

**ULTRA-BROADBAND MICROWAVE COMPONENTS  
AND TEST EQUIPMENT**  
**DC-110 GHz**



# Welcome to KRYTAR

KRYTAR is a recognized leader in passive RF, Microwave and Millimeter Wave components with over 44 years experience. Our customers have come to expect high performance and top quality that ensures success for military and commercial applications. We specialize in ultra-broadband components with frequencies ranging from DC to 110 GHz.

With over 200 standard off-the-shelf components, KRYTAR is able to quickly meet your broadband needs with deliveries ranging from IN-STOCK to 4 weeks ARO on our most common products. Our focus on ultra broadband components guarantees the quality and performance customers have grown to expect over the years.

## A Heritage of High Performance

KRYTAR is located in Sunnyvale, California and was founded by Thomas J. Russell in 1975. Mr. Russell was a recognized microwave pioneer specializing in ultra-broadband coupler technology. He developed one of the first proprietary computer-aided engineering (CAE) tools for creating microwave couplers and was a recognized leader in high performance designs. His original work laid the foundation for KRYTAR becoming a leader in ultra broadband, high performance microwave products.

Today KRYTAR has a dedicated facility for the design, manufacture and support of our products. Mr. Russell's original management style was based on trust and respect for both his employees and our customers. The continuation of his management philosophy has been essential in building strong relationships with our customers and has resulted in steady growth for over 35 years.

## Customized Solutions

KRYTAR's close relationship with its customers enables the company to provide superior customer service and support a variety of custom solutions. Our engineers and manufacturing team have worked over the years to design custom solutions meeting the highest performance technical requirements tailored for the most challenging applications. If your application pushes the boundaries of what you see in our catalog, please contact us to discuss your requirements!



### Directional Couplers

- 0.3 to 110 GHz
- 6, 10, 13, 16, 20, 30 dB Coupling
- Low Insertion Loss and VSWR

### 3 dB Hybrid Couplers

- 3 dB 90° - up to 44 GHz
- 3 dB 180° - up to 40 GHz
- High Isolation, Low VSWR



### Power Dividers

- 0.5 to 45 GHz
- 2-Way / 4-Way / 8-Way
- Wilkinson / MLDD

### Dual Directional Couplers

- 1 to 40 GHz
- 10, 16, 30 dB Coupling
- Low Insertion Loss and VSWR



### Detectors

- 10 MHz to 40 GHz
- Planar Doped Barrier
- Zero Bias Schottky

### Broadband Limiters

- 500 MHz to 18 GHz
- Coaxial PIN - PIN diode
- Coaxial PIN - Schottky Diode



### Coaxial Terminations & Adapters

- DC to 67 GHz
- SMA / 3.5 mm / 2.4 mm / 2.92 mm



### Power Meter & Sensors

- 100 kHz to 40 GHz
- Power Levels from -39 to +20 dBm



# A History of Ultra-Broadband Innovation and Performance



1975

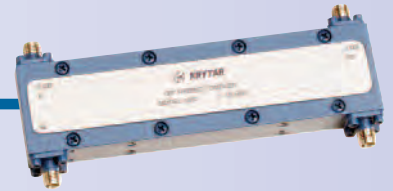
## KRYTAR Introduces 1st Ultra-Broadband Directional Couplers

- Model 1816, 16 dB coupling, from 2-18 GHz
- First commercial product using KRYTAR internally developed proprietary computer-aided engineering (CAE) program

## KRYTAR Introduces 1st Hybrid Coupler

- Model 1831, from 1 - 18 GHz, 3 dB 90° hybrid
- Model 4010180, from 1 - 18 GHz, 3 dB 180° hybrid
- High frequency, broadest bands, tightest phase and amplitude

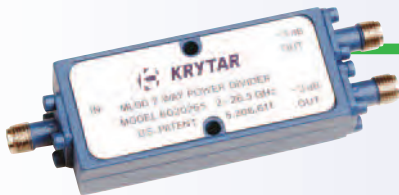
1985



1993

## KRYTAR Introduces MLDD Power Dividers

- Model 6005265, from 0.5 - 26.5 GHz
- Unique "Match Line Directional Divider" design
- Lowest loss, broadest bands, highest frequency



## KRYTAR Introduces 67 GHz Directional Couplers

- Model 110067016, 16 dB coupling, 10 - 67 GHz
- Highest frequency, broadest band directional coupler on the market
- High performance design utilizing new 1mm connectors

2007



2019

## KRYTAR Introduces 110 GHz Directional Coupler

- Model 1100110010 Ultra-Broadband Coverage Breakthrough
- From 10 - 110 GHz
- Flat 10 dB Coupling across the full bandwidth
- Solution for emerging mmWave and 5G markets



## Ultra-Broadband Components:

- Directional Couplers to 110 GHz
- Dual Directional Couplers to 40 GHz
- 3 dB 90° Hybrid Couplers to 44 GHz
- 3 dB 180° Hybrid Couplers to 40 GHz
- 2/4/8-Way Power Dividers to 45 GHz
- Zero Bias Schottky Detectors to 40 GHz
- Planar Doped Barrier Detectors to 40 GHz
- Coaxial Planar Tunnel Diode Detectors to 18.5 GHz
- Coaxial Threshold Detectors to 18.5 GHz
- Coaxial PIN-PIN Diode Limiters to 18 GHz
- Coaxial PIN-Schottky Diode Limiters to 18 GHz
- Coaxial Terminations to 50 GHz
- Coaxial Adapters to 50 GHz
- Power Meter and Sensors to 40 GHz

## Application Expertise:

- Test and Measurement Equipment
- Simulation Systems
- SATCOM and SOTM
- Jammers for Radar and IEDs
- Radar Systems
- Electronic Warfare: ECM, ECCM, ESM
- Wireless Communications
- Industrial, Scientific and Medical
- Homeland Security

## Focused on Your Needs:

- Standard Off-the-Shelf Catalog Products
- Custom Extensions of Standard Products
- Custom Designs for Specific Applications
- Prototyping

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## Microwave Legend

In 2006, for their 45th anniversary, Microwaves & RF magazine published a list of "Microwave Legends" that comprised the people, places, or things that have had the most significant influence on the microwave industry. The "Microwave Legends" were nominated and voted upon by both the staff of Microwaves & RF and its readers.

KRYTAR's founder, Thomas Russell, was recognized along with other "legends" including: James Maxwell, Guglielmo Marconi, David

Sarnoff, Bill Hewlett and Dave Packard. Mr.

Russell was described as a brilliant microwave designer who developed one of the first proprietary computer aided engineering (CAE) tools specializing in the creation of microwave couplers. His management style was highlighted for his trust and respect for his employees and in placing value on their opinions.



## KRYTAR Delivers:

- Over 200 Catalog Products
- Fast Delivery: IN-STOCK Inventory to 4 Weeks Typical
- 1-Year Standard Warranty
- In-house Test Capability: DC to 110 GHz
- MIL-I-45208 Quality Assurance Program
- MIL-STD-45662 Calibration System
- Full Machine Shop Equipped with CNC Lathes and Mills
- Complete Documentation: Elect. / Mech. / Test
- 100% Designed and Manufactured in the U.S.A. by U.S. Citizens

