



Design Guidelines

Thick Film

Guidelines apply to both Al₂O₃ and ALN (Aluminum Nitride) substrates unless otherwise noted. dimensions are in inches unless otherwise stated.

<i>Parameter</i>	<i>capability</i>	
<u>Substrate</u>		
•Nominal Thickness Al ₂ O ₃	7, 10, 15, 25, 40 mils	
ALN	15, 25, 40, 60 mils	
<u>Conductor</u>		
•Line Width (min.) Al ₂ O ₃	0.004	
ALN	0.010	
•Space Width (min.)	0.006	
•Thickness (typ.)	20-50 microns/layer	
•Pull back (from diced edges, min.)	0.002	
•Pull back (from scribed edge, min.)	0.010	
•Pull back (from edge of dielectric, min.)	0.003	
•Alignment (front to back)	0.004-0.008	
<u>Resistor</u>		
•Line width (min.)	0.010	
•Space width (min.)	0.005	
•Minimum width relative to conductor width	0.010 less, centered	
•Minimum overlap with conductor	0.005	0.003

Design Guidelines for IMS, INC (cont.)

Parameter

- | | |
|--|--------------------------|
| •Minimum value | as low as 1m Ω |
| •Maximum value | 1T Ω or higher |
| •multiple resistors
on one side of chip | yes, parameter dependent |
| •TCR | 100 ppm typ., 200 max. |
| •Typical tolerance (value) | 1%, 2%, 5%, 10% |

Passivation Glass Coating

- | | |
|--------------------|--------------|
| •Minimum chip size | 0.050 X0.050 |
| •Minimum overlap | 0.003 |

Vias (filled or plugged through holes)

- | | |
|--------------------------------|--|
| •diameter (min, max) | 0.007, 0.020
depending on chip size |
| •minimum metal overlap of pads | 0.010 |

The above are guidelines only and not to be construed as ultimate limitations. Any listed parameter may be improved if other related parameters can be flexible. Contact the factory for your special requirements.