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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.

With the principle of "Quality Parts,Customers Priority,Honest Operation, and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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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## Xinger

## Ultra Low Profile 0805 Power Divider $75 \Omega$ to $75 \Omega$



## Description

The PD0409J7575S2HF is a low profile, sub-miniature Wilkinson power divider in an easy to use surface mount package. The PD0409J7575S2HF is ideal for high volume manufacturing and delivers higher performances than traditional printed and lumped element solutions. The PD0409J7575S2HF is matched to $75 \Omega$ and has a height profile of 0.5 mm which is ideal for high level integrations in the following markets: GSM, WCDMA, DVB-H (Europe) and Terrestrial TV. The PD0409J7575S2HF does not include the resistive element and therefore, requires an external resistor for operation. The PD0409J7575S2HF is available on tape and reel for high volume manufacturing pick and place.
etailed Electrical Specifications: Specifications subject to change without notice.

## Features:

- $400-900 \mathrm{MHz}$
- 9.3 dB Isolation (output ports)
- Good Return Loss
- 0.5 mm Height Profile
- $75 \Omega$ Input / $75 \Omega$ Outputs
- Low Insertion Loss
- Surface Mountable
- Tape \& Reel
- Non-conductive Surface
- RoHS Compliant
- External Resistor Required
- Halogen Free

|  | ROOM (25 ${ }^{\circ}$ C) |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| Parameter | Min. | Typ. | Max | Unit |
| Frequency | 400 |  | 900 | MHz |
| Input Port Impedance |  | 75 |  | $\Omega$ |
| Output Port Impedance |  | 75 |  | $\Omega$ |
| Return Loss | 10 | 12 |  | dB |
| Insertion Loss* |  | 0.5 | 0.6 | dB |
| Amplitude Balance |  | 0.1 | 0.6 | dB |
| Phase Balance | 8.2 | 9.3 | 3 | Degrees |
| Isolation (Output Ports) |  |  | 2 | WB |
| Power Handling | -55 |  | +85 | ${ }^{\circ} \mathrm{C}$ |

* Insertion Loss stated at room temperature (Insertion Loss is approximately 0.1 dB higher at $+85^{\circ} \mathrm{C}$ )


## Outline Drawing



Typical Broadband Performance: 500 MHz . to 8.0 GHz .






## Typical Performance: $\mathbf{3 0 0} \mathbf{~ M H z}$. to $1000 \mathbf{~ M H z}$.



| Phase Balance |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 20 |  |  |  |  |  |  |  |
| 15 |  |  |  |  |  |  |  |
| 10 |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |
| \% 0 |  |  |  |  |  |  |  |
| -5 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| -20 |  |  |  |  |  |  |  |
| \% | ¢ | 앙 | $\stackrel{8}{6}$ | $\bigcirc$ | $\stackrel{\circ}{\infty}$ | \% | $\stackrel{\circ}{\circ}$ |
|  |  |  |  | equency [ MHz ] |  |  |  |



## Mounting Configuration:

In order for Xinger surface mount components to work optimally, the proper impedance transmission lines must be used to connect to the RF ports. If this condition is not satisfied, insertion loss, Isolation and VSWR may not meet published specifications.

All of the Xinger components are constructed from organic PTFE based composites which possess excellent electrical and mechanical stability. Xinger components are compliant to a variety of ROHS and Green standards and ready for Pb -free soldering processes. Pads are Gold plated with a Nickel barrier.

An example of the PCB footprint used in the testing of these parts is shown below. In specific designs, the transmission line widths need to be adjusted to the unique dielectric coefficients and thicknesses as well as varying pick and place equipment tolerances. In addition, since the PD0409J7575S2HF is a Wilkinson power divider, an external $0603150 \Omega$ resistor must be mounted in locations R1 as shown in the Figure below.

## Pad Footprint w/ 0603 Resistor Locations



## Packaging and Ordering Information

Parts are available in reels and are packaged per EIA 481-2. Parts are oriented in tape and reel as shown below. Minimum order quantities are 4000 per reel. See Model Numbers below for further ordering information.


Direction of
Part Feed
(Unloading)


| TABLE 1 |  |  |
| :---: | :---: | :---: |
| QUANTITY/REEL | REEL DIMENSIONS mm |  |
| 4000 | $\phi \mathrm{~A}$ | 177.80 |
|  | B | 8.00 |
|  | $\phi \mathrm{C}$ | 50.80 |
|  | $\phi \mathrm{D}$ | 13.00 |

