LHC2000E03

RF Hybrid Coupler

A1

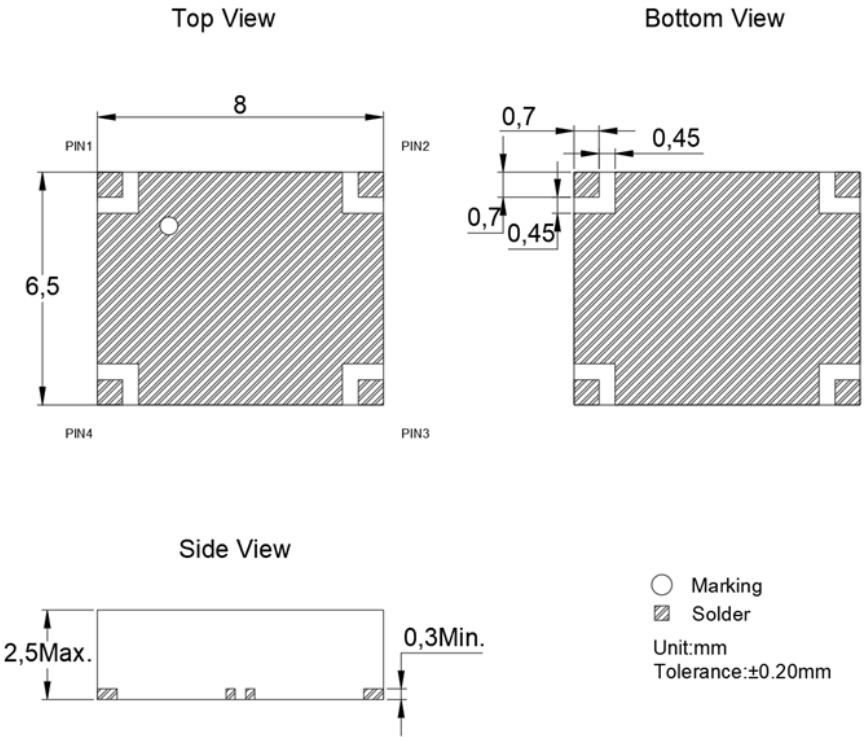
Features

- Low profile, high performance 3dB hybrid coupler
- Surface mount package
- Low insertion loss and tight amplitude and phase balance is required
- LTCC process

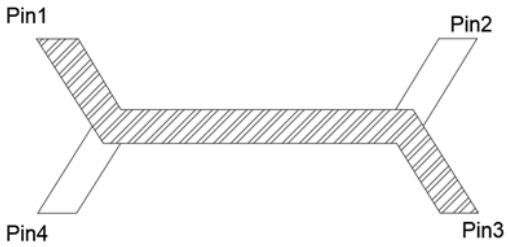
Specifications

NO.	Parameter		SPEC
1	Frequency range		1000~3000 MHz
2	Insertion Loss (avg of coupled outputs above 3.0 dB)	1000~3000 MHz	0.8 dB max.
3	Isolation	1000~3000 MHz	15 dB min.
4	Amplitude Unbalance	1000~3000 MHz	± 0.8 dB
5	Return Loss	1000~3000 MHz	10 dB min.
6	Phase Unbalance	1000~3000 MHz	90 ± 6 degree
7	Power		5W (CW AVG.)
8	Operation Temperature Range		-55℃ ~ +95℃

Dimensions（mm）

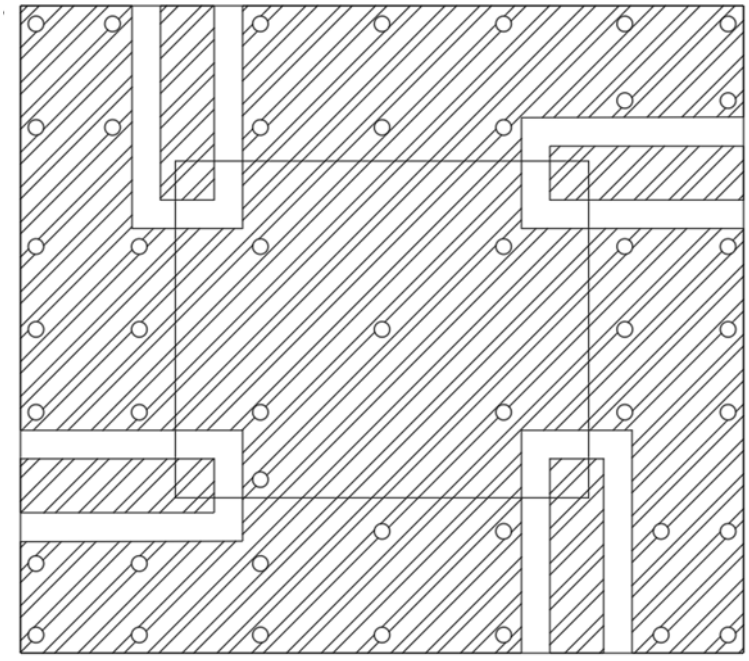


Hybrid Coupler Pin Configuration:



Configuration	Pin1	Pin 2	Pin3	Pin 4
Splitter	Input	Isolated	−3dB∠θ−90	−3dB∠θ
Splitter	Isolated	Input	−3dB∠θ	−3dB∠θ−90
Splitter	−3dB∠θ−90	−3dB∠θ	Input	Isolated
Splitter	−3dB∠θ	−3dB∠θ−90	Isolated	Input
*Combiner	A∠θ−90	A∠θ	Isolated	Output
*Combiner	A∠θ	Isolated	Output	Isolated
*Combiner	Isolated	Output	A∠θ−90	A∠θ
*Combiner	Output	A∠θ−90	A∠θ	A∠θ−90

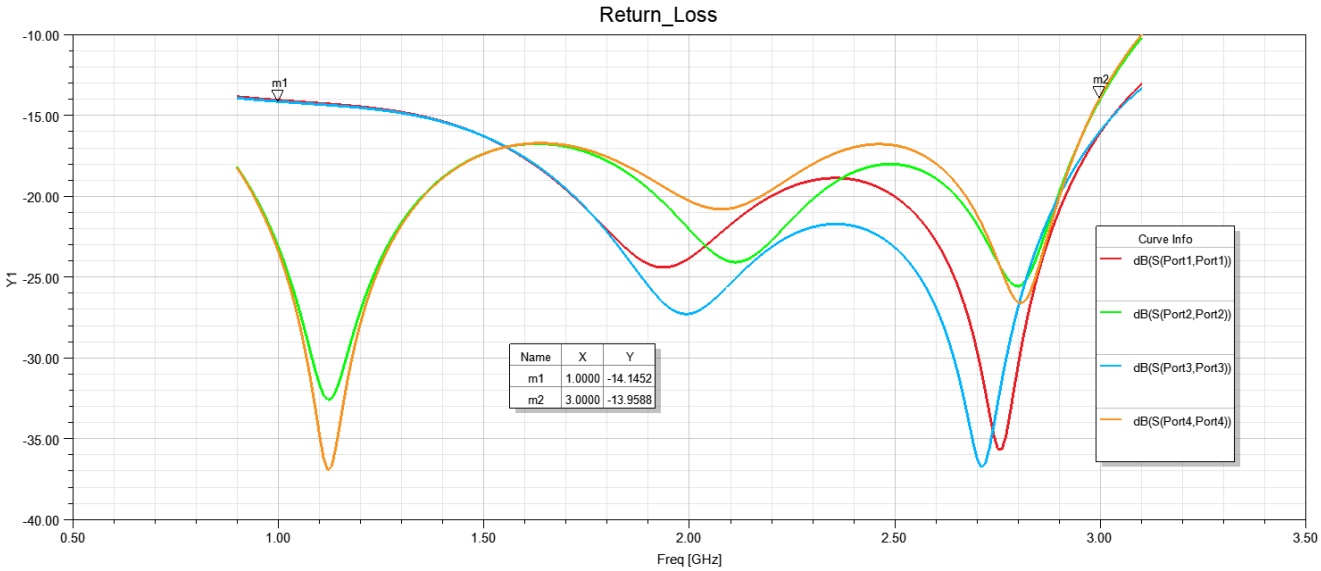
Mounting Considerations

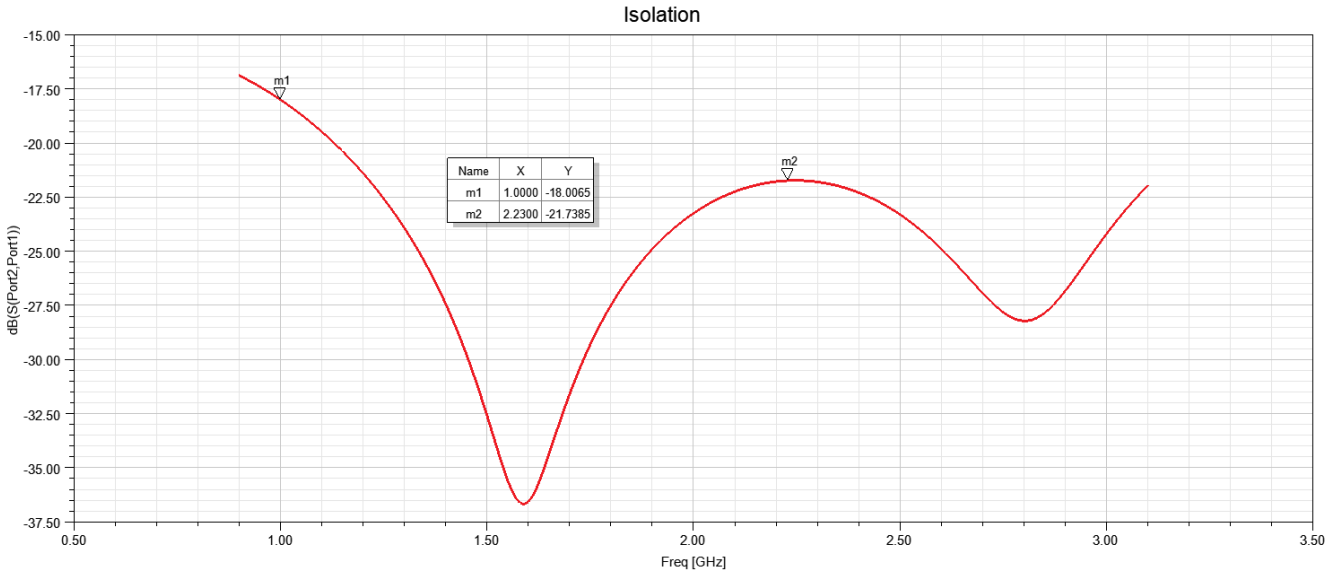


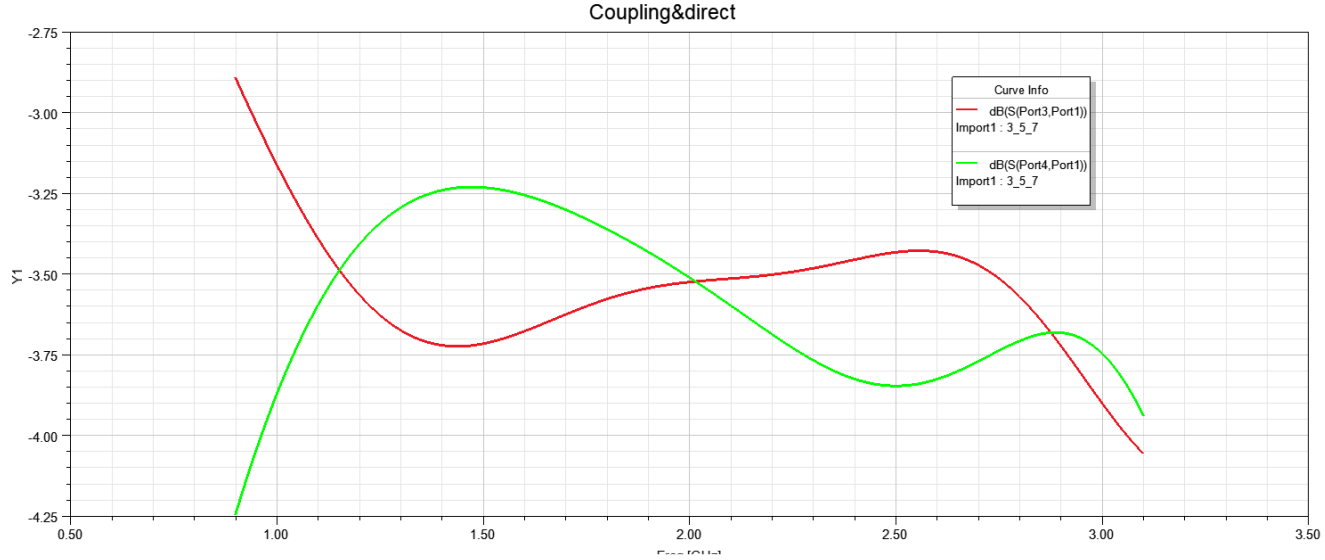
Unit: mm

Line width to be designed to match 50 Ω characteristic impedance, depending on PCB material and thickness

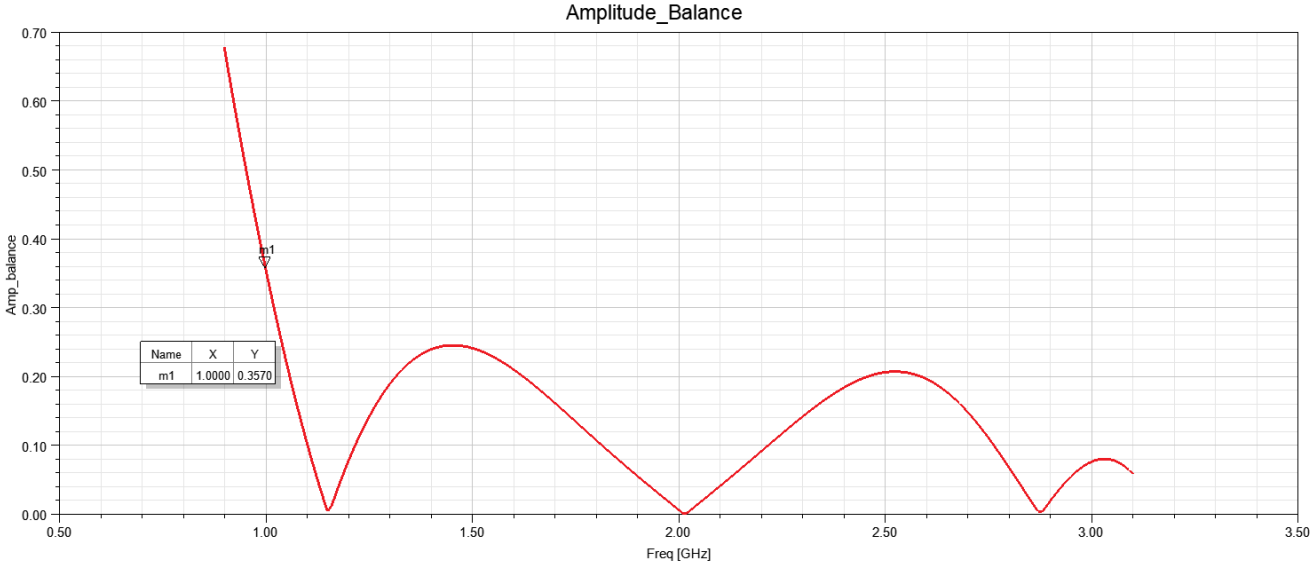
Typical Electrical Characteristics (T=25°C)



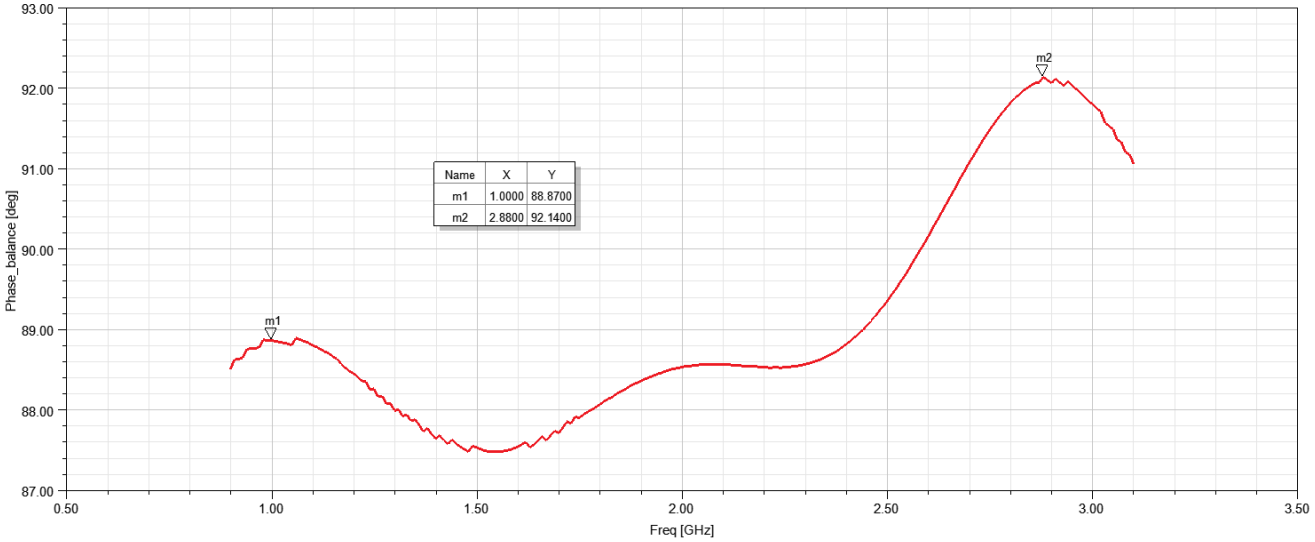




Amplitude_Balance



Phase_Balance



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