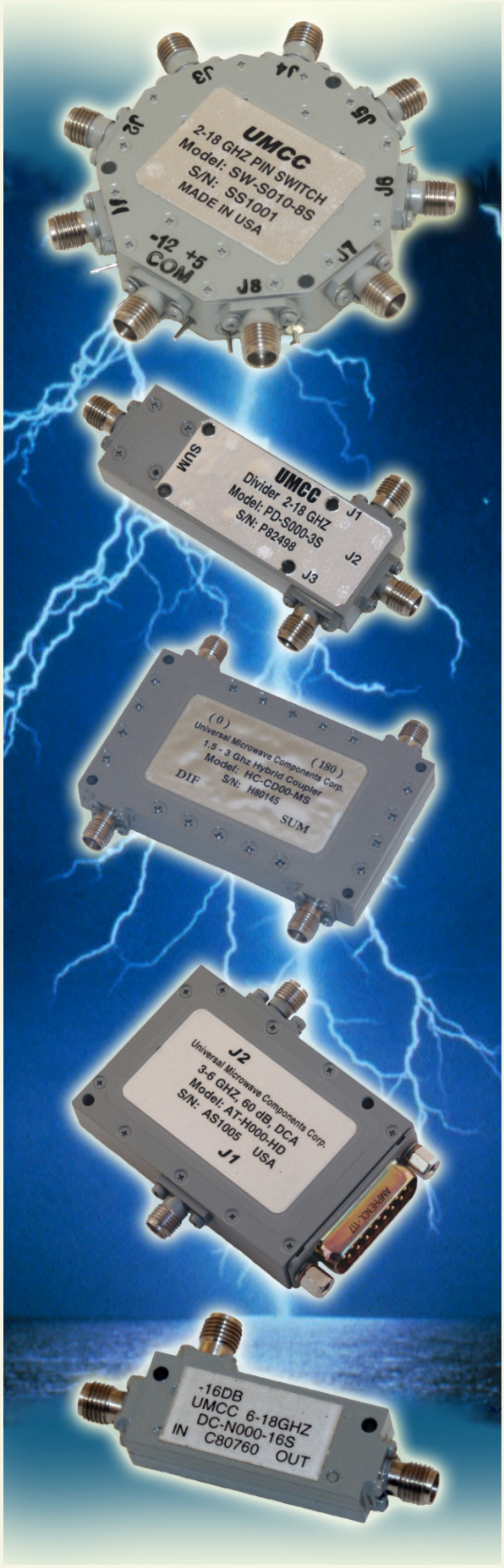
Company / Product Overview

RF & Microwave Components Design, Development, and Manufacturing

Universal Microwave Components Corporation

- Power Dividers / Combiners
- Directional Couplers
- Hybrid Couplers (90°/180°)
- Pin-Diode Switches
- Pin-Diode Attenuators
- Bias-Tees / DC-Blocks
- Other Custom Made Products



WWW.UMCC111.COM

(2011/2012)

About UMCC

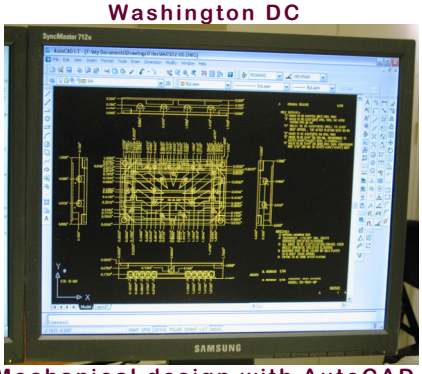
Company:

UMCC is a designer and manufacturer of high performance RF/Microwave components and subsystems. Since its founding almost two decades ago, the company has established and followed a tradition of excellence supplying reliable high quality products into a wide range of industries such as wireless and satellite communications, medical science, surveillance, security, industrial automation, military/defense sector products, space exploration, aviation, biometrics, broadcasting, and similar. UMCC is a privately owned company located in Northern Virginia USA.

Factory location near Washington DC

Technical / Design Capabilities:

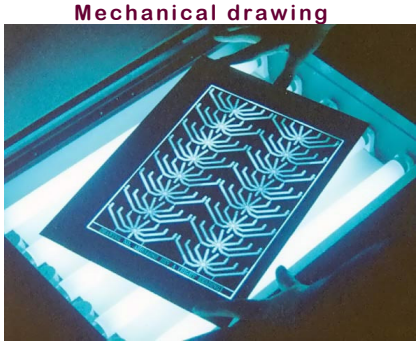
UMCC is a technically-oriented company with specialized engineering capabilities in RF/Microwave hardware design and development. Our team of engineers and technicians have years of hands-on experience in product development. Computer aided design tools are widely applied in different stages of product-design, development, and manufacturing.



Mechanical design with AutoCAD

Product design starts with an engineering concept to meet a specific product specification. RF/Microwave circuitry is designed along with preliminary engineering calculations. Electrical circuitry and layout is modeled on a computer simulator. The computer model includes real-world physical parameters where tolerances, parts limitations, and manufacturing yields are accounted for. Touchstone simulator is among the software tools frequently used for analysis and optimization of such circuits by our engineers. After each circuit model is fully optimized, a circuit layout is generated along with a mechanical package to house the circuit elements such as connectors, feeds, substrate/PCB, and other parts. Mechanical package design is done with AutoCAD software. Ultimately, a preliminary test prototype is developed and tested. Upon success of the prototype a complete set of documentation is generated. The documentation package includes parts lists, schematics, assembly drawings, CNC machining programs, manufacturing instructions, testing/tuning procedures, test data sheets, outline drawings, marking instructions, etc.

Mechanical drawing



Microwave circuit artwork

Marketing / Customer Service:

UMCC's marketing is supported directly by engineers with a complete understanding of our products, associated applications, and design limitations. Our engineers are ready to discuss any technical matter relating to products supported by UMCC. Once technical parameters are discussed and agreed upon, quotations are submitted to the customer for consideration. UMCC is also represented by technical sales representatives covering different territories and many countries around the globe. To find the UMCC representative closest to you, please visit our web site for current listings of UMCC distributors and representatives.

CNC machining center

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Production / Process Control:

Hardware production takes place under complete quality and process control. Each production step from preparing the bill of materials to assembly, testing, screening, and shipping is constantly monitored to assure the consistency, quality, and performance of the products manufactured. Individual units are serialized and fully tested for performance prior to shipment to the customer. Test data and certificates of compliance are provided to the customer at no additional cost. Standard UMCC products are built to the best commercial grade. UMCC guarantees its products to meet and exceed many environmental extremes such as high/low temperature, altitude, vibration, and others. All products offered by UMCC are subjected to routine steps in screening such as temperature shock cycles and 3-axis vibration testing to assure product reliability.

Parts stock room

Assembly room

Warranty / Product Support:

UMCC warrants its products to be free from defects in material and workmanship. The standard warranty is one year from date of shipment. Any component found to be defective will be repaired or replaced free of charge during this warranty period. Technical support is available from UMCC engineers and product specialists for the entire life span of each and every product. UMCC also maintains an archive of final test data taken on each unit shipped to the customer.

Gold bonding

Here is a summery of UMCC's capabilities:

- **In house product design & development**
- **Fast custom built prototype development**
- **In house mechanical design and machining**
- **In house PCB and microwave circuit etching**
- **Complete in house assembly and integration**
- **In house RF/Microwave testing and tuning**

Microscope assembly

Company Address / Contact Information:

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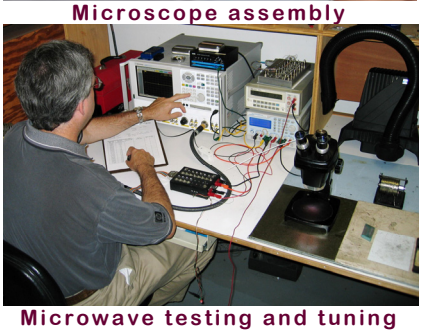

Microwave testing and tuning

Power Dividers

Features:

- Wide Selections
- Frequencies from DC to 20GHz
- Outputs from 2-ways to N-ways
- Narrow Bands to Multi Decade Bands
- Lumped Element, or Micro-Strip Design
- Low Loss, Low VSWR, High Isolation
- Excellent Phase/Amplitude Tracking
- Rugged Compact Packages

UMCC offers a wide selection of Dividers/Combiners covering frequencies from DC to 20GHz. These dividers are built from narrow bands of one octave to bandwidths as wide as multi decades. Dividers are built for low signals to high powers, 2-way split to N-ways, and many other custom made options to fit your application. Units are available with standard SMA (female) connectors. Other type connectors such as "N" or "BNC" types are offered on limited number of low frequency models.

Power Dividers / Combiners
2-Way, 3-Way, …….. , N-Ways

- **Low Freq. Wide-Bands / Lumped Element**
  (Freq. Bands in 10 KHz – 3 GHz Range)
- **Narrow-Bands / Micro-Strip Design**
  (Up to 70% BW in 0.4 – 20 GHz Range)
- **Wide-Bands / Micro-Strip Design**
  (Up to 120% BW in 0.45 – 18 GHz Range)
- **Multi-Octave-Bands / Micro-Strip Design**
  (Up to 170% BW in 0.45 – 18 GHz Range)
- **Resistive Dividers / 2, 3 and 4-Ways**
  (From DC to 12 GHz)

UMCC's low frequency dividers (10KHz to about 1GHz range) are of lumped-element construction, where ferrite elements are used in divider circuitry. UMCC's low frequency dividers do cover a wide frequency band of two to three decades.

UMCC's high frequency dividers (0.4 to 20GHz range) are of distributed-element construction. Micro-strip transmission lines are etched monolithically on a Teflon base substrate providing impedance transformation and power division or summation functions possible. UMCC's high frequency dividers are offered from narrow bands of one octave to multi octave bandwidths.

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Power Dividers

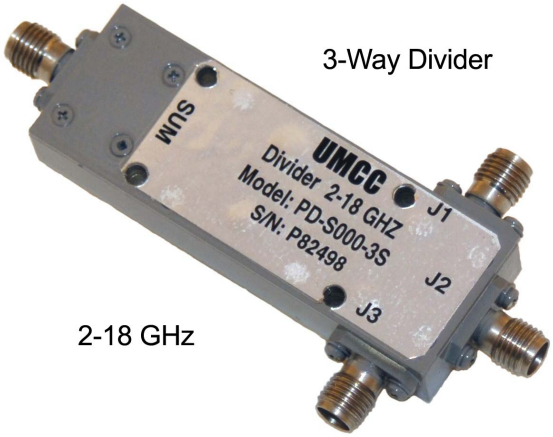
UMCC offers a limited series of semi lumped-element dividers covering the frequency range of 20MHz to 3GHz in one band. These series cover a wide frequency bandwidth of two to nearly three decades. Their construction is a combination of lumped-element ferrite components with distributed-element transmission lines.

"Here is a typical specification for a wide band 8-Way Divider/Combiner"

> Model No. PS-3000-8S
> Operating Frequency:..... 20-3000 MHz
> Insertion Loss: ..... 4.4 dB Max
> Amplitude Balance:..... ± 0.5 dB Max
> Phase Balance: ..... ± 5º Max
> VSWR: ..... 1.5:1 Max
> Isolation: ..... 18 dB Min
> Power Handling: ..... 2W Avg/Cw
> Connectors: ..... SMA (female)
> Impedance:..... 50 Ohms Nominal
> Operating Temperature: ..... -55 ºC to +95 ºC
> Weight:..... 5.8oz [164g]
> Grade:..... Best Commercial

"Here is a typical specification for a wide band 3-Way Divider/Combiner"

> Model No. PD-S000-3S
> Operating Frequency:..... 2-18 GHz
> Insertion Loss: ..... 1.9 dB Max
> Amplitude Balance:..... ± 0.5 dB Max
> Phase Balance: ..... ± 7º Max
> VSWR: ..... 1.8:1 Max
> Isolation: ..... 17 dB Min
> Power Handling: ..... 1W Avg/Cw
> Connectors: ..... SMA (female), Removable
> Impedance:..... 50 Ohms Nominal
> Operating Temperature: ..... -55 ºC to +95 ºC
> Weight:..... 1.25oz [35.4g]
> Grade:..... Best Commercial



Visit UMCC's web site for complete product information on all Power Divider Series.

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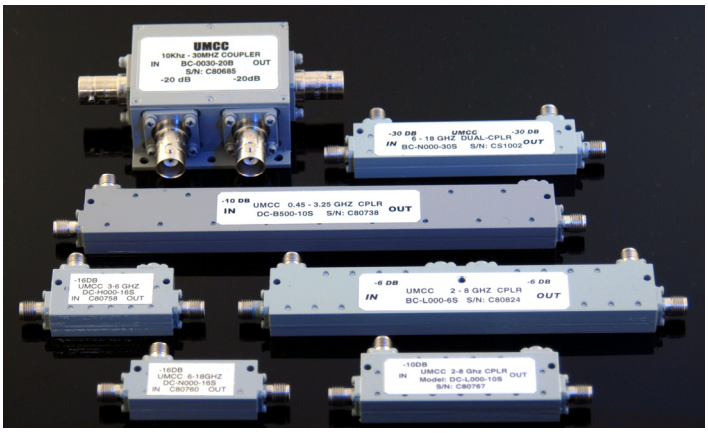
Directional Couplers

Features:

- Wide Selections
- Frequencies from 10KHz to 18GHz
- All Coupling Levels
- Narrow Bands to Multi Decade Bands
- Lumped Element, or Strip-line Design
- Low Loss, Low VSWR, High Directivity
- Rugged Compact Packages



UMCC offers a wide selection of unidirectional and bi-directional couplers covering frequencies from 10KHz to 18GHz. These couplers are available from narrow bands to multi decade bandwidths with all coupling levels of 6dB, 10dB, 16dB, 20dB, and 30dB. Units are available with standard SMA (female) connectors. Other type connectors such as “N” or “BNC” types are offered on limited number of low frequency models.

Directional Couplers (10 KHz – 18 GHz)
Unidirectional / Bi-Directional

- **Low Freq. Wide-Bands / Lumped Element**
  (Freq. Bands in 10 KHz – 2.4 GHz Range)
- **Narrow-Bands / Strip-line Design**
  (up to 70% BW in 1 - 18 GHz Range)
- **Wide-Bands / Strip-line Design**
  (Up to 120% BW in 0.45 – 18 GHz Range)
- **Multi-Octave-Bands / Unidirectional Only**
  (Up to 170% BW in 0.5 – 18 GHz Range)

10dB Dual Directional Coupler

UMCC’s low frequency dividers (10KHz to about 1GHz) are of lumped-element construction, where ferrite elements are used in coupler circuitry. UMCC’s low frequency couplers do cover a wide frequency band of two to three decades.

UMCC’s high frequency couplers (0.5 to 18GHz) are of distributed-element construction. Strip-line transmission lines are etched monolithically on a Teflon base substrate creating impedance transformation and the coupling function. UMCC’s high frequency couplers are offered from narrow bands of one octave to multi octave bandwidths.

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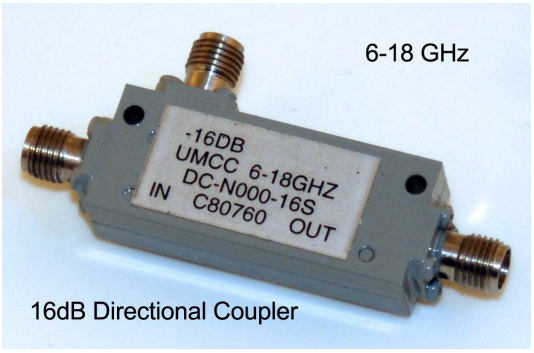
Directional Couplers

UMCC offers a limited series of semi lumped-element couplers covering the frequency range of 20MHz to 2GHz. These series cover a wide frequency bandwidth of two to nearly three decades. Their construction is a combination of lumped-element ferrite components with distributed element transmission lines.

"Here is a typical specification for a wide band Directional Coupler"

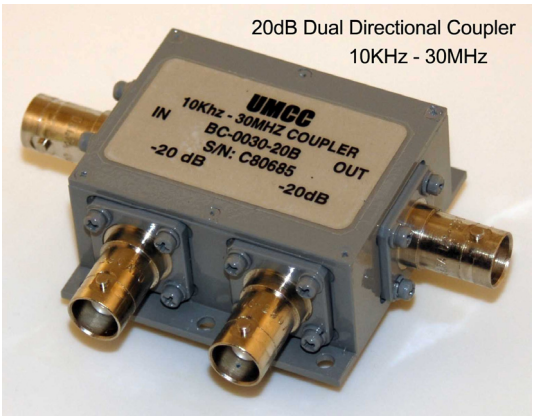
> Model No. DC-N000-16S
> Operating Frequency:..... 6 – 18 GHz
> Coupling: ..... 16 ± 1 dB Nominal
> Coupling Flatness:..... ± 0.75 dB Max
> Insertion Loss (Total):..... 0.75 dB Max
> Directivity: ..... 12 dB Min
> VSWR:..... 1.45:1 Max
> Power Handling: ..... 30W Cw/Avg, 0.5Kw Peak
> Connectors: ..... SMA (female)
> Impedance:..... 50 Ohms Nominal
> Operating Temperature: ..... -40ºC to +85ºC
> Weight:..... 0.9 oz [25.5 g]
> Grade:..... Best Commercial



16dB Directional Coupler

"Here is a typical specification for a low frequency wide band Bi-Directional Coupler"

> Model No. BC-003A-20B
> Operating Frequency:..... 10 KHz – 30 MHz
> Coupling: ..... 20 ± 1 dB Nominal
> Coupling Flatness:..... ± 0.5 dB Max
> Insertion Loss (Total):..... 2.5 dB Max
> Directivity: ..... 20 dB Min
> VSWR:..... 1.15:1 Max
> Power Handling: ..... 2W Cw/Peak
> Connectors: ..... BNC (female)
> Impedance:..... 50 Ohms Nominal
> Operating Temperature: ..... -40ºC to +85ºC
> Weight:..... 3.2 oz [90.7 g]
> Grade:..... Best Commercial



Visit UMCC's web site for complete product information on all Coupler series.

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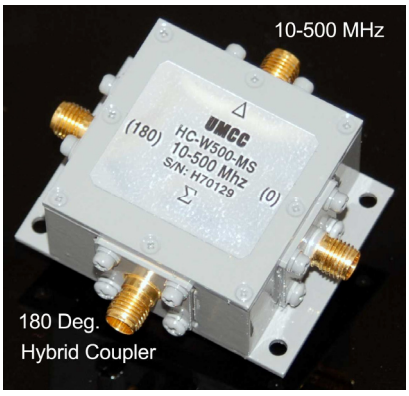
Hybrid Couplers

Features:

- 90° Quadrature / 180° Magic Tee
- Frequencies from 30KHz to 18GHz
- Excellent phase tracking
- Narrow bands to multi octave bands
- Lumped Element, or Strip-line Design
- Low loss, Low VSWR, High Isolation
- Rugged, compact packages

UMCC offers a selection of 90° phase and 180° phase hybrid couplers. These hybrids are available from narrow bands of one octave to multi decade frequency bands from 30KHz to 18GHz. Units are available with standard SMA(female) connectors. Other type connectors such as “N” or “BNC” types are offered on limited number of low frequency models.

- **90ºHybrid Couplers (330 MHz – 18 GHz)**
  - Narrow-Band / Strip-line Design (Up to 66% BW in 0.33 - 18 GHz Range)
  - Wide-Band / Strip-line Design (Up to 120% BW in 0.5 - 8 GHz Range)
- **180ºHybrid Couplers (30 KHz – 6 GHz)**
  - Low Freq. Wide-Bands / Lumped Element (Freq. Bands in 30 KHz – 500 MHz Range)
  - Narrow-Band / Strip-line Design (Up to 66% BW in 0.5 - 6 GHz Range)



UMCC’s low frequency 180º phase hybrids are of lumped-element construction, where ferrite elements and impedance transformers are used in coupler circuitry. UMCC’s low frequency hybrids cover a wide band of two to three decades from 30KHz to 500MHz Range.

UMCC’s high frequency hybrids are of distributed element construction. Strip-line transmission lines are etched monolithically on a Teflon base substrate creating impedance transformation and the coupling function. UMCC’s high frequency hybrids are offered in one octave or two octave bands from 330MHz to 18GHz.

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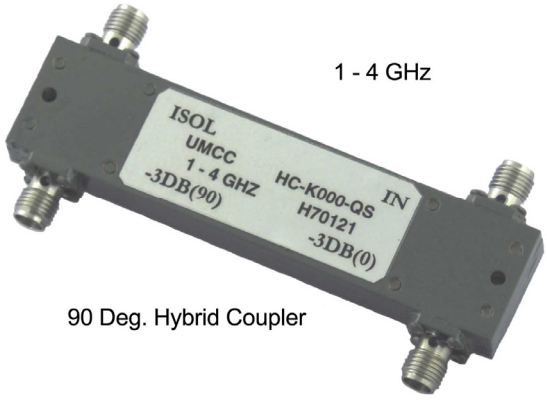
Hybrid Couplers

"Here is a typical specification for a wide band 90º Hybrid Coupler"

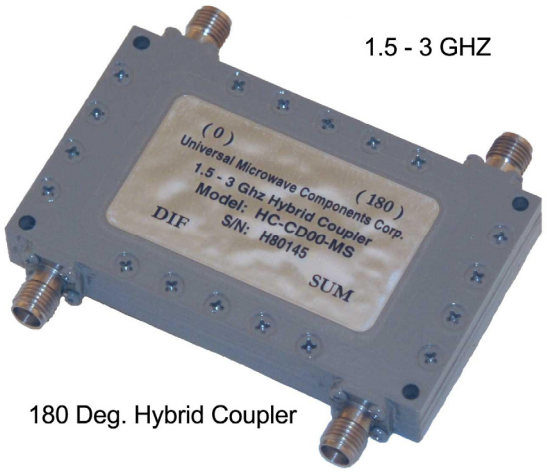
> Model No. HC-K000-QS
> Operating Frequency:..... 1 – 4 GHz
> Coupling (total): ..... 3.2 ± 0.6 dB Max
> Frequency Flatness:..... ± 0.6 dB Max
> Isolation: ..... 22 dB Min
> VSWR:..... 1.25:1 Max
> Phase Error: ..... ±5º Max
> Power Handling: ..... 50W Cw/Avg, 3KW Peak
> Connectors: ..... SMA (female)
> Impedance:..... 50 Ohms Nominal
> Operating Temperature: ..... -55ºC to +95ºC
> Weight:..... 2.0 oz [56.7 g]
> Grade:..... Best Commercial



90 Deg. Hybrid Coupler

"Here is a typical specification for an octave band 180º Hybrid Coupler"

> Model No. HC-CD00-MS
> Operating Frequency:..... 1.5 – 3 GHz
> Coupling (total): ..... 3.4 ± 0.6 dB Max
> Frequency Flatness:..... ± 0.5 dB Max
> Isolation: ..... 22 dB Min
> VSWR:..... 1.3:1 Max
> Phase Error: ..... ±9º Max
> Power Handling: ..... 50W Cw/Avg, 3KW Peak
> Connectors: ..... SMA (female)
> Impedance:..... 50 Ohms Nominal
> Operating Temperature: ..... -55ºC to +95ºC
> Weight:..... 2.8 oz [79.4 g]
> Grade:..... Best Commercial



180 Deg. Hybrid Coupler

Visit UMCC's web site for complete product information on all 90º / 180º Hybrid Coupler series.

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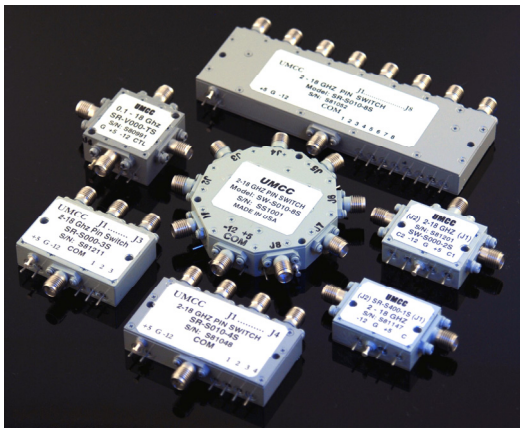
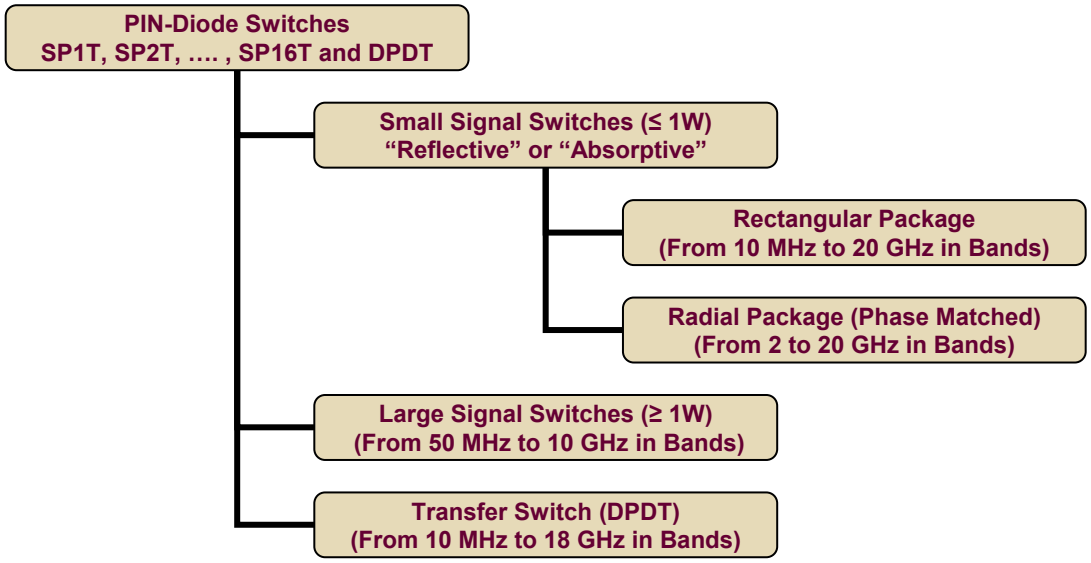
Pin-Diode Switches

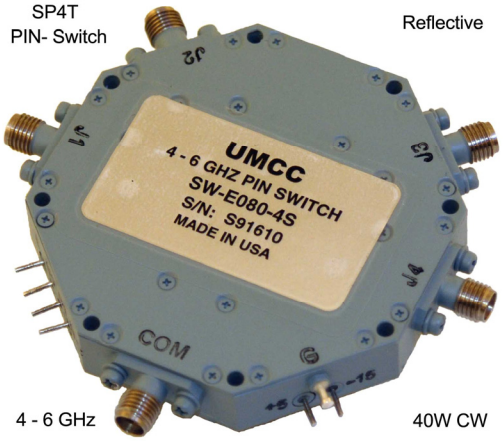
Features:

- **Wide Selections**
- **Frequencies from 10MHz to 20GHz**
- **All Types, SP1T, SP2T, ……, SPNT, DPDT**
- **Reflective or Absorptive with TTL Driver**
- **Low Loss, Low VSWR, High Isolation**
- **Small Signal to High power**
- **Rugged, compact packages**



UMCC offers a wide selection of PIN-Diode switches covering frequencies from 10MHz to 20GHz. UMCC offers these switches in reflective or absorptive configurations. All standard switches are equipped with a high-speed TTL driver. Switches are energized by a pair of positive/negative supply voltages. UMCC's standard switches are designed for wide frequency bandwidths to work for a range of applications. Units are available with standard SMA (female) connectors.





UMCC switches are available with a variety of options to satisfy many applications. Few of these options are:

- Supply voltages from 5V to 15V on each supply line
- SMA (male) RF connectors
- SMC or SMB connectors for control
- Inverse, toggle, or binary control options
- Internal 50Ω driver control impedance
- Video Suppression Filters on RF lines
- Others

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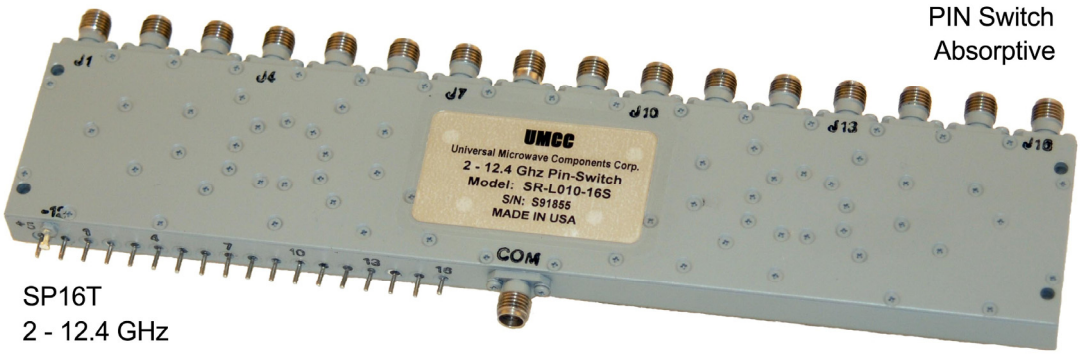
Pin-Diode Switches

UMCC offers a limited number of High-Power PIN-Diode switches with power levels ranging to about 40W Cw/Avg. These High-Power switches are offered from 50MHz to about 10GHz in narrow octave bands and wider bandwidths.

"Here is a typical specification for a small signal <u>SP16T Absorptive PIN-Diode Switch</u>"

> Model No. SR-L010-16S
> Operating Frequency:..... 2 – 12.4 GHz
> Isolation: ..... 55 dB Min
> Rise/Fall Time:..... 30 ns Max
> Operating Power:..... +27 dBm Cw/Avg Max
> Control Logic: ..... 16 Independent Controls
> Impedance:..... 50 Ohms Nominal
> Connectors (Supply/Control): . Solder Pins
> Insertion Loss: ..... 4.7 dB Max
> VSWR (On/Off): ..... 1.8:1 Max
> ON/OFF Time: ..... 100 ns Max
> Control Characteristic: ..... TTL, One Unit Load
> Supply Voltage:..... +5 / -12 Volts
> Connectors: ..... SMA (f), Removable
> Operating Temperature: ..... -55ºC to +95ºC
> Weight:..... 9 oz [255 g]
> Grade:..... Best Commercial



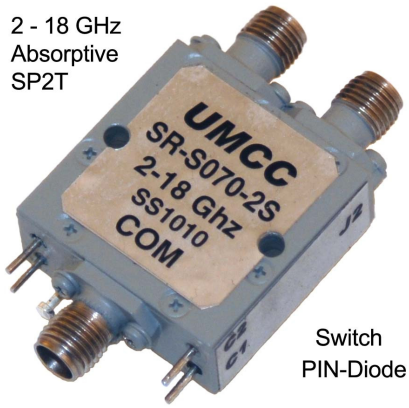
PIN Switch
Absorptive

SP16T
2 - 12.4 GHz

"Here is a typical specification for a small signal <u>SP2T Absorptive PIN-Diode Switch</u>"

> Model No. SR-S070-2S
> Operating Frequency:..... 2 – 18 GHz
> Insertion Loss: ..... 3.2 dB Max
> Isolation: ..... 80 dB Min
> VSWR (On/Off):..... 2:1 Max
> Rise/Fall Time:..... 25 ns Max
> ON/OFF Time: ..... 50 ns Max
> Operating Power:..... +24 dBm Cw/Avg Max
> Control Characteristic:..... TTL, One Unit Load
> Control Logic: ..... 2 Independent Controls
> Supply Voltage: ..... +5V @ 85mA / -12V @50mA
> Impedance:..... 50 Ohms Nominal
> Connectors: ..... SMA (f), Removable
> Connectors (Supply/Control): . Solder Pins
> Operating Temperature: ..... -55ºC to +95ºC
> Weight:..... 0.7 oz [19.8 g]
> Grade:..... Best Commercial

2 - 18 GHz
Absorptive
SP2T



Switch
PIN-Diode

Visit UMCC's web site for complete product information on all PIN-Diode Switches.

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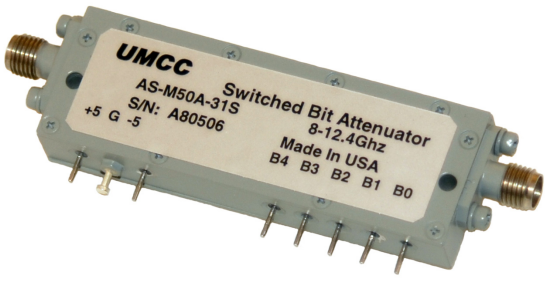
Pin-Diode Attenuators

Features:

- Frequencies from 10MHz to 18GHz
- Octave Bands to Multi-Octave Bands
- Current, Voltage, or Digital Controlled
- High Accuracy Linearized Response Curves
- Fast Settling Time, Low Jitter, Low Distortion
- Temperature Compensated
- Internal Voltage Regulation
- Rugged, Compact Packages

UMCC offers a wide selection of PIN-Diode variable attenuators covering frequencies from 10MHz to 18GHz. Standard UMCC attenuators are equipped with a linearizer-driver circuitry for attenuation control setting. Control signal is via a voltage or a digital word. Limited number of UMCC attenuators is available without a driver circuitry for direct current controlling.

- **Variable PIN-Diode Attenuators (Voltage, Digital, or Current controlled)**
  - **Narrow Band Attenuators (160 MHz – 18 GHz in Bands)**
    - **Standard (60dB Range) (0.25 – 18 GHz in Octave Bands)**
    - **Extended Band (40dB Range) (0.16 – 9 GHz in Bands)**
    - **High Attenuation (80dB Range) (0.25 – 18 GHz in Octave Bands)**
  - **Wide Band Attenuators (10 MHz – 18 GHz in Bands)**
  - **Switched-Bit Attenuators (From 1 – 10 GHz in Bands)**



Linearized attenuators do come with an advance electronic Control circuitry. Controlling circuit has features such as temperature compensation circuitry, onboard supply voltage regulation, and reverse voltage protection circuitry. Linearized attenuators can be custom built with a variety of controlling options. Options such as shallower or steeper attenuation slope functions, a reverse slope attenuation function, or higher/lower attenuation step resolutions are among few options available on these attenuators.

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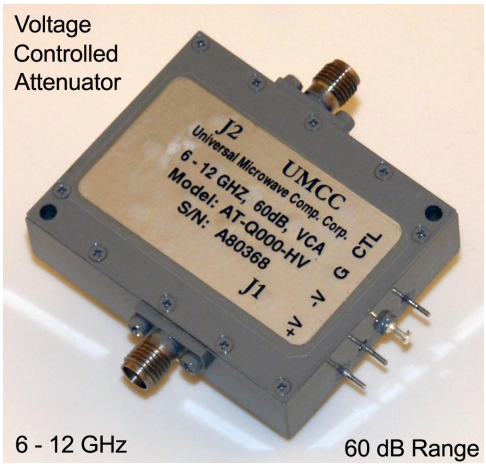
Pin-Diode Attenuators

UMCC also offers a limited series of Switched-Bit attenuators for applications where fast speed of attenuation setting time is a critical parameter. These series of Switched-Bit attenuators are available on special order.

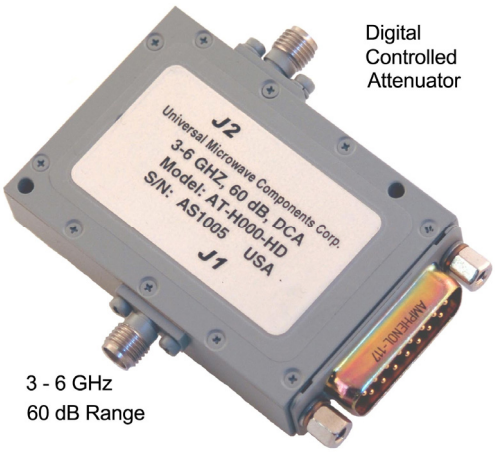
"Here is a typical specification for an Octave Band <u>Voltage Controlled PIN-Diode Attenuator</u>"

> Model No. AT-Q000-HV
> Operating Frequency:..... 6 – 12 GHz
> Insertion Loss (0dB Ref.):..... 2.5 dB Max
> Attenuation Range:..... 0 - 60 dB Nominal
> Attenuation Flatness:..... 0.8 dB Peak-Peak (up to 10 dB)
..... 1.8 dB Peak-Peak (up to 20 dB)
..... 3.0 dB Peak-Peak (up to 50 dB)
..... 3.4 dB Peak-Peak (up to 60 dB)
> VSWR (all settings): ..... 1.6:1 Max
> Control Function: ..... 0-6 V, 10dB/Volt
> Transfer Function Accuracy: .. ±50% Max (0 – 0.8 dB)
..... ±0.4 dB Max (>0.8 – 10 dB)
..... ±0.5 dB Max (>10 – 30 dB)
..... ±0.9 dB Max (>30 – 50 dB)
..... ±1.2 dB Max (>50 – 60 dB)
> Settling Time:..... 500 ns Max, (5µs<PW<0.1s)
> Temperature Coefficient:..... ±0.025 dB/ºC Max
> Power Supply: ..... ±12V to ±15V
> Operating Temperature: ..... -40ºC to +85ºC
> Impedance: ..... 50 Ohms Nominal



"Here is a typical specification for an Octave Band <u>Digital Controlled PIN-Diode Attenuator</u>"

> Model No. AT-H000-HD
> Operating Frequency:..... 3 – 6 GHz
> Insertion Loss (0dB Ref.):..... 1.8 dB Max
> Attenuation Range:..... 0 - 60 dB Nominal
> Attenuation Flatness:..... 0.6 dB Peak-Peak (up to 10 dB)
..... 1.6 dB Peak-Peak (up to 20 dB)
..... 2.6 dB Peak-Peak (up to 40 dB)
..... 3.0 dB Peak-Peak (up to 50 dB)
..... 3.6 dB Peak-Peak (up to 60 dB)
> VSWR (all settings): ..... 1.6:1 Max
> Control Function: ..... 8 Bit Positive Binary TTL
..... (LSB=0.25dB, MSB=32dB)
> Transfer Function Accuracy: .. ±50% Max (0 – 0.8 dB)
..... ±0.4 dB Max (>0.8 – 10 dB)
..... ±0.5 dB Max (>10 – 30 dB)
..... ±0.9 dB Max (>30 – 50 dB)
..... ±1.2 dB Max (>50 – 60 dB)
> Settling Time:..... 500 ns Max, (5µs<PW<0.1s)
> Temperature Coefficient:..... ±0.025 dB/ºC Max
> Power Supply: ..... ±12V to ±15V
> Operating Temperature: ..... -40ºC to +85ºC
> Impedance: ..... 50 Ohms Nominal



Visit UMCC's web site for complete product information on all PIN-Diode Attenuators.

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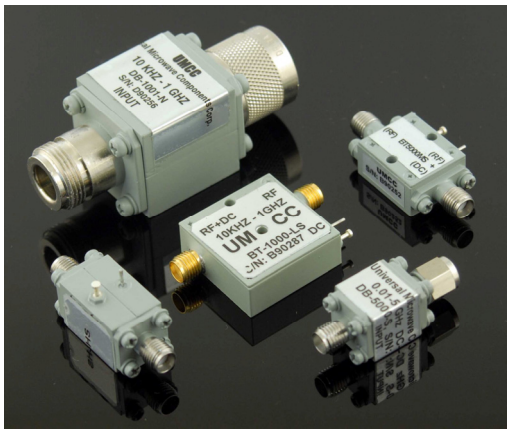
Bias Tees / DC-Blocks

Features:

- **Wide selection**
- **Frequencies from 10KHz to 20GHz**
- **Wide RF Frequency Bandwidth**
- **Micro-Strip, or Suspended Substrate Design**
- **Wide Bias Frequency Bandwidth**
- **Low Loss, Low VSWR**
- **Rugged, Compact Packages**



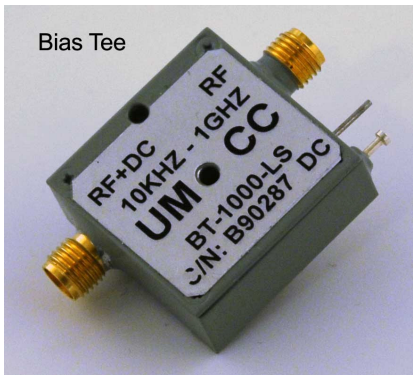
UMCC offers a selection of Bias-Tees and DC-Blocks covering frequencies from 10KHz to 20GHz. These products are available with standard SMA or N type connectors.

Bias Tees

- **Low Freq. Wide Bands / Micro-Strip Design (Freq. Bands in 10 KHz – 5 GHz Range)**
- **High Freq. Wide Bands / Suspended Substrate Design (Freq. Bands in 0.5 – 20 GHz Range)**
- **High Current Application (Up to 3A Rating) (Available in limited Freq. Bands / Consult Factory)**

DC-Blocks (All inner conductor DC blocking)

- **Standard (≤50V Block Voltage Rating) (Freq. Bands in 10 KHz – 18 GHz Range)**
- **High Voltage (≥50V Block Voltage Rating) (Available in limited Freq. Bands / Consult Factory)**



UMCC's Bias-Tees and DC-Blocks are designed for a wide band frequency operation to fit many diverse applications. High frequency Bias-Tees and DC-Blocks are built on a suspended substrate to minimize the insertion loss of the RF signal path as best as possible. This is achieved by monolithically etching the series capacitor directly on the main RF signal substrate without any line discontinuity.

UMCC offers a limited number of Bias-Tees and DC-Blocks for high Bias current and high DC blocking voltage applications.

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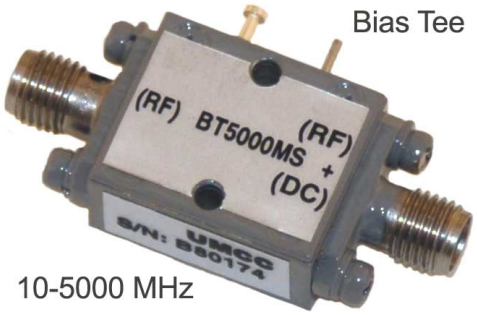
Bias Tees / DC-Blocks

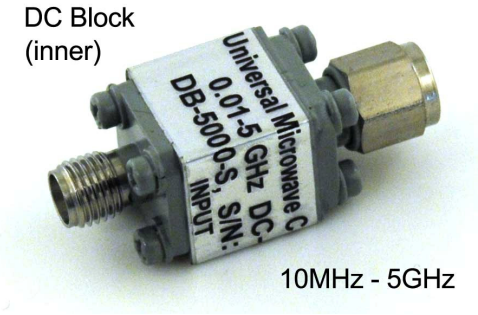
"Here is a typical specification for a wide band Bias-Tee"

> Model No. BT-5000-MS
> Operating Frequency:..... 10 MHz – 5 GHz
> Insertion Loss: ..... 0.7 dB Max
> Isolation DC to RF: ..... 40dB Min
> VSWR:..... 1.3:1 Max
> RF Power:..... 5W Cw/Avg
> Bias Voltage: ..... 50 V Max
> Bias Current:..... 500 mA Max
> Bias DC Resistance: ..... 1Ω Max
> Bias Frequency Bandwidth:.... DC – 3 MHz
> RF & RF+DC Connectors:..... SMA (female)
> Bias Connector:..... Solder Pins
> Impedance:..... 50 Ohms Nominal
> Operating Temperature: ..... -55ºC to +95ºC
> Grade:..... Best Commercial



"Here is a typical specification for a wide band DC-Block"

> Model No. DB-5000-S
> Operating Frequency:..... 10 MHz – 5 GHz
> Insertion Loss: ..... 0.25 dB Max
> VSWR:..... 1.25:1 Max
..... (1.5:1 Max Over 10-20MHz)
> RF Power:..... 15W Cw/Avg
> Blocked Voltage:..... 50 V Max
> RF Connectors: ..... SMA (female) / SMA (male)
> Impedance:..... 50 Ohms Nominal
> Operating Temperature: ..... -55ºC to +95ºC
> Grade:..... Best Commercial



Visit UMCC's web site for complete product information on all Bias-Tee's and DC-Blocks.

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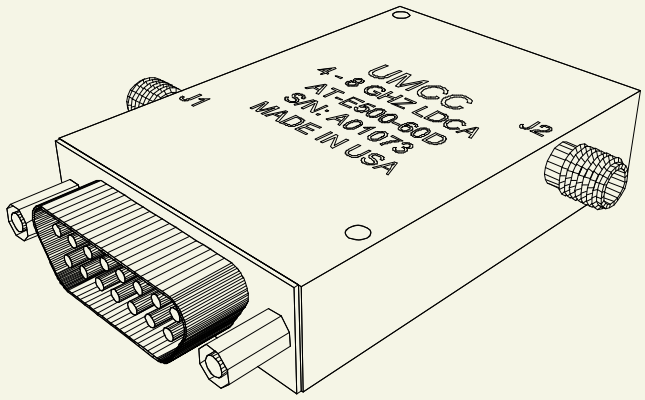

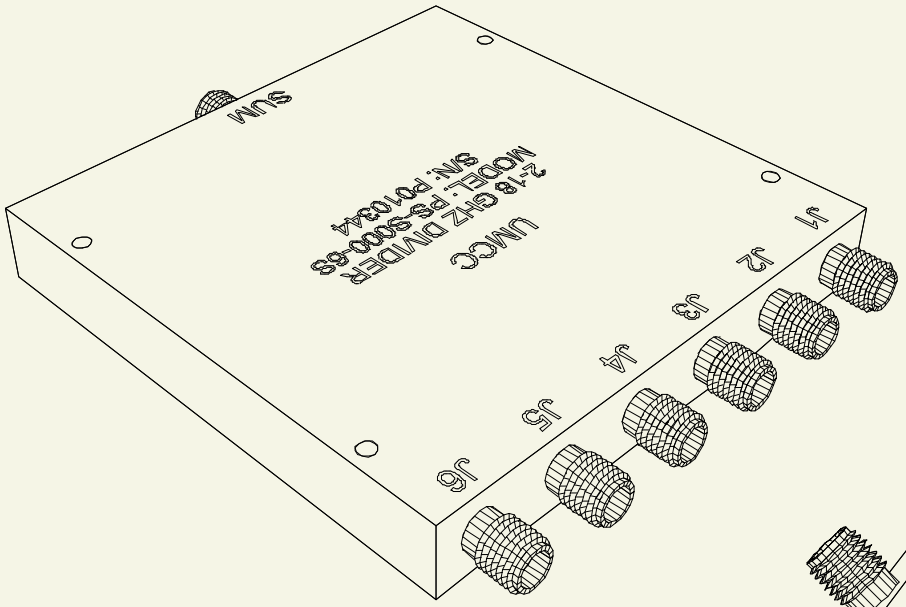

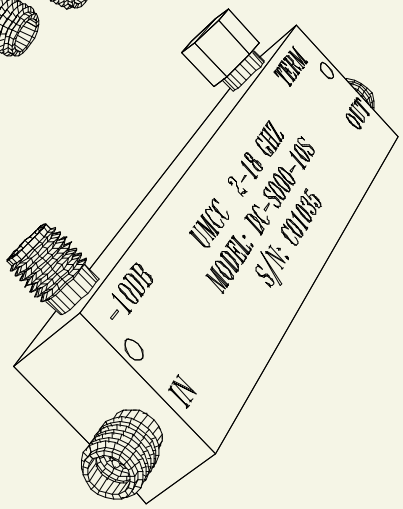

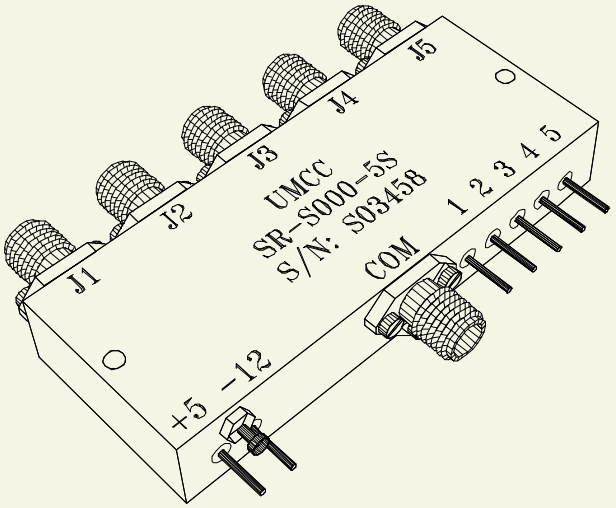

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