

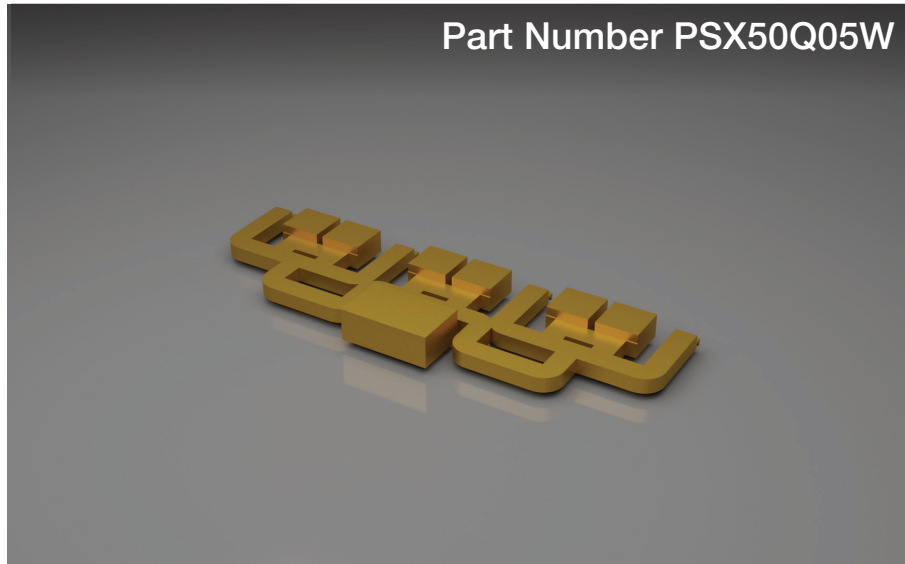
Features and Benefits

- **Small Size and Lightweight**
- **Near Ideal Performance**
 - Low insertion loss
 - Good phase and amplitude balance
 - Gysel architecture provides graceful degradation
- **Precision**
 - Low part-to-part variation

Applications

- **Satellite Communications**

Part Number PSX50Q05W



47.2-52.4 GHz 4-Way Combiner

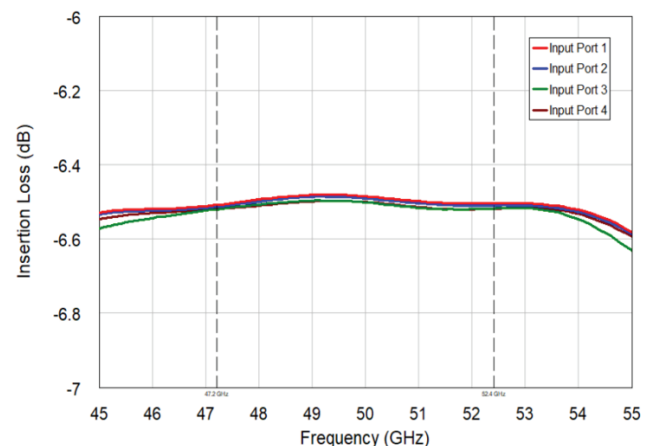
High performance 4-way power combiner for V band applications.

Description

Nuvotronics PolyStrata® Technology provides low loss combining in a small form factor. This 4-way combiner covers 47.2 - 52.4 GHz with 0.5 dB insertion loss. It has four wirebond inputs and a WR22 waveguide output. Excellent amplitude and phase balance will result in best system level performance. The Gysel architecture provides graceful degradation in the event of an amplifier failure or a mismatch in the combined amplifier stages.

Typical Electrical Performance

Parameter	Frequency Range (GHz)	Min	Typ	Max
Insertion Loss (dB)	47.2 - 52.4	-	0.5	0.6
Return Loss (dB)		15	20	-
Isolation (dB)		20	25	-
Phase Balance (deg)		-	+/- 0.2	+/- 1.0
Amplitude Balance (dB)		-	+/- 0.1	+/- 0.2



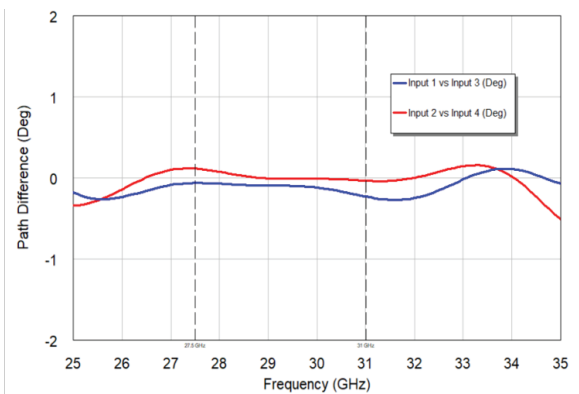
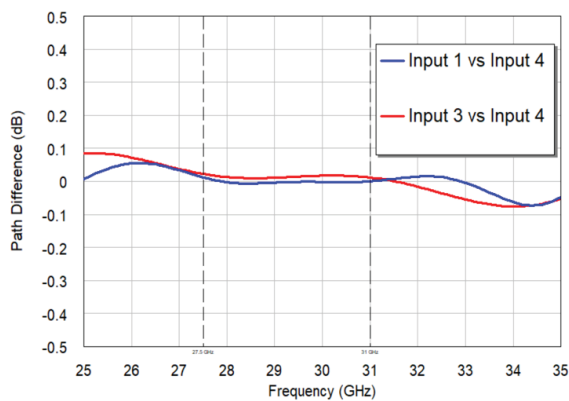
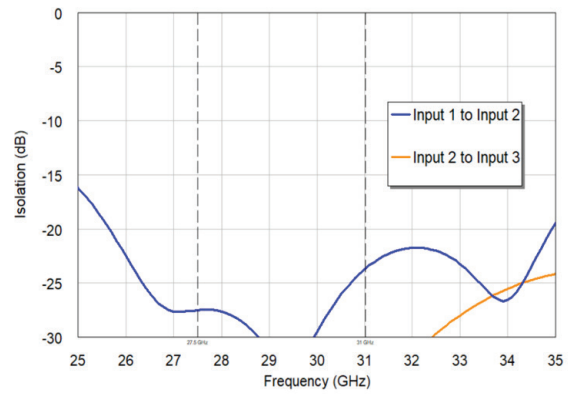
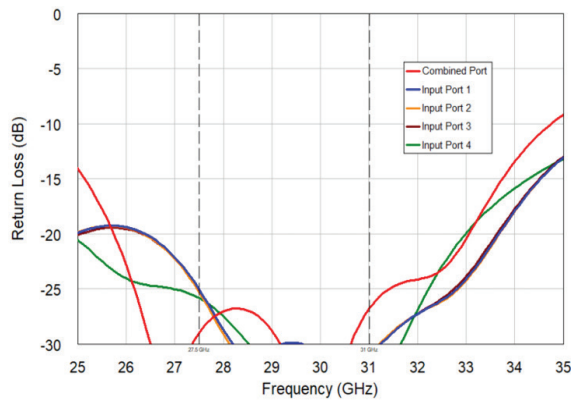
Additional Details

Special Handling / Storage Instructions	
Storage	IAW IPC-4553A
EDS Sensitivity	None
Ordering Information	PSX50Q05W
Alternative Packaging Available	Waffle Pack
Component Termination Finish	Immersion Silver, Immersion Gold
Export Certifications	TBA

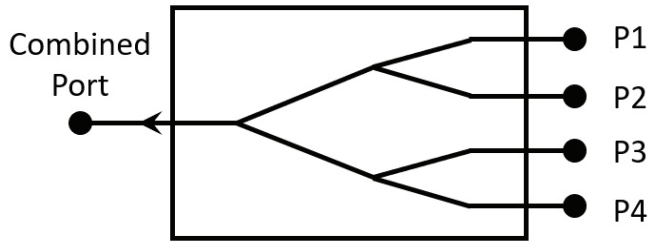
Absolute Maximum Ratings

Power	Minimum 80W CW (Combined Output)*
Operating Temp	-55°C to 85°C
Solder Reflow	260°C max. for 10 seconds, 3 cycles
Epoxy Attach	150°C max. for 90 minutes

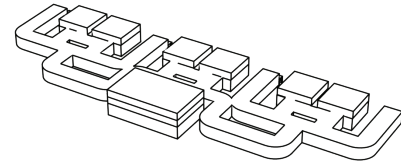
*Power handling will vary depending on balance between the amplifiers and supports one amplifier failing.



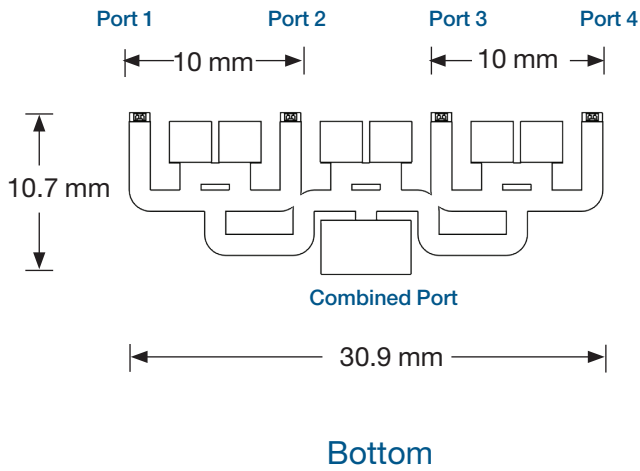
Simplified Block Diagram



Component View



Mechanical Drawing



Mechanical Drawing

