Xinger®

Hybrid Coupler
3 dB, 90°

Description

The XMC0102F1-03G is a low profile, high performance 3dB hybrid coupler in a new easy to use, manufacturing friendly surface mount package. It is designed for L Band Avionics, DME and high reliability applications in the 960 MHz to 2000 MHz range. It can be used in high power applications up to 50 Watts.

Parts have been subjected to rigorous qualification testing and they are manufactured using materials with coefficients of thermal expansion (CTE) compatible with common substrates such as FR4, G-10, RF-35, RO4350 and polyimide. Available in 6 of 6 ENIG (XMC0102F1-03G) RoHS compliant finish.

Features:

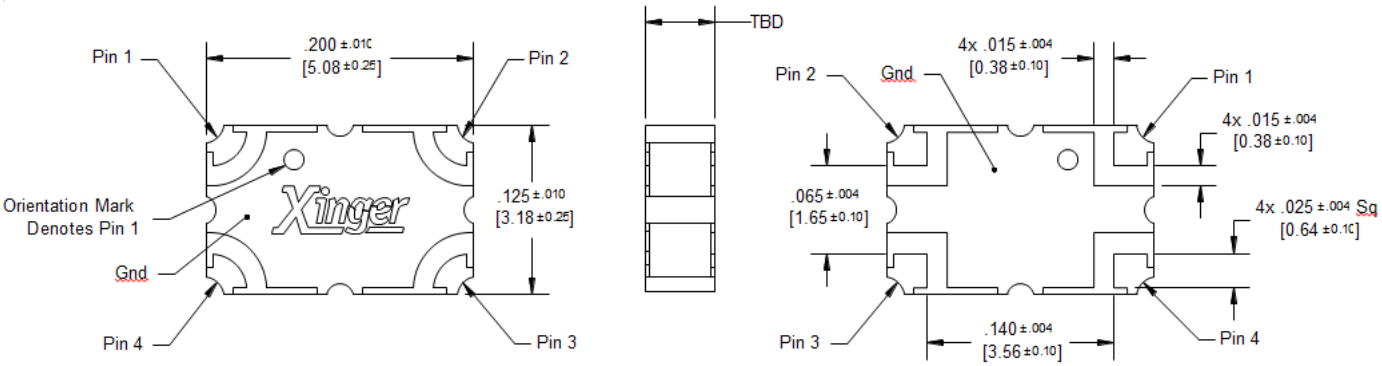
- **1000 - 2000 MHz**
- **L Band Avionics, DME**
- **High Power**
- **Very Low Loss**
- **Tight Amplitude Balance**
- **High Isolation**
- **Production Friendly**
- **Tape and Reel**
- **ENIG Finish**

Electrical Specifications **

Frequency	Isolation	Insertion Loss	VSWR	Amplitude Balance
MHz	*dB Min*	*dB Max*	*Max : 1*	*dB Max*
960 - 2000	23	0.25	1.15	± 0.55
Phase	**Power**	**ΘJC**	**Operating Temp.**	
Degrees	*Avg. CW Watts*	*ºC/Watt*	*ºC*	
90 ± 4.0	50	TBD	-55 to +85	

*Power Handling for commercial, non-life critical applications. See derating chart for other applications
**Specification based on performance of unit properly installed on Anaren Test Board with small signal applied. Specifications subject to change without notice. Refer to parameter definitions for details.

Mechanical Outline



Dimensions are in Inches [Millimeters]

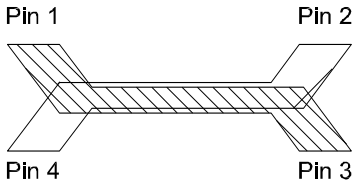
Tolerances are Non-cumulative

Available on Tape and Reel for Pick and Place Manufacturing.

USA/Canada: (315) 432-8909
Toll Free: (800) 411-6596
Europe: +44 2392-232392

Hybrid Coupler Pin Configuration

The XMC0102F1-03G has an orientation marker to denote Pin 1. Once port one has been identified the other ports are known automatically. Please see the chart below for clarification:



Configuration	Pin 1	Pin 2	Pin 3	Pin 4
Splitter	Input	Isolated	-3dB $\angle\theta - 90$	-3dB $\angle\theta$
Splitter	Isolated	Input	-3dB $\angle\theta$	-3dB $\angle\theta - 90$
Splitter	-3dB $\angle\theta - 90$	-3dB $\angle\theta$	Input	Isolated
Splitter	-3dB $\angle\theta$	-3dB $\angle\theta - 90$	Isolated	Input
***Combiner**	A $\angle\theta - 90$	A $\angle\theta$	Isolated	Output
***Combiner**	A $\angle\theta$	A $\angle\theta - 90$	Output	Isolated
***Combiner**	Isolated	Output	A $\angle\theta - 90$	A $\angle\theta$
***Combiner**	Output	Isolated	A $\angle\theta$	A $\angle\theta - 90$

*Note: "A" is the amplitude of the applied signals. When two quadrature signals with equal amplitudes are applied to the coupler as described in the table, they will combine at the output port. If the amplitudes are not equal, some of the applied energy will be directed to the isolated port.