CUBIC

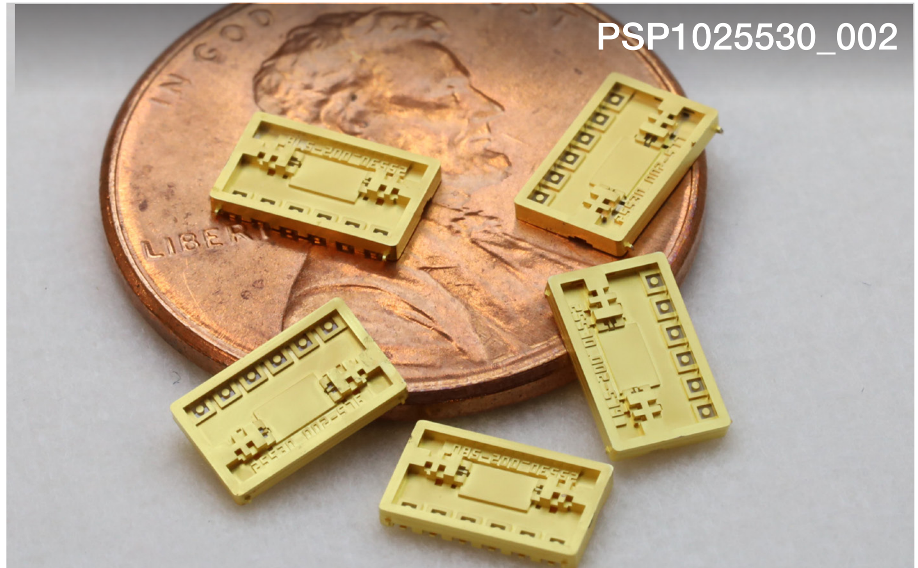
NUVOTRONICS

Features and Benefits

- Ultra-Low Loss; less than 0.18 dB insertion loss from DC to 21 GHz per transition
- Near-ideal thermal performance due to solid copper construction
- Chip interface compatible with automated Au wire bonding
- PCB interface compatible with standard SMT processes

Application

- Ka-band Satcom downlink

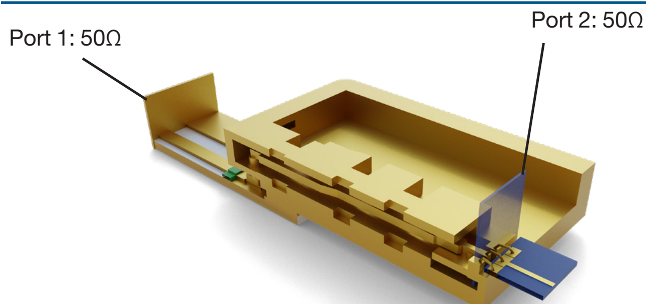


PolyStrata® Package

Market-leading RF transition performance, surface mount form factor package.

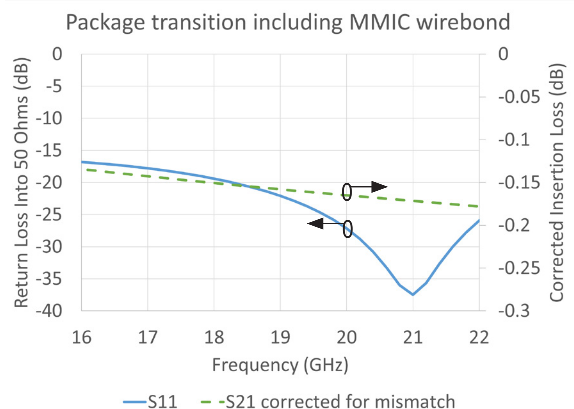
Cubic Nuvotronics presents a new state-of-the-art Low Loss MMIC package for ALP302 LNA from Northrop Grumman. The PolyStrata® package complements integrated MMIC performance, with less than 0.18 dB insertion loss in the input path and 20 dB return loss from 16 GHz to 21 GHz. The package can be surface 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 is on the circuit card and includes a matching transformer in front of the PolyStrata package. Ask Nuvotronics for artwork details.

Port 2 is inside the package, at the wire-bond interface to the MMIC. The wire-bond is included in the plotted transition S-parameters.



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Additional Details

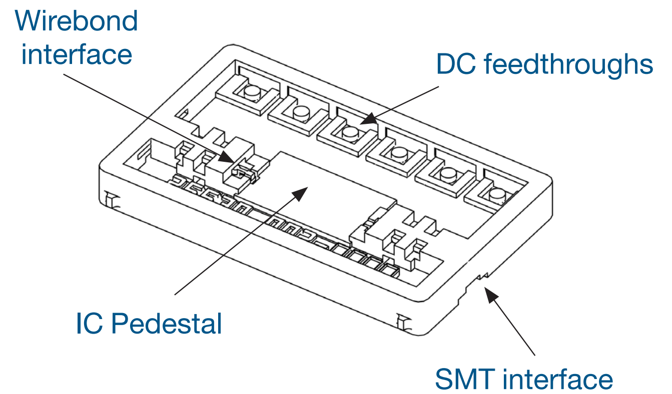
Special Handling / Storage Instructions (Substrate Only)	
Storage	Per JEP160 - Oxygen Sensitive Devices
ESD Sensitivity	None
Moisture Sensitivity	Not Applicable
Component Termination Finish	Immersion Gold over Immersion Silver
Packaging Available	Gel-Pak®, Tape and Reel
Ordering Part Number	PSP1025530_002
Export Classification	EAR99
Lid Options	Metal lids are available upon request

Absolute Maximum Ratings

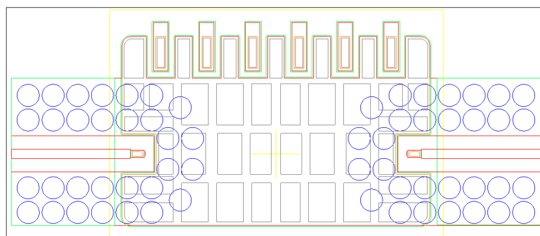
Current	2.0 Ampere per pin
Operating Temp	-55°C to 125°C
Solder Reflow	Compatible with JEDEC J-STD-020
Epoxy Attach	150°C max. for 90 minutes

Recommended PCB Stack-up View

Component View



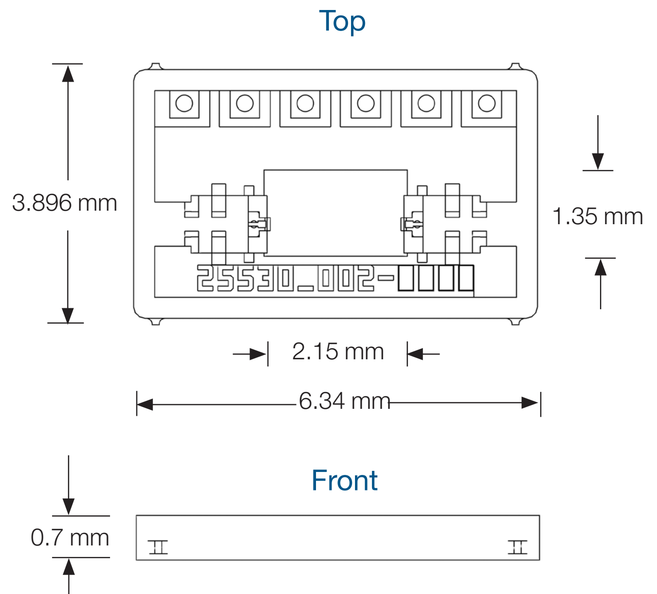
Recommended PCB Layout



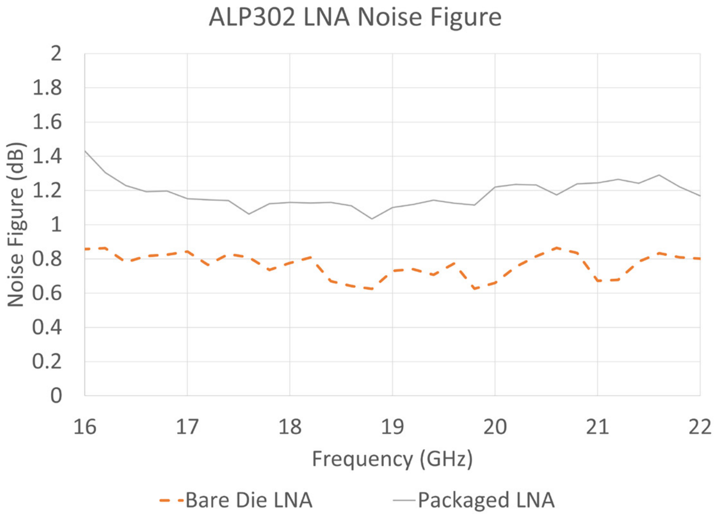
Legend: TOP COPPER, VIAS, TOP PASTE, PART KEEP OUT, TOP MASK, PACKAGE FOOTPRINT

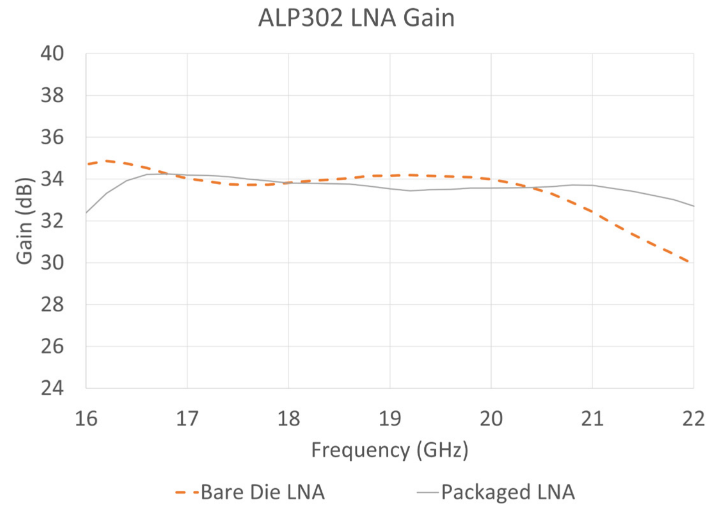
3D models, S-parameters, board footprint DXF drawings available on request

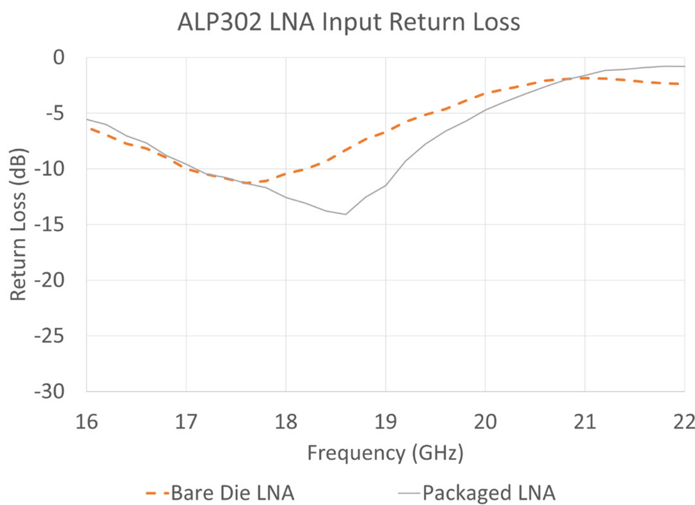
Mechanical Drawing

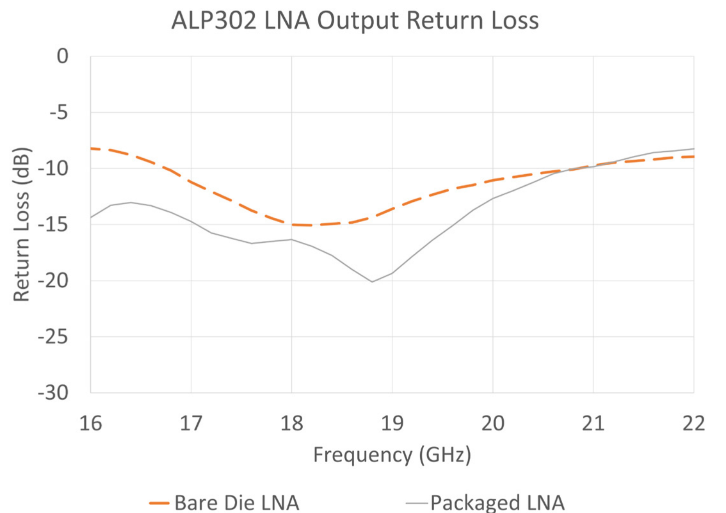


Electrical Performance with ALP302*









Note: A 1.5mil x 0.5mil Ribbon bond with approximately 200µm of total length is assumed for the signal and ground paths

*Data provided by Northrop Grumman for ALP302 Indium Phosphide Low Noise Amplifier