

# Hybrids



**Tect Electronics**

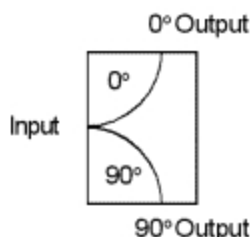
*The authorized distributor in the Greater China Region*

## 90° Hybrids

- 10% Bandwidth, 1-2000 MHz
- 2:1 to 4:1 Bandwidth, 5-600 MHz
- 2:1 to 6:1 Stripline, 0.4-20 GHz
- 5:1 to 125:1 Bandwidth, 2-500 MHz

### 90° Hybrids

90° Hybrids split an input signal into two equal amplitude output signals which are 90° out of phase from each other. Like in-phase dividers, 90° Hybrids may also be used as a power combiner

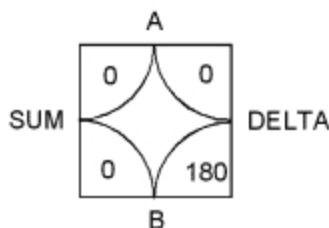


## 180° Hybrids

- 3 and 4 Port, 0.3-1000 MHz
- 4 Port, 1-20 GHz

### 180° Hybrids

180° Hybrids split an input signal into two signals of equal amplitude and phase when the input signal is injected into the SUM port and two equal amplitude signals which are 180° out of phase with each other when injected into its DELTA port.



## 90° & 180° Hybrids Specifications

### Insertion Loss

Insertion loss is the difference in power between the input signal and the output signal above the theoretical split loss of 3.0 dB.

### Amplitude Balance

The maximum difference in the power level between the output signals.

### Phase Balance

The maximum phase difference in degrees between the output signals.

### Isolation

The isolation is used to define the amount of output port to port crosstalk. It is the level of attenuation of a signal injected into an output port as seen at the other output port with the input terminated in 50 ohms.

### VSWR

The VSWR (Voltage Standing Wave Ratio) at any given port (with all other ports terminated) defines the degree of mismatch between the input signal and the input port and thus is a measure of the loss of input signal at that port.



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