

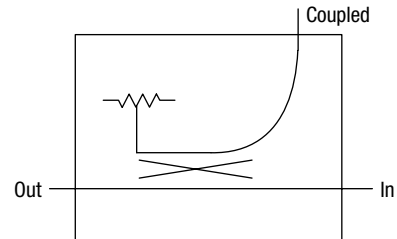
**DATA SHEET**

# DC16-73, DC16-73LF: Directional Coupler 0.3–2.7 GHz

## Features

- Low cost
- Low profile
- Small SOT-6 package
- Available on tape and reel
- Available lead (Pb)-free, RoHS-compliant, MSL-1 @ 260 °C per JEDEC J-STD-020

## Block Diagram



## Description

The DC16-73 is a monolithic directional coupler for low-cost wireless applications. It offers low loss, good isolation, good input/output matching and exceptional coupling repeatability. It is available in the SOT-6 surface mount package.

**NEW**

Skyworks offers lead (Pb)-free, RoHS (Restriction of Hazardous Substances)-compliant packaging.



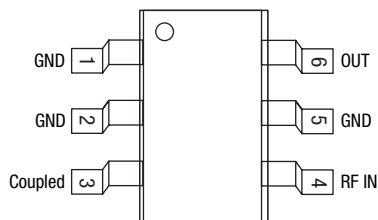
## Electrical Specifications at 25 °C

**Z<sub>0</sub> = 50 Ω, unless otherwise noted**

| Parameter                     | Min. | Typ.  | Max.  | Unit | Min. | Typ.  | Max.  | Unit |
|-------------------------------|------|-------|-------|------|------|-------|-------|------|
| Frequency                     | 1.42 |       | 1.66  | GHz  | 1.71 |       | 1.99  | GHz  |
| Insertion loss <sup>(1)</sup> |      | .25   | .35   | dB   |      | 0.35  | 0.45  | dB   |
| Isolation                     | 23   | 24    |       | dB   | 22   | 23    |       | dB   |
| Input VSWR                    |      | 1.1:1 | 1.3:1 |      |      | 1.1:1 | 1.3:1 |      |
| Output VSWR                   |      | 1.1:1 | 1.3:1 |      |      | 1.1:1 | 1.3:1 |      |
| Coupling                      | 14.6 | 15.6  | 16.6  | dB   | 13.8 | 14.8  | 15.8  | dB   |
| Coupled port VSWR             |      | 1.1:1 | 1.3:1 |      |      | 1.1:1 | 1.3:1 |      |

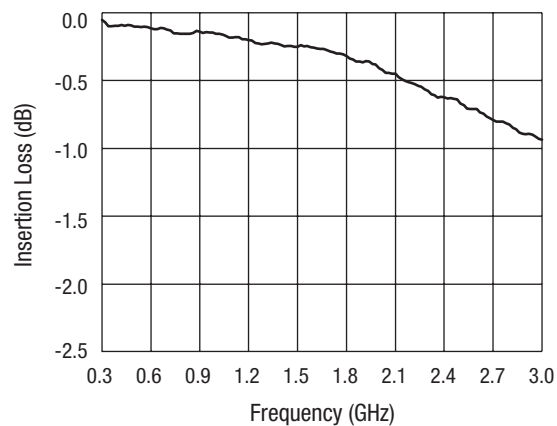
1. Coupling loss included.

## Pin Out

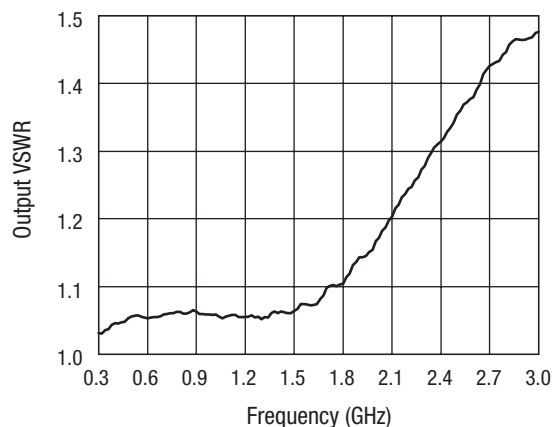


## Typical Performance Data

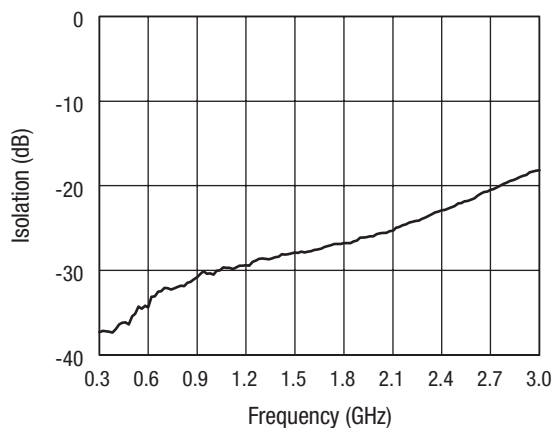
$Z_0 = 50 \Omega$ , unless otherwise noted



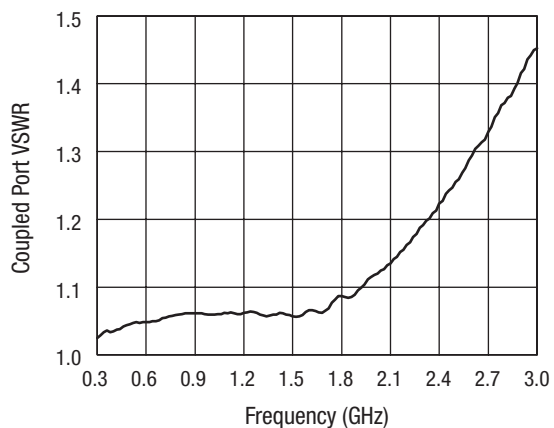
**Insertion Loss vs. Frequency**



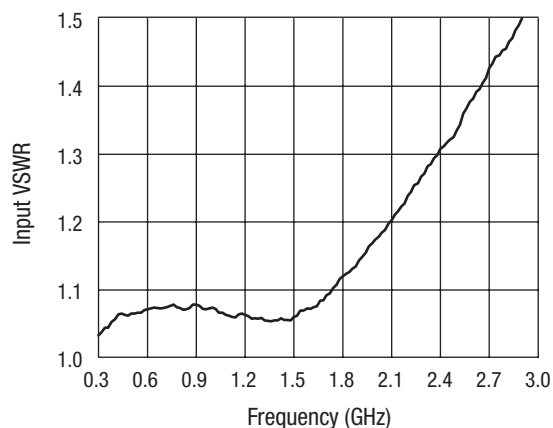
**Output VSWR vs. Frequency**



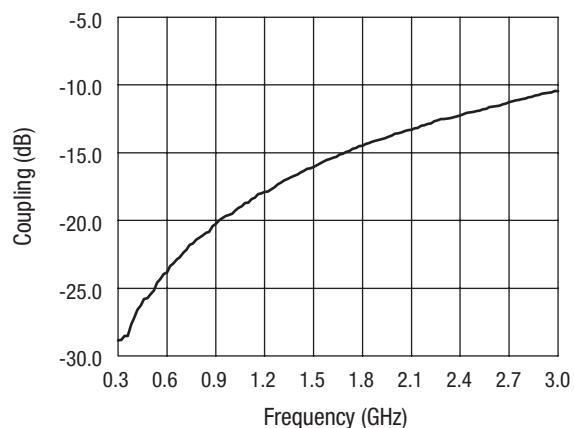
**Isolation vs. Frequency**



**Coupled Port VSWR vs. Frequency**



**Input VSWR vs. Frequency**



**Coupling vs. Frequency**

## Absolute Maximum Ratings

| Characteristic          | Value             |
|-------------------------|-------------------|
| Input power             | 4 W               |
| Operating temperature   | -40 °C to +85 °C  |
| Storage temperature     | -65 °C to +150 °C |
| Electrostatic discharge | 125 V             |

Performance is guaranteed only under the conditions listed in the specifications table and is not guaranteed under the full range(s) described by the Absolute Maximum specifications. Exceeding any of the absolute maximum/minimum specifications may result in permanent damage to the device and will void the warranty.

**CAUTION:** Although this device is designed to be as robust as possible, ESD (Electrostatic Discharge) can damage this device. This device must be protected at all times from ESD. Static charges may easily produce potentials of several kilovolts on the human body or equipment, which can discharge without detection. Industry-standard ESD precautions must be employed at all times.

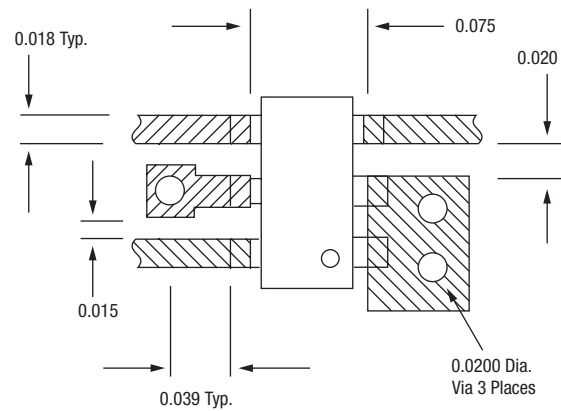
## Recommended Solder Reflow Profiles

Refer to the [“Recommended Solder Reflow Profile”](#) Application Note.

## Tape and Reel Information

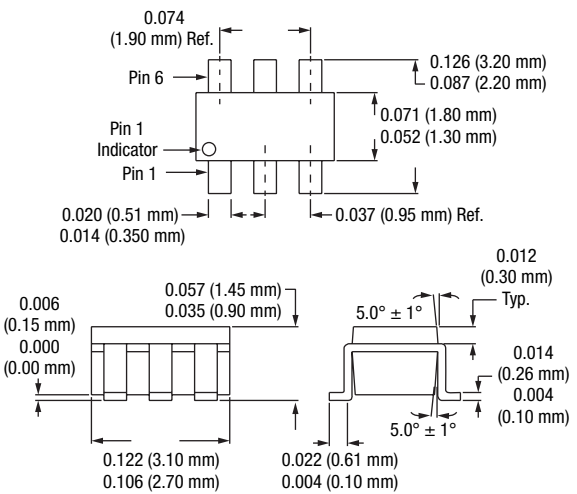
Refer to the [“Discrete Devices and IC Switch/Attenuators Tape and Reel Package Orientation”](#) Application Note.

## Recommended Board Layout



Material is 10 mil FR4.

## SOT-6



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