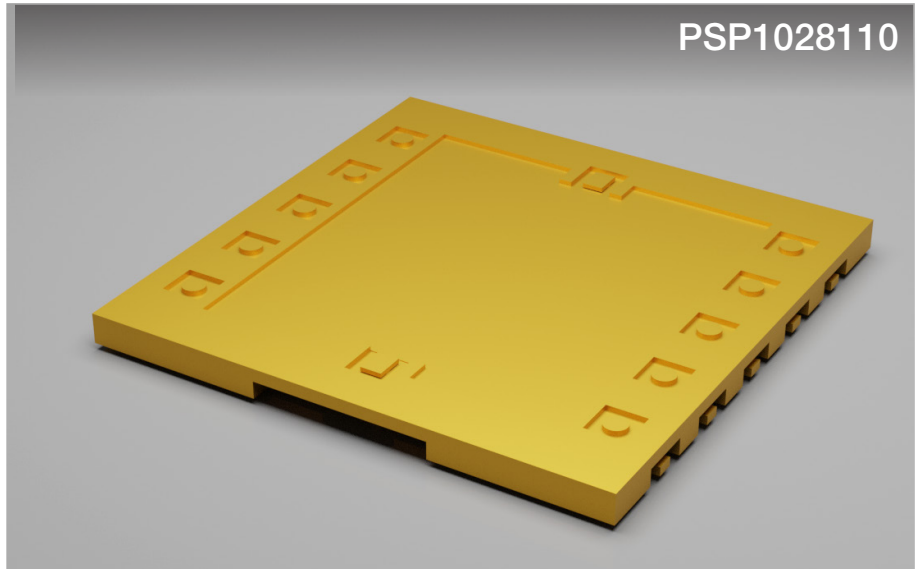## Features and Benefits

- Ultra Low Loss, less than 0.3 dB insertion loss from DC to 50 GHz

- Ideal thermal performance due to solid copper construction

- Chip interface compatible with automated Au wire bonding

- PCB interface compatible with standard SMT processes

Applications

- Military

- Space

- Communications

- Instrumentation

PSP1028110

PolyStrata® Package: PSP1028110

Market-leading lowest loss, surface mount form factor package for die under 4 x 4mm up to 50 GHz.

Cubic Nuvotronics presents a new state of the art Low Loss MMIC package. The PolyStrata® package complements integrated MMIC performance, with less than 0.3 dB insertion loss up to 50 GHz and with 15 dB typical return loss. The package can be surface mounted to a PCB using standard SMT processes. This increases the ease of manufacturing while maintaining superior performance in a smaller size compared to other packaging substrates.

Typical Electrical Performance

Port 1: 50Ω   Port 2: 50Ω
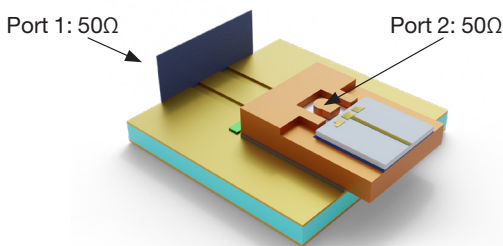
P1 is on the PCB with reference plane de-embedded to the edge of PolyStrata package. P2 is on the PolyStrata wire bonding pad. To approximate the wire bonds, an 80pH inductance is included in the plot for Return Loss and Insertion Loss (right figure).

Package transition including 80pH wirebond inductance

S11 — S21 ---
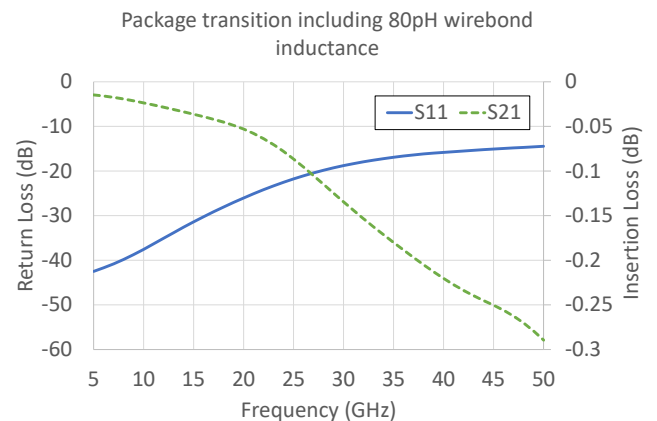
Additional Details

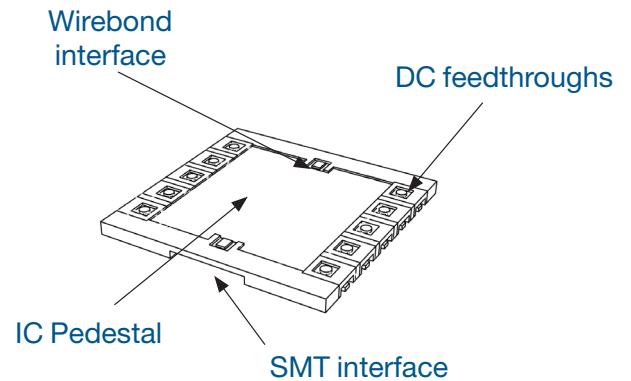| Special Handling / Storage Instructions (Substrate Only)	
Storage	Per JEP160 - Oxygen Sensitive Devices
ESD Sensitivity	None
Moisture Sensitivity	Not Applicable
Component Termination Finish	Immersion Gold over Immersion Silver
Packaging Available	Gel-Pak®, Tape and Reel
Ordering Part Number	PSP1028110
Export Classification	EAR99
Lid Options	Compatible with metal or plastic lids, and most lid-sealing processes

Absolute Maximum Ratings

Current	2.0 amps
Operating Temp	-55°C to 125°C
Solder Reflow	Compatible with JEDEC J-STD-020
Epoxy Attach	150°C max. for 90 minutes

PCB Stack-up View

- Solder mask
- 1.4mil – Top Layer
- 10mil – Core DK=3.66
- Bottom Layer

Component View

- Wirebond interface
- DC feedthroughs
- IC Pedestal
- SMT interface

PCB Layout
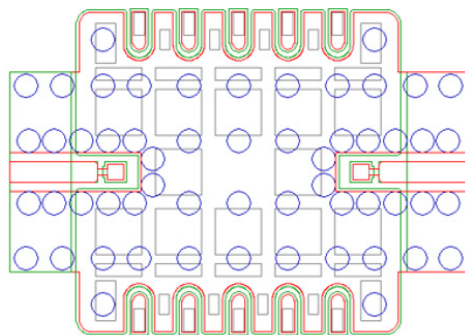
Legend: TOP COPPER ▮ VIAS ▮ TOP PASTE ▮ TOP MASK ▮ PACKAGE FOOTPRINT ▮

3D models, S-parameters, board footprint DXF drawings available on request

Mechanical Drawing

Top

6 mm
4 mm
4 mm
6 mm

Front

0.4 mm