Rev D

## Xinger

## Ultra Low Profile 0805 Power Divider $50 \Omega$ to $50 \Omega$

## Description:

The PD1722J5050D2HF is a low profile, sub-miniature Wilkinson power divider in an easy to use surface mount package. The PD1722J5050D2HF is ideal for high volume manufacturing and delivers higher performances than traditional printed and lumped element solutions. The PD1722J5050D2HF is matched to $50 \Omega$ and has a height profile of 0.5 mm which is ideal for high level integrations in the following markets: WCDMA, and GSM, The PD1722J5050D2HF does not include the resistive element and therefore, requires an external resistor for operation. The PD1722J5050D2HF is available on tape and reel for high volume manufacturing pick and place.

## Detailed Electrical Specifications:

Specifications subject to change without notice.

Features:

- $1700-2200 \mathrm{MHz}$
- 19 dB Isolation (output ports)
- 0.5 mm Height Profile
- $50 \Omega$ Input / $50 \Omega$ Outputs
- Low Insertion Loss
- Surface Mountable
- Tape \& Reel
- Non-conductive Surface
- RoHS Compliant
- External resistors required
- Halogen Free

|  | ROOM (25 ${ }^{\circ}$ C) |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| Parameter | Min. | Typ. | Max | Unit |
| Frequency | 1700 |  | 2200 | MHz |
| Input Port Impedance |  | 50 |  | $\Omega$ |
| Output Port Impedance |  | 50 |  | $\Omega$ |
| Return Loss | 11 | 14 |  | dB |
| Insertion Loss* |  | 0.5 | 0.7 | dB |
| Amplitude Balance |  | 0.1 | 0.3 | dB |
| Phase Balance |  | 1 | 3 | Degrees |
| Isolation (Output Ports) | 17 | 19 |  | dB |
| Power Handling @85 ${ }^{\circ} \mathrm{C}$ |  |  | 2 | Watts |
| Operating Temperature | -55 |  | +140 | ${ }^{\circ} \mathrm{C}$ |

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


## Typical Performance: 500 MHz . to $\mathbf{6 . 0} \mathbf{~ G H z}$.






Wide Band Performance: 1600 MHz. to $\mathbf{2 3 0 0}$ 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 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 uniue dielectric coefficients and thicknesses as well as varying pick and place equipment tolerances. In addition, since the PD1722J5050D2HF is a Wilkinson power divider, external $0402100 \Omega$ and $200 \Omega$ resistors must be mounted in locations R1 and R2 respectively, as shown in the Figure below.

## Pad Footprint w/ 0402 Resistor Locations



## Packaging and Ordering Information:

Parts are available in reel 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 |

