

ANCeram – Technical Data



Active metal brazed copper on Aluminium Nitride

AIN – AMB

copper	OFHC-SE-copper, purity 99,95% (DIN 1787)
substrate	ANCeram aluminium nitride
substrate thickness	≥ 0,635 mm (0.025“)
bonding mechanism	active metal brazing
copper thickness (etched)	up to 300 µm
metallized area	up to 4“ x 4“
copper thickness (punched)	0.4 mm to 4.0 mm (0.016 - 0.16“)
metallized area	depending on layer thickness
layout	according to our “design rules” (see below)
min. width of conductor lines	700 µm (0.028“)
min. spacing	500 µm (0.02“)
insulation resistivity	>10 ¹³ Ωcm
conductor resistivity	1- 3 m Ω / □
dielectric strength	> 16 kV/mm, 1 min
adhesion strength	60 MPa ± 15 MPa (four point bending)
solderability	good, with Ni-passivation excellent
bondability	Ni top layer recommended (4 - 8 µm)
thermal cycling for standard substrate (2“ x 2“ x 0.04“)	> 200 cycles

The information contained in this document is believed to be accurate and reliable but is presented without guarantee or warranty on the part of ANCeram. Further, nothing present herein should be interpreted as an authorization or inducement to practice any patented invention without an appropriate license.

11/05



Design Rules :

Chip side :		
thickness of copper	300 µm	200 µm
min. width of conductor lines	700 µm	500 µm
min. spacing	500 µm	400 µm
pullback	> 2,0 mm	>2,0 mm
curvature radii of copper edges		
- on the outside of the pattern	≥ R 5	≥ R 4
- on the inside of the pattern	≥ R 3	≥ R 2,5
Ground side:		
thickness of copper *	300 µm	200 µm
pullback	≥ 1,0 mm	≥ 1,0 mm
curvature radii of copper edges	≥ R 5	≥ R 5

* depending on surface metal load on chip side

Due to etching technique an angle at the copper edges as well as a displacement between ground and chip copper surface of less than 100 µm may occur.



ANCeram GmbH & Co.KG
 Esbachgraben 21
 D-95463 Bindlach
 Info@anceram.de