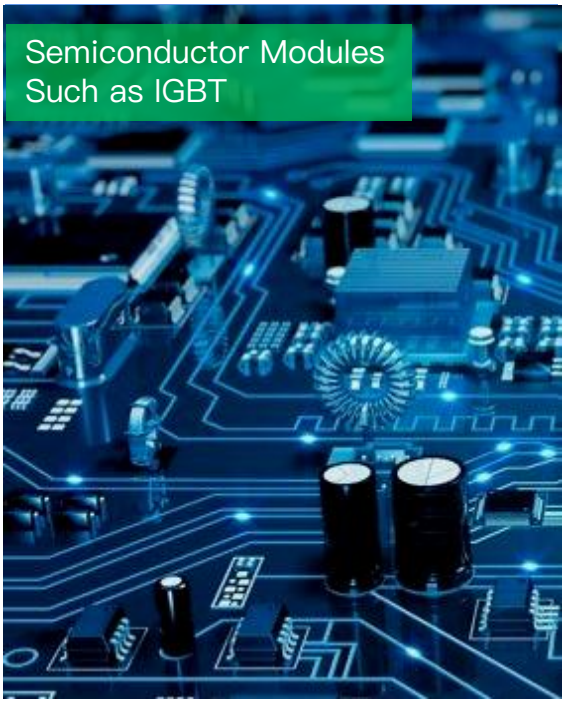


Applications









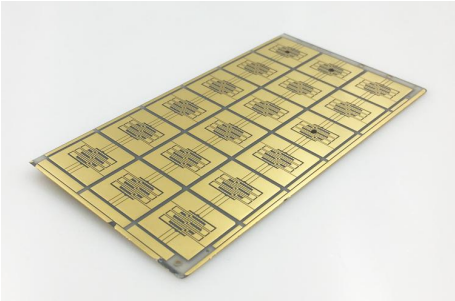
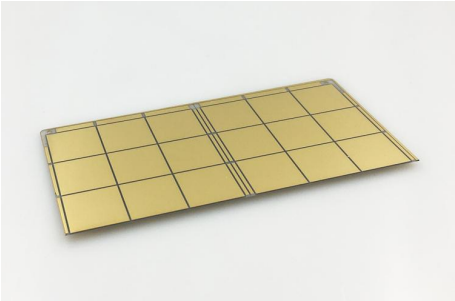
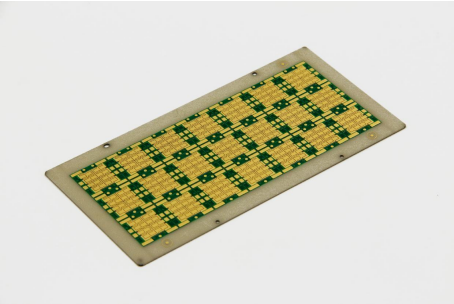
Ceramic Materials Properties

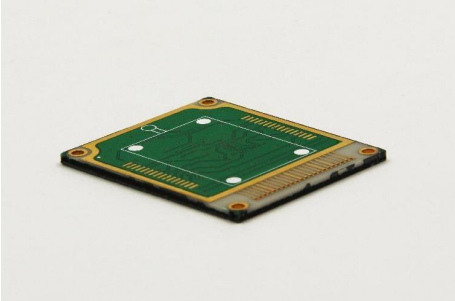
Item	Unit	Alumina	AlN
Content	%	96% Alumina	–
Density	g/cm^3	⩾3.7	⩾3.3
Thermal conductivity	W/m·K	＞24	>170
Coefficient of thermal expansion	10^{-6}/K	6.5~7.5 (20℃~300℃)	4.6 (20℃~300℃)
Flexural strength	MPa	>350	>350
Dielectric loss	x10^{-4} [1MHz]	3	3.8
Dielectric constant	1MHz	9.8	9
Dielectric strength	Kv/mm	14.5	17
Volume Resistivity	Ω·cm	>10^{14}	>10^{14}
Young's Modulus of Elasticity	GPa	340	320

Capability

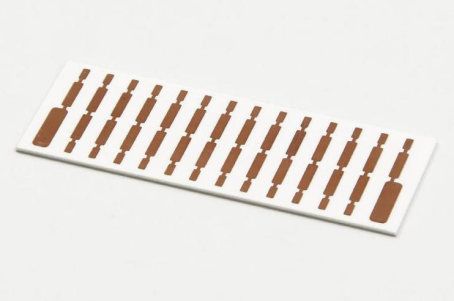
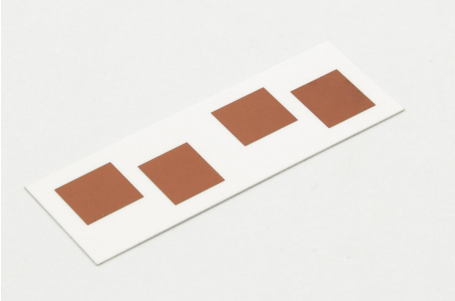
Item	Description	Capability
Material	–	Al2O3, AlN
Ceramic Thickness	–	0.38–1.0mm
Copper Thickness (When Distance Between Copper)	<0.2mm	10–50um
	0.2–0.5mm	30–80um
	0.6–1.0mm	30–150um
	<0.075mm	30–60um
Copper Width (When Copper Thickness)	<35um	⩾0.075mm
	35–100um	⩾0.1mm
	⩾100um	⩾0.15mm
Ag Thickness	–	⩾0.4um
Surface Treatment	NiAu/NiPdAu	Ni: 5±2.5um Pd: >0.05um Au: >0.05um

Show Case





INNOVACERA

technical ceramic solutions .com

0086 592 558 9730 sales@innovacera.com www.innovacera.com

XIAMEN INNOVACERA ADVANCED MATERIALS CO.,LTD

Block A, 6/F, No.588 Jiahe Road, Torch High-tech Industrial District, Xiamen, China