Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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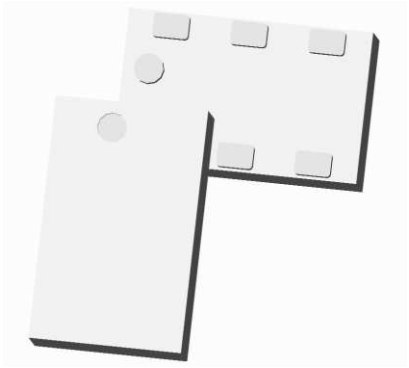
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Xinger®

Ultra Low Profile 0805
3 dB, 90° Hybrid Coupler



Description

The C0727J5003AHF is a low cost, low profile sub-miniature high performance 3 dB coupler in an easy to use surface mount package. The C0727J5003AHF is ideal for balanced power and low noise amplifiers, plus signal distribution and other applications where low insertion loss and tight amplitude and phase balance are required. The C0727J5003AHF is available on tape and reel for pick and place high volume manufacturing.

All of the Xinger components are constructed from ceramic filled PTFE composites which possess excellent electrical and mechanical stability. All parts have been subjected to rigorous qualification testing and units are 100% RF tested.

Features:

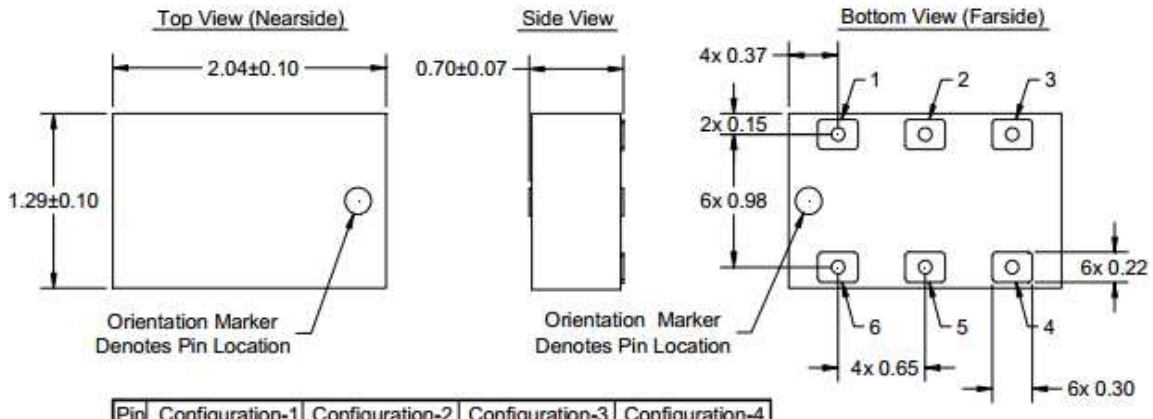
- **700 – 2700 MHz**
- **0.7mm Height Profile**
- **High Isolation & Low Loss**
- **LTE Bands: 24**
- **Surface Mountable**
- **Tape & Reel**
- **Non-conductive Surface**
- **RoHS Compliant**
- **Halogen-Free**
- **100% RF Tested**
- **-55°C to 105°C**

Detailed Electrical Specifications: Specifications subject to change without notice.

Parameter	ROOM (25°C) Min.	Typ.	Max	Unit
Frequency	700		2700	MHz
Port Impedance		50		Ω
Return Loss	23	31		dB
Isolation	23	28.8		dB
Insertion Loss*		0.7	0.8	dB
Amplitude Balance		2.3	2.8	dB
Phase Balance (relative to 90°)		6.5	11	Degrees
Power Handling @85C			2	Watts
Operating Temperature	-55		+105	ºC

* Insertion Loss stated at room temperature (Insertion Loss is approximately 0.1 dB higher at +85 ºC)

Outline Drawing



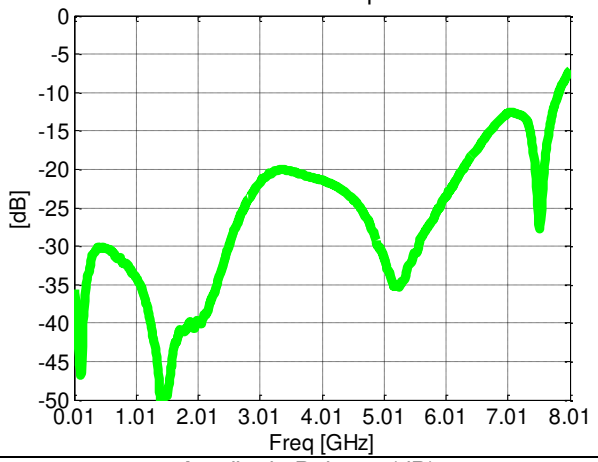
Pin	Configuration-1	Configuration-2	Configuration-3	Configuration-4
1	Input	Isolated	Direct	Coupled
2	GND	GND	GND	GND
3	Isolated	Input	Coupled	Direct
4	Direct	Coupled	Input	Isolated
5	GND	GND	GND	GND
6	Coupled	Direct	Isolated	Input

Mechanical Outline
-Dimensions are in Millimeters
-Tolerances are Non-Cumulative

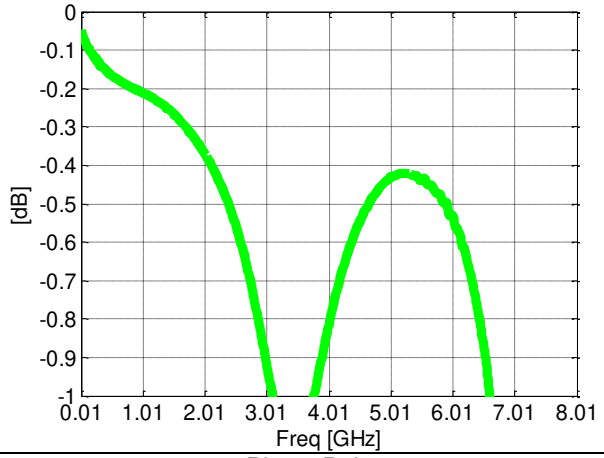
USA/Canada: (315) 432-8909
Toll Free: (800) 411-6596
Europe: +44 2392-232392
Asia: +86 512-62749282

Typical Broadband Performance: 10 MHz. to 8010 MHz.

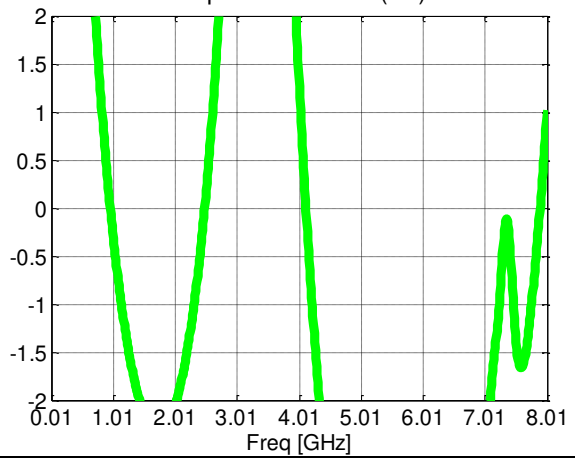
Return Loss at Input Port



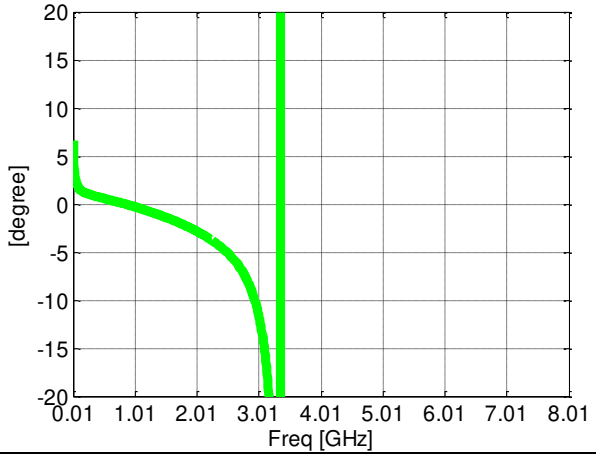
Insertion Loss



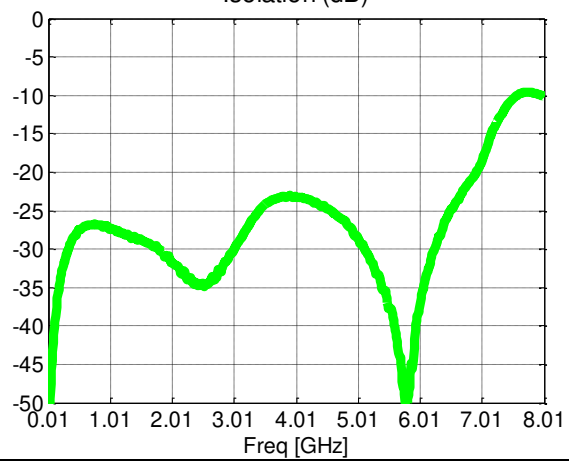
Amplitude Balance (dB)



Phase Balance

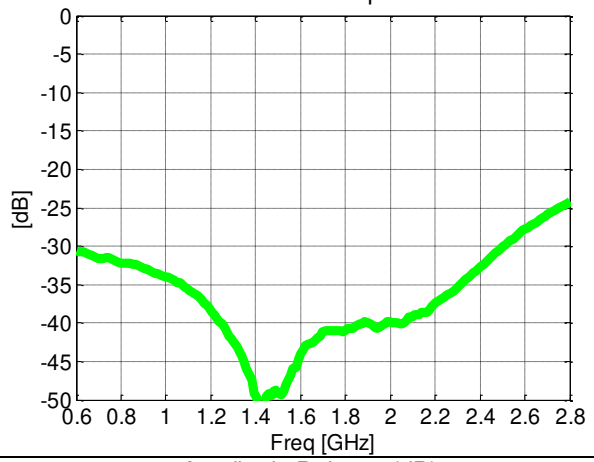


Isolation (dB)

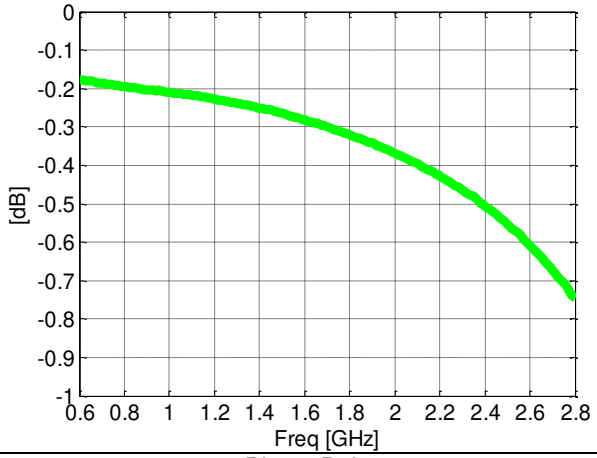


Typical Performance: 600 MHz. to 2800 MHz.

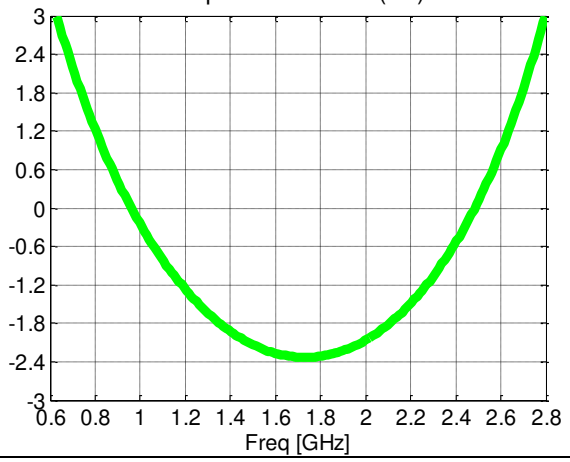
Return Loss at Input Port



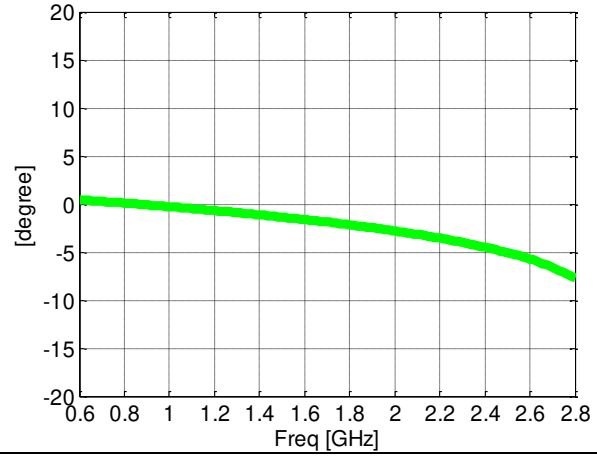
Insertion Loss



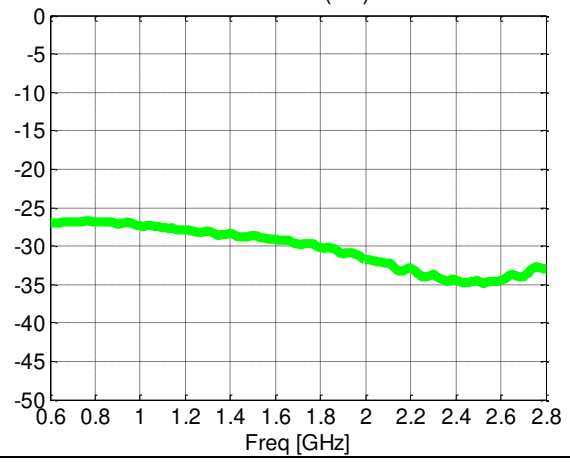
Amplitude Balance (dB)



Phase Balance



Isolation (dB)



Definition of Measured Specifications

Parameter	Definition	Mathematical Representation *i*, *j*, *k*, *m* is denoted as the port index of input, isolated, direct and coupled port for specific pin configuration shown in the table
Return Loss	The impedance match of the coupler to a 50Ω system. Return Loss is an alternate means to express VSWR.	$20\log_{10}(\lvert S_{ii}\rvert)$
Isolation	The input power divided by the sum of the power at the two output ports.	$20\log_{10}\lvert S_{ji}\rvert$
Insertion Loss	The input power divided by the sum of the power at the two output ports.	$10\log_{10}(\lvert S_{mi}\rvert^2+\lvert S_{ki}\rvert^2)$
Amplitude Balance	The difference in power between the two outputs.	$10\log_{10}(\left\lvert\frac{S_{ki}}{S_{mi}}\right\rvert)$
Phase Balance	The difference in phase angle between the two output ports.	$\angle S_{ki}-\angle S_{mi}+90^o$

*****100% RF test is performed per spec definition for pin configuration 1 and port 1 (input port) is connected to pin1, port 2 (isolated port) is connected to pin 3, port 3 (direct port) is connected to pin 4 and port 4 (isolated) is connected to pin 6**.**