

90° HYBRID COUPLER

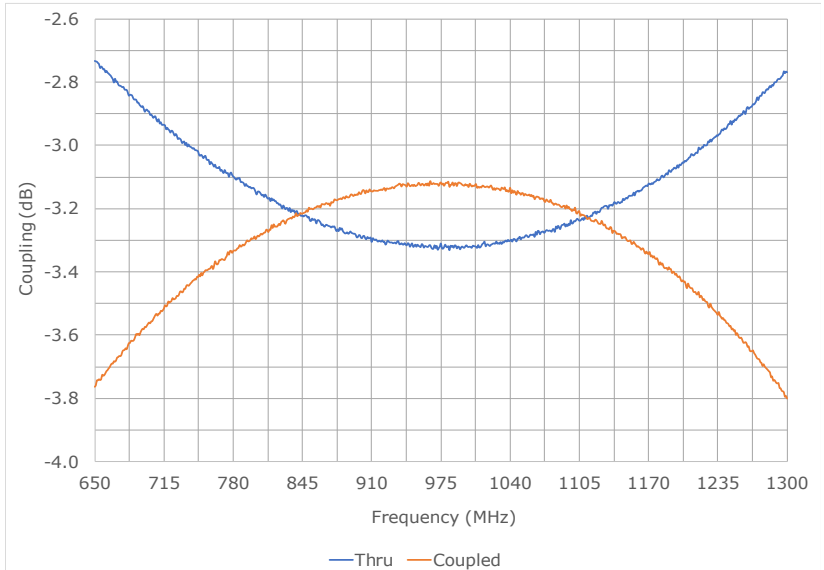
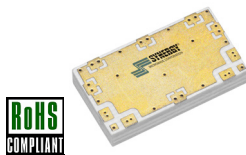
SYNSTRI[®] MODEL: MSQ6513M

WIDE BANDWIDTH

650 - 1300 MHz

FEATURES:

- ▶ Synstrip Technology™
- ▶ Small Package Size, Surface Mount
- ▶ REL-PRO® Patented Technology
- ▶ Building Block For:
 - Power Amplifiers
 - Image Rejection Mixers
 - I & Q / SSB Modulators
 - Phase Shifters & More...



SPECIFICATIONS (Rev A 07/14/26)

Frequency	650 - 1300 MHz		
Insertion Loss (dB) *	Frequency (MHz)	Typ.	Max.
	650 - 1300	0.29	0.45
	750 - 1200	0.25	0.35
Amplitude Unbalance (dB)	Frequency (MHz)	Typ.	Min.
	650 - 1300	1.0	1.4
	750 - 1200	0.4	0.7
Phase Unbalance (Deg.)	Frequency (MHz)	Typ.	Min.
	650 - 1300	1.5	3
	750 - 1200	1.3	3

Isolation (dB)	Frequency (MHz)	Typ.	Min.
	650 - 1300	18	15
	750 - 1200	18	15
Power Rating	100 Watts Avg. (CW)		
Impedance	50 Ohms (Nom.)		
VSWR	Frequency (MHz)	Max.	
	650 - 1300	1.5:1	
	750 - 1200	1.5:1	
Operating Temperature Range	-55 to +85 °C		
* Is the average of the two coupling signals in excess of the 3 dB theoretical signal splitting			

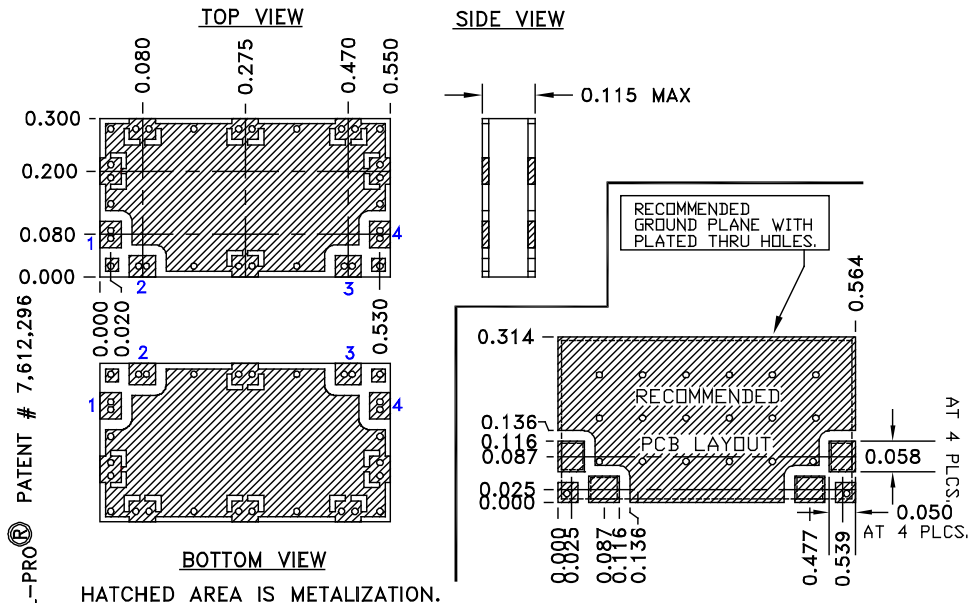
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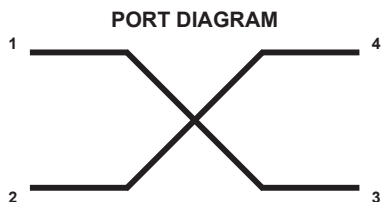
Package # 491



IMPORTANT NOTES:

- 1) THE WIDTH OF THE SIGNAL PADS CORRESPOND TO 50 OHMS. THE DIELECTRIC CONSTANT FOR THE SIGNAL PAD DIMENSIONS SHOWN IS 3.48 AND BOARD THICKNESS OF 0.032".
- 2) THE COUPLER SHOULD BE SOLDER ATTACHED TO THE RECOMMENDED PC BOARD LAYOUT FOR ACHIEVING SPECIFIED PERFORMANCE.

PACKAGE MOUNTING: SEE APPLICATION NOTE AN7200



PHASING DIAGRAM

OUT IN	1	2	3	4
1		90°	0°	ISO
2	90°		ISO	0°
3	0°	ISO		90°
4	ISO	0°	90°	

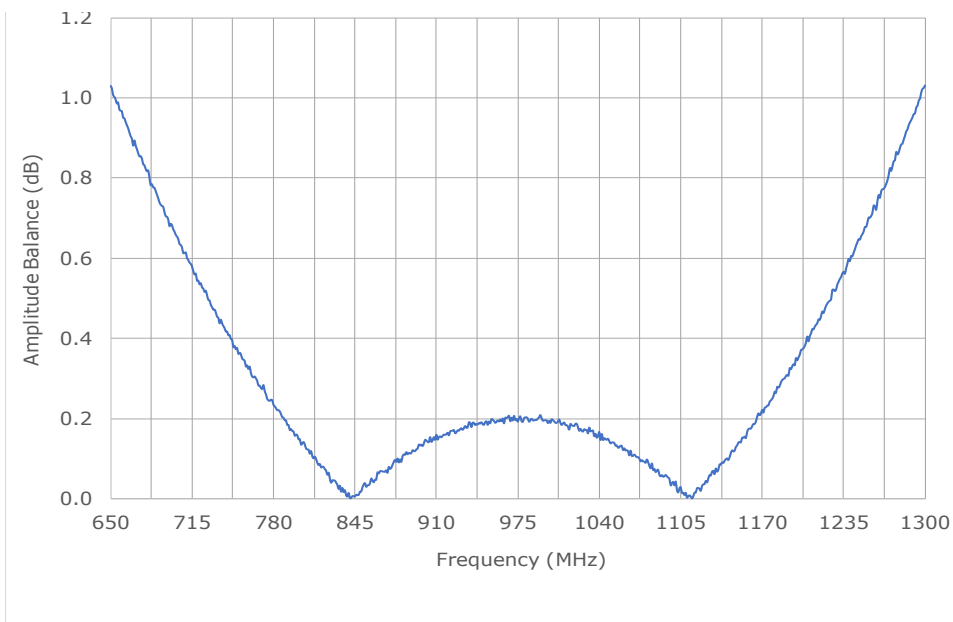
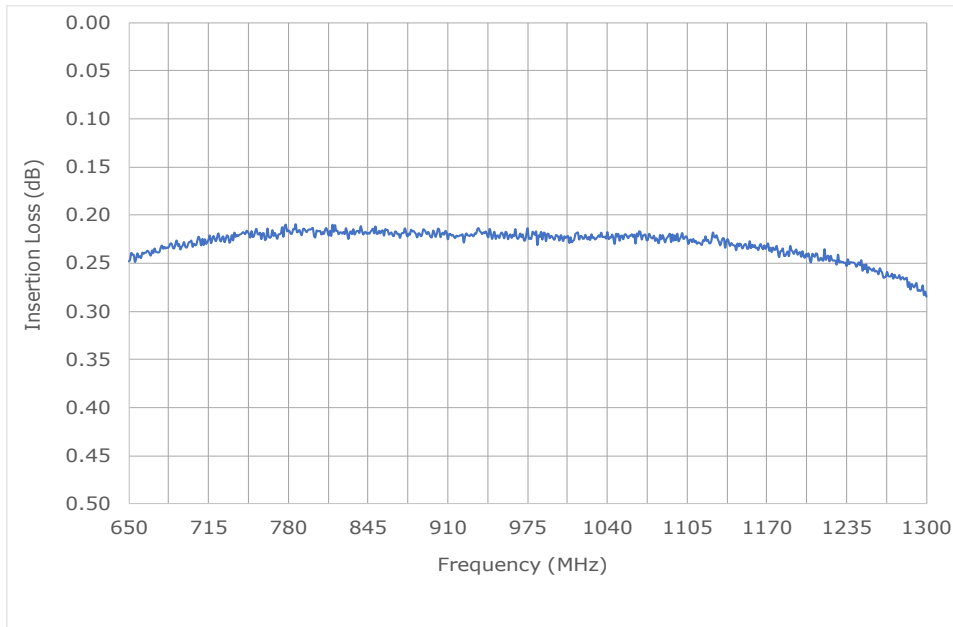
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Data @ 25°C



PERFORMANCE PLOTS

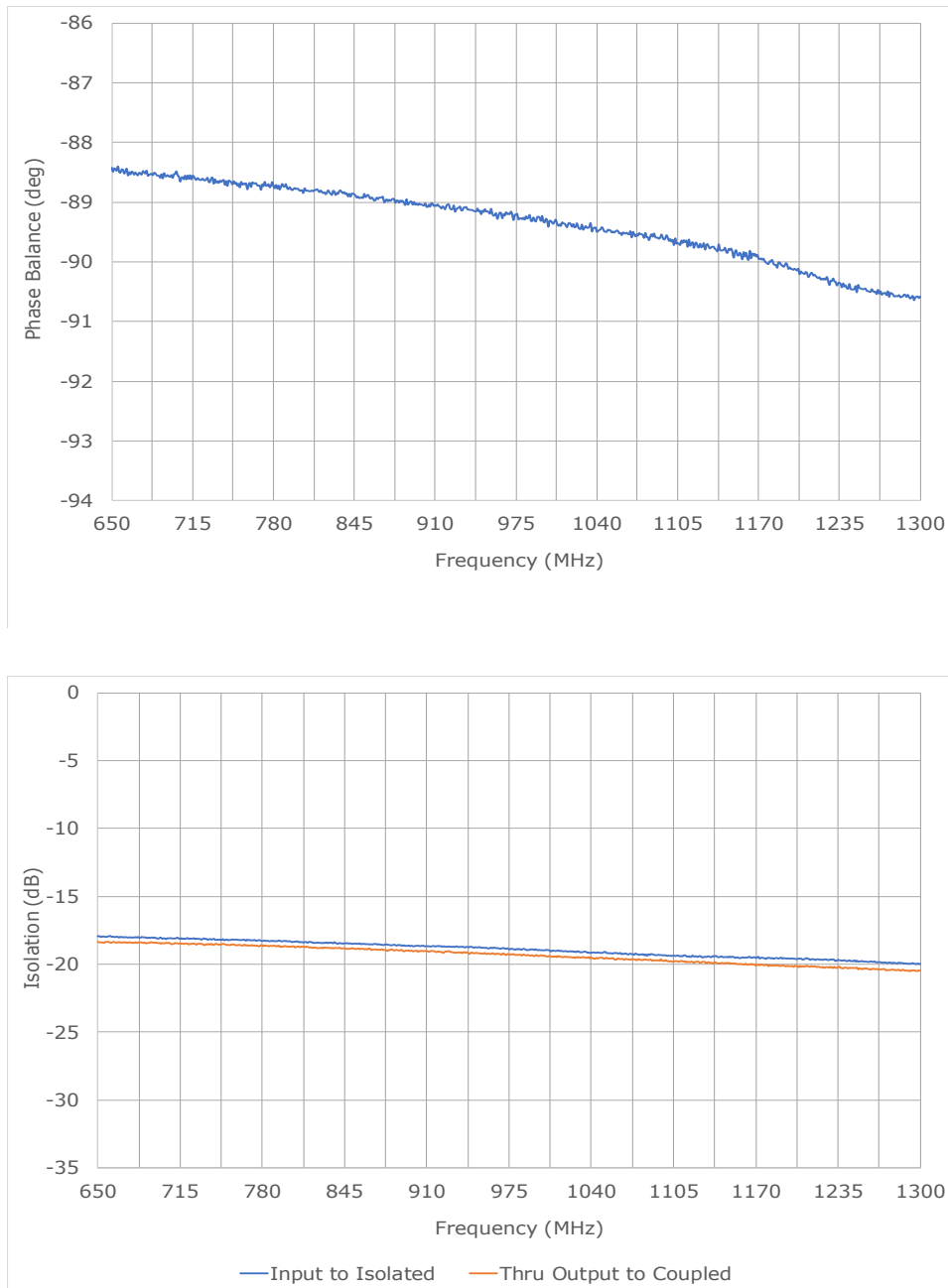
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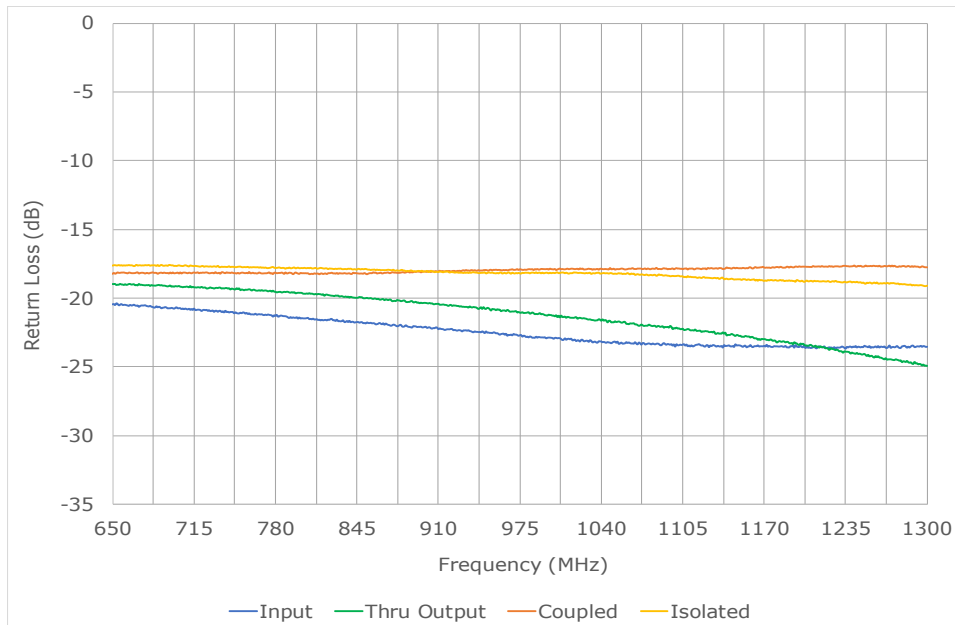
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WIDE BANDWIDTH

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PERFORMANCE PLOTS