

Innovative ***Power*** ***Products***

Innovative Products to Power Your Success

Our Broadband Products

90° Hybrid Couplers

Directional Couplers

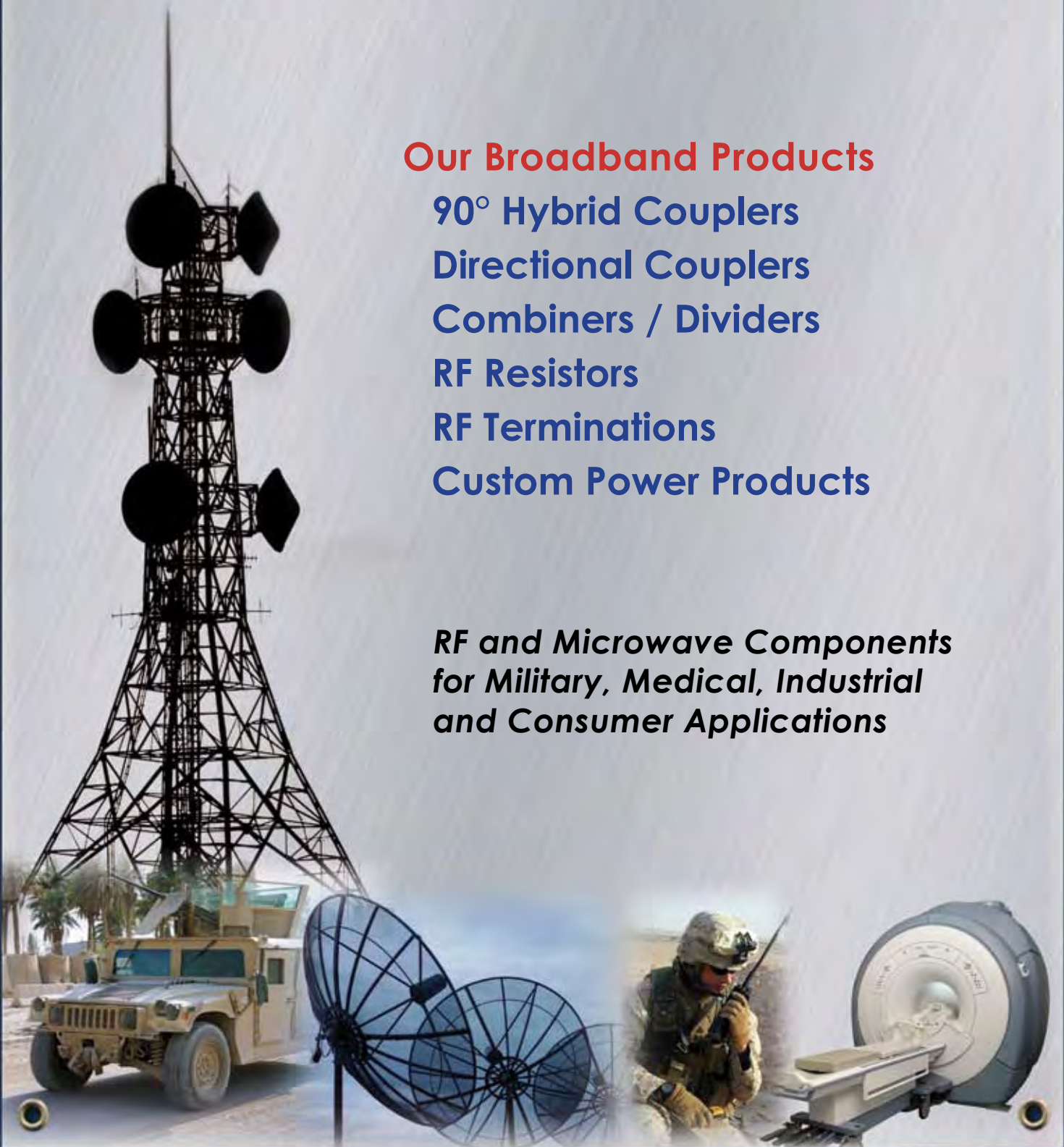
Combiners / Dividers

RF Resistors

RF Terminations

Custom Power Products

***RF and Microwave Components
for Military, Medical, Industrial
and Consumer Applications***





Contact us for the name of
our sales representative in
your region of the world.

Innovative Power Products, Inc. has over 25 years of experience designing and manufacturing RF and Microwave Passive Components. Our high power, broadband couplers, combiners, resistors and terminations are fabricated using the latest materials and design tools available, resulting in unrivaled product performance. Our ISO 9001:2008 registered quality system assures our customers of a reliable product for their application.

Innovative Power Product's broadband products are used around the world in RF and Microwave applications in military, medical, industrial and consumer markets. Innovative Power Products is quickly becoming a market leader by offering our customers competitive prices, fast delivery worldwide and outstanding customer service.

This catalog contains a list of our most popular products. Please visit our web site at www.innovativepp.com for a more comprehensive and current product listing. All of the products listed on our web site link to detailed mechanical drawings that contain electrical specifications. If you require performance data or "S" parameters, please contact us by phone, e-mail or by filling out the form on our web site.

We can design and manufacture custom products to suit your individual needs. If you can't find a product that meets your requirements in this catalog, or on our web site, please contact one of our design engineers with your specifications, and we will create a product for your application.

Thank you for considering Innovative Power Products as your supplier for RF and Microwave Passive components. Given the opportunity, we promise to impress you with our conscientious customer service. See for yourself why so many companies turn to us for superior passive components. Call 631-563-0088 to speak to an experienced Design Engineer about your upcoming project.



Innovative Power Products, Inc. is proud to announce that their Quality Management System has been successfully registered by Underwriters Laboratories for ISO 9001:2008.

Certificate Number: 10009425 QM08



Many of our products are available as RoHS compliant.

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Directional Couplers: Surface Mount 8

Frequency Ranges from 20 MHz to 6000 MHz
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We can design and manufacture custom products to suit your individual needs. Contact us with your specifications.



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Frequency Ranges from DC to 6000 MHz
in Power Levels up to 800 Watts CW.



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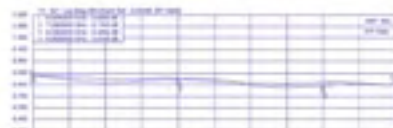
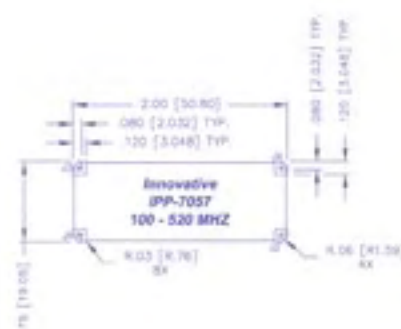
Frequency Ranges from DC to 6000 MHz in Power Levels up to 800 Watts CW. Available with "SMA" and "N" Connectors.

90° COUPLERS

Low insertion loss, low VSWR and high-power capability in a small package. Available in narrow and broad bandwidths, making them ideal for large volume power amplifier and antenna applications. The frequency range is from 100 MHz to 8500 MHz in power levels up to 1000 Watts CW. These are offered in surface mount and drop-in packages.

90° SMD COUPLERS

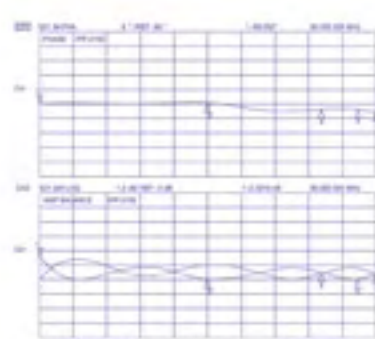
PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	ISOLATION (dB, MIN)	AMPLITUDE BALANCE (+/- dB)	PHASE BALANCE (+/- DEG)	PACKAGE (W x L) (INCHES)
IPP-7057	100 - 520	150	0.60	1.30:1	16.0	0.80	5	.75 x 2.00
IPP-7030	130 - 180	250	0.25	1.25:1	20.0	0.25	5	1.00 x 1.00
IPP-7012	200 - 1000	150	0.60	1.30:1	16.0	0.80	5	.75 x 2.00
IPP-7054	225 - 450	200	0.25	1.25:1	20.0	0.50	5	.50 x 1.26
IPP-7022	295 - 605	200	0.25	1.27:1	18.0	0.65	5	.50 x 1.00
IPP-7056	400 - 1000	150	0.25	1.25:1	18.0	0.65	5	.50 x 1.00
IPP-7046	500 - 1000	150	0.25	1.25:1	18.0	0.55	5	.48 x .65
IPP-7017	500 - 2500	100	0.50	1.30:1	18.0	0.65	5	.50 x 1.80
IPP-7032	500 - 3000	100	0.60	1.30:1	18.0	0.80	5	.50 x 1.80
IPP-7025	595 - 1300	100	0.25	1.30:1	17.0	0.65	5	.35 x .56
IPP-7040	595 - 1300	200	0.25	1.25:1	18.0	0.65	5	.50 x 1.00
IPP-7052	800 - 1000	225	0.20	1.25:1	20.0	0.30	5	.48 x .65
IPP-7053	800 - 1000	300	0.15	1.25:1	20.0	0.30	5	.50 x 1.00
IPP-7048	800 - 1600	200	0.25	1.25:1	19.0	0.55	5	.25 x .85
IPP-7010	800 - 2500	200	0.50	1.30:1	18.0	0.60	5	.40 x 1.80
IPP-7013	800 - 2700	200	0.50	1.35:1	17.5	0.65	5	.40 x 1.80
IPP-7016	960 - 1200	150	0.25	1.25:1	20.0	0.30	5	.35 x .56
IPP-7047	1000 - 2000	150	0.25	1.25:1	20.0	0.55	5	.35 x .56
IPP-7055	1000 - 2500	150	0.25	1.25:1	20.0	0.65	5	.35 x .56
IPP-7015	1000 - 4200	80	0.50	1.30:1	18.0	0.60	5	.40 x 1.80
IPP-7026	1000 - 6000	50	0.75	1.40:1	15.0	0.80	5	.20 x 1.65
IPP-7009	1400 - 1700	200	0.20	1.25:1	20.0	0.35	5	.48 x .65
IPP-7045	1500 - 2750	150	0.25	1.25:1	20.0	0.45	5	.25 x .85
IPP-7007	1700 - 2700	200	0.25	1.30:1	15.0	0.60	5	.35 x .56
IPP-7050	1930 - 1990	150	0.20	1.20:1	20.0	0.20	5	.35 x .56
IPP-7051	1930 - 1990	300	0.15	1.25:1	20.0	0.25	5	.50 x 1.00
IPP-7018	2000 - 4000	100	0.35	1.31:1	18.0	0.50	5	.35 x .56
IPP-7006	2000 - 6000	100	0.30	1.30:1	18.0	1.00	5	.20 x .56
IPP-7004	2500 - 6000	100	0.30	1.30:1	18.0	0.75	5	.20 x .56
IPP-7031	2600 - 6100	100	0.30	1.30:1	18.0	0.75	5	.20 x .56
IPP-7019	2700 - 3100	300	0.30	1.30:1	18.0	0.30	5	.50 x 1.00
IPP-7039	4000 - 8000	75	0.30	1.30:1	17.0	0.60	6	.20 x .40
IPP-7044	6000 - 8500	100	0.40	1.30:1	17.0	0.35	6	.20 x .40
IPP-7020	7000 - 8000	125	0.30	1.30:1	17.0	0.35	5	.20 x .40



90° DROP-IN COUPLERS



PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	ISOLATION (dB, MIN)	AMPLITUDE BALANCE (+/- dB)	PHASE BALANCE (+/- DEG)	PACKAGE (W x L) (INCHES)
IPP-2169	20 - 520	200	0.80	1.30:1	16.0	0.30	10	3.00 x 3.00
IPP-2052	30 - 88	400	0.25	1.30:1	18.0	0.95	5	2.65 x 2.65
IPP-2140	80 - 500	200	0.60	1.30:1	16.0	0.75	6	1.51 x 2.40
IPP-2133	80 - 500	800	0.35	1.30:1	16.0	0.95	5	2.50 x 6.00
IPP-2192	80 - 1000	250	0.75	1.35:1	16.0	1.20	8	2.50 x 3.70
IPP-2010	88 - 108	800	0.20	1.25:1	20.0	0.40	5	2.50 x 5.00
IPP-2069	100 - 500	150	0.50	1.30:1	16.0	0.75	6	1.50 x 3.30
IPP-2092	100 - 520	200	0.60	1.30:1	16.0	0.75	6	1.51 x 2.07
IPP-2011	100 - 500	400	0.40	1.25:1	18.0	0.70	5	2.50 x 5.00
IPP-2012	100 - 500	800	0.35	1.30:1	16.0	0.80	5	2.50 x 5.00
IPP-2001	120 - 230	200	0.30	1.25:1	20.0	0.50	5	0.80 x 2.20
IPP-2087	130 - 180	800	0.20	1.25:1	18.0	0.30	5	2.65 x 2.65
IPP-2019	130 - 180	200	0.25	1.25:1	20.0	0.40	5	0.80 x 2.20
IPP-2057	200 - 1000	150	0.50	1.30:1	16.0	0.75	5	0.90 x 3.20
IPP-2136	200 - 2000	100	0.80	1.40:1	16.0	0.90	8	1.00 x 3.30
IPP-2058	225 - 400	200	0.25	1.20:1	20.0	0.50	5	0.56 x 1.62
IPP-2031	225 - 450	400	0.25	1.25:1	20.0	0.50	5	0.80 x 2.20
IPP-2038	225 - 450	800	0.20	1.25:1	20.0	0.50	5	2.65 x 2.65
IPP-2002	400 - 1000	200	0.25	1.25:1	18.5	0.65	5	0.50 x 1.35
IPP-2060	400 - 1000	400	0.25	1.25:1	20.0	0.70	5	0.50 x 2.00
IPP-2102	400 - 1000	800	0.20	1.25:1	20.0	0.70	5	2.65 x 2.65
IPP-2187	400 - 2500	200	0.50	1.30:1	17.0	0.80	5	1.30 x 2.20
IPP-2006	500 - 1000	200	0.25	1.20:1	20.0	0.50	5	0.50 x 1.35
IPP-2061	500 - 1000	400	0.25	1.25:1	20.0	0.55	5	0.50 x 2.00
IPP-2013	500 - 2500	150	0.50	1.30:1	18.0	0.65	5	0.80 x 2.20
IPP-2072	500 - 2500	200	0.50	1.32:1	17.0	0.70	6	0.80 x 2.20
IPP-2018	500 - 3000	125	0.60	1.30:1	18.0	0.80	5	0.80 x 2.20
IPP-2148	500 - 3000	200	0.50	1.32:1	17.0	0.70	5	0.80 x 2.20
IPP-2024	800 - 1600	200	0.25	1.25:1	20.0	0.50	5	0.50 x 1.35
IPP-2167	800 - 1650	400	0.20	1.30:1	18.0	0.60	5	0.50 x 1.35
IPP-2036	800 - 2000	150	0.25	1.25:1	19.0	0.65	5	0.50 x 1.35
IPP-2014	800 - 2500	200	0.50	1.30:1	18.0	0.60	5	0.80 x 2.20
IPP-2093	800 - 2700	400	0.40	1.30:1	17.0	0.60	5	0.90 x 3.20
IPP-2079	800 - 3000	200	0.50	1.30:1	16.0	0.65	5	0.80 x 2.20
IPP-2007	1000 - 2000	200	0.25	1.20:1	20.0	0.50	5	0.50 x 1.35
IPP-2041	1000 - 2000	400	0.20	1.25:1	20.0	0.40	5	0.50 x 1.35
IPP-2042	1000 - 2000	1000	0.20	1.25:1	18.0	0.50	5	1.00 x 2.40
IPP-2005	1000 - 2500	200	0.25	1.25:1	19.0	0.65	5	0.50 x 1.35
*IPP-4011	1000 - 2500	300	0.50	1.30:1	14.0	0.90	5	0.80 x 2.20
IPP-2004	1000 - 4200	80	0.50	1.30:1	18.0	0.50	5	0.80 x 2.20
IPP-2062	1300 - 3000	150	0.25	1.25:1	18.0	0.60	5	0.50 x 1.35
IPP-2015	2000 - 4000	100	0.40	1.25:1	18.0	0.50	5	0.50 x 1.35
IPP-2074	2000 - 6000	100	0.30	1.30:1	18.0	1.00	5	0.25 x 1.30



* Impedance transforming hybrid 50Ω - 25Ω.

90° COUPLERS WITH CONNECTORS

Low insertion loss,

low VSWR and high-power with connectors for remote mounting. Available in narrow and broad bandwidths with SMA, N, TNC or 7 / 16 connectors. The frequency range is from 20 MHz to 8500 MHz in power levels up to 1000 Watts CW.

PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	ISOLATION (dB, MIN)	AMPLITUDE BALANCE (+/- dB)	PHASE BALANCE (+/- DEG)	PACKAGE (W x L) (INCHES)	CONNECTOR TYPE (FEMALE)
IPP-2218	20 - 520	200	0.80	1.30:1	16.0	0.30	10	3.00 x 3.00	SMA
IPP-2181	30 - 88	400	0.35	1.30:1	18.0	0.95	5	3.70 x 4.10	SMA
IPP-2104	30 - 88	400	0.35	1.30:1	18.0	0.95	5	3.70 x 4.10	N
IPP-2125	66 - 108	200	0.45	1.25:1	20.0	0.40	5	3.70 x 4.10	SMA
IPP-2222	80 - 500	200	0.75	1.30:1	16.0	0.75	6	2.94 x 3.35	SMA
IPP-2226	80 - 500	800	0.50	1.30:1	16.0	0.95	5	3.93 x 8.15	N
IPP-2223	80 - 1000	250	0.80	1.35:1	16.0	1.20	8	3.94 x 4.88	N
IPP-2193	100 - 250	1000	0.30	1.25:1	18.0	0.85	5	3.70 x 4.10	N
IPP-2066	100 - 500	400	0.60	1.25:1	18.0	0.70	5	4.00 x 7.00	N
IPP-2116	100 - 500	800	0.50	1.30:1	16.0	0.80	5	3.93 x 7.15	N
IPP-2111	130 - 180	200	0.30	1.25:1	20.0	0.40	5	2.23 x 3.90	N
IPP-2220	130 - 180	800	0.40	1.25:1	18.0	0.30	5	4.09 x 4.72	N
IPP-2206	200 - 1000	150	0.80	1.30:1	16.0	0.80	5	2.00 x 3.23	SMA
IPP-2179	200 - 2000	100	0.90	1.40:1	16.0	0.90	5	2.50 x 5.00	SMA
IPP-2180	225 - 400	200	0.45	1.25:1	20.0	0.50	5	2.00 x 3.25	SMA
IPP-2207	300 - 600	200	0.50	1.27:1	18.0	0.65	5	1.71 x 1.94	SMA
IPP-2117	400 - 1000	800	0.40	1.25:1	20.0	0.70	5	3.95 x 4.08	N
IPP-2227	400 - 2500	200	0.75	1.30:1	17.0	0.80	5	2.74 x 3.29	SMA
IPP-2200	500 - 1000	200	0.40	1.25:1	20.0	0.55	5	1.54 x 1.80	SMA
IPP-2208	500 - 2500	100	0.75	1.30:1	18.0	0.65	5	1.65 x 3.23	SMA
IPP-2123	500 - 2500	150	0.60	1.30:1	18.0	0.65	5	2.23 x 3.90	SMA
IPP-2160	500 - 3000	125	0.70	1.30:1	18.0	0.80	5	2.23 x 3.90	SMA
IPP-2204	600 - 1300	100	0.50	1.30:1	17.0	0.65	5	1.41 x 1.53	SMA
IPP-2228	800 - 1600	200	0.65	1.25:1	19.0	0.55	5	1.41 x 1.74	SMA
IPP-2209	800 - 2500	200	0.75	1.30:1	18.0	0.60	5	1.65 x 3.23	SMA
IPP-2157	800 - 2500	400	0.50	1.30:1	17.0	0.50	5	2.33 x 4.94	N
IPP-2210	800 - 2700	200	0.75	1.35:1	17.5	0.65	5	1.65 x 3.23	SMA
IPP-2229	1000 - 2000	150	0.50	1.25:1	20.0	0.55	5	1.41 x 1.53	SMA
IPP-2155	1000 - 2000	400	0.60	1.25:1	20.0	0.40	5	1.94 x 2.95	N
IPP-2230	1000 - 3000	150	0.50	1.30:1	18.0	1.10	5	1.50 x 2.10	SMA
IPP-2122	1000 - 4200	80	0.60	1.30:1	18.0	0.50	5	2.23 x 3.90	SMA
IPP-2231	1000 - 6000	50	0.90	1.40:1	15.0	0.80	5	1.81 x 2.93	SMA
IPP-2127	2000 - 4000	400	0.50	1.30:1	18.0	0.50	5	1.94 x 3.40	N
IPP-2212	2000 - 6000	100	0.60	1.30:1	18.0	1.00	5	1.41 x 1.53	SMA
IPP-2213	2500 - 6000	100	0.60	1.30:1	18.0	0.75	5	1.41 x 1.53	SMA
IPP-2217	2700 - 3100	200	0.45	1.30:1	18.0	0.30	5	1.41 x 1.53	SMA
IPP-2214	4000 - 8000	75	0.60	1.30:1	17.0	0.60	6	1.41 x 1.53	SMA
IPP-2216	6000 - 8500	100	0.40	1.30:1	17.0	0.35	6	1.41 x 1.53	SMA
IPP-2215	7000 - 8000	125	0.60	1.30:1	17.0	0.35	5	1.41 x 1.53	SMA



COMBINERS

RF / Microwave in-phase Combiner / Dividers in various split-ratios and frequency bands with power levels up to 1000 Watts. Frequencies range from 20 MHz to 6000 MHz and are available with solder in tabs or connectors. Our combiners offer low loss and low VSWR, while providing port-port isolation through the use of IPP's internal high-power, low capacitance resistors.

DROP-IN COMBINERS

PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	ISOLATION (dB, MIN)	AMPLITUDE BALANCE (+/- dB)	PHASE BALANCE (+/- DEG)	PACKAGE (W x L) (INCHES)	WAY
IPP-1102	20 - 1000	100	0.75	1.30:1	12	0.30	5	2.00 x 3.25	2-WAY
IPP-1103	20 - 1000	200	0.75	1.30:1	12	0.25	5	3.00 x 4.00	4-WAY
IPP-1106	80 - 1000	200	0.75	1.30:1	12	0.25	5	3.00 x 4.00	4-WAY
IPP-1107	400 - 1000	200	0.50	1.25:1	15	0.20	5	2.40 x 2.40	2-WAY
IPP-1108	400 - 1000	200	0.60	1.30:1	10	0.25	5	3.00 x 4.00	4-WAY
IPP-1104	500 - 2500	200	0.40	1.30:1	15	0.20	5	2.00 x 4.70	2-WAY
IPP-1105	500 - 2500	200	0.80	1.30:1	8	0.25	5	3.00 x 4.00	4-WAY
IPP-1109	1000 - 4000	100	0.60	1.30:1	14	0.25	5	2.00 x 4.50	2-WAY

COMBINERS WITH CONNECTORS

PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	ISOLATION (dB, MIN)	AMPLITUDE BALANCE (+/- dB)	PHASE BALANCE (+/- DEG)	PACKAGE (W x L) (INCHES)	CONNECTORS		WAY
									INPUT	SUM	
IPP-1025	20 - 1000	100	0.75	1.30:1	12	0.30	5	2.00 x 3.25	N	N	2-WAY
IPP-1020	20 - 1000	200	0.75	1.30:1	12	0.25	5	3.00 x 4.00	SMA	SMA	4-WAY
IPP-1022	20 - 1000	300	0.75	1.25:1	12	0.25	5	4.72 x 5.10	SMA	N	4-WAY
IPP-1021	20 - 1000	300	0.75	1.25:1	12	0.25	5	4.72 x 5.10	N	N	4-WAY
IPP-1014	80 - 1000	200	0.75	1.30:1	12	0.25	5	3.00 x 4.00	SMA	SMA	4-WAY
IPP-1015	80 - 1000	500	0.75	1.30:1	12	0.25	5	4.72 x 5.10	N	N	4-WAY
IPP-1044	100 - 500	1000	0.60	1.40:1	8	0.20	5	4.36 x 5.36	N	7 / 16	2-WAY
IPP-1092	250 - 1000	750	0.50	1.30:1	10	0.20	5	4.35 x 6.75	N	N	2-WAY
IPP-1091	250 - 1000	750	0.50	1.30:1	10	0.20	5	4.72 x 5.10	N	N	4-WAY
IPP-1070	400 - 1000	200	0.50	1.25:1	15	0.20	5	2.40 x 2.40	SMA	SMA	2-WAY
IPP-1068	400 - 1000	200	0.60	1.30:1	10	0.25	5	3.00 x 4.00	SMA	SMA	4-WAY
IPP-1077	400 - 1000	1000	0.40	1.30:1	10	0.20	5	5.25 x 5.60	N	SC	4-WAY
IPP-1000	400 - 1000	750	0.40	1.30:1	10	0.20	5	3.27 x 8.52	TNC	SC	4-WAY
IPP-1100	500 - 2500	200	0.40	1.30:1	15	0.20	5	2.00 x 4.70	SMA	N	2-WAY
IPP-1101	500 - 2500	200	0.80	1.30:1	8	0.25	5	3.00 x 4.00	SMA	SMA	4-WAY
IPP-1035	800 - 2500	200	0.60	1.30:1	12	0.25	5	3.00 x 4.00	SMA	SMA	4-WAY
IPP-1036	800 - 2500	600	0.60	1.30:1	6	0.20	5	4.35 x 4.50	N	N	4-WAY
IPP-1054	800 - 2500	800	0.60	1.30:1	8	0.20	5	3.00 x 4.50	N	SC	2-WAY
IPP-1088	800 - 4200	200	1.00	1.30:1	10	0.25	5	3.00 x 5.20	N	N	2-WAY
IPP-1089	800 - 4200	200	1.00	1.30:1	10	0.25	5	3.90 x 5.20	N	N	4-WAY
IPP-1027	850 - 2650	1000	0.50	1.25:1	12	0.25	5	4.25 x 4.25	TNC	SC	4-WAY
IPP-1110	1000 - 2000	400	0.60	1.30:1	13	0.50	5	3.00 x 5.00	SMA	N	4-WAY
IPP-1049	1000 - 3000	1000	0.40	1.30:1	N / A	0.20	5	4.18 x 4.35	SC	SC	2-WAY
IPP-1046	1000 - 4000	100	0.60	1.30:1	14	0.25	5	2.00 x 4.50	SMA	SMA	2-WAY
IPP-1078	3100 - 3500	100	0.60	1.25:1	10	0.25	5	2.50 x 5.00	SMA	N	4-WAY
IPP-1016	2000 - 6000	100	0.25	1.30:1	N / A	0.25	5	1.40 x 2.00	SMA	SMA	2-WAY
IPP-1013	2000 - 6000	100	0.80	1.30:1	10	0.25	5	2.50 x 5.00	SMA	SMA	4-WAY

DIRECTIONAL COUPLERS

Some of the widest bandwidth / highest power combinations in the RF / Microwave industry. Our unique designs allow us to achieve better coupling flatness, low VSWR and low through-line loss. These products come in frequencies from 20 MHz to 6000 MHz, in power levels up to 2000 Watts CW. Available in SMD, drop-in and connectorized packages.



DUAL DIRECTIONAL DROP-IN COUPLERS

PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	NOMINAL COUPLING (dB)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	DIRECTIVITY (dB, MIN)	COUPLING FLATNESS (+/- dB)	PACKAGE (W x L) (INCHES)
IPP-3025	20 - 500	200	50	0.25	1.25:1	20.0	0.50	1.50 x 2.50
IPP-3060	100 - 250	1000	40	0.25	1.25:1	20.0	0.50	3.64 x 3.73
IPP-3057	100 - 500	100	40	0.25	1.25:1	20.0	0.50	1.50 x 2.50
IPP-3091	100 - 850	200	50	0.25	1.25:1	20.0	0.50	1.50 x 1.50
IPP-3064	100 - 1000	200	50	0.25	1.25:1	20.0	0.50	1.50 x 2.50
IPP-3088	200 - 1000	200	40	0.25	1.25:1	20.0	0.50	1.50 x 1.50
IPP-3019	500 - 1000	400	40	0.25	1.25:1	20.0	0.50	1.25 x 1.50
IPP-3026	500 - 2500	200	40	0.25	1.25:1	18.0	0.50	1.50 x 2.50
IPP-3078	500 - 3000	200	40	0.35	1.25:1	16.0	0.75	1.46 x 2.50
IPP-3048	800 - 2200	200	25	0.25	1.25:1	20.0	0.60	1.30 x 3.20
IPP-3037	800 - 2500	300	40	0.25	1.25:1	18.0	0.50	1.50 x 2.50
IPP-3009	1000 - 2000	200	20	0.30	1.20:1	18.0	1.00	1.30 x 3.20

DIRECTIONAL SMD COUPLERS

PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	NOMINAL COUPLING (dB)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	DIRECTIVITY (dB, MIN)	COUPLING FLATNESS (+/- dB)	COUPLER TYPE	PACKAGE (W x L) (INCHES)
IPP-8024	20 - 500	200	50	0.25	1.25:1	20.0	0.60	DUAL	1.00 x 1.50
IPP-8027	30 - 512	200	50	0.25	1.25:1	20.0	0.50	SINGLE	0.88 x 1.50
IPP-8025	200 - 1000	200	40	0.25	1.25:1	20.0	0.60	DUAL	1.00 x 1.50
IPP-8002	225 - 450	200	30	0.25	1.25:1	16.0	1.25	BI	1.00 x 1.00
IPP-8026	500 - 2500	200	36	0.25	1.25:1	20.0	0.75	DUAL	1.00 x 1.50
IPP-8013	595 - 1300	150	34	0.25	1.25:1	18.0	0.75	SINGLE	0.50 x 1.00
IPP-8014	800 - 1000	100	14.5	0.30	1.25:1	20.0	0.50	BI	0.50 x 1.00
IPP-8005	800 - 1200	150	10	0.25	1.25:1	16.0	0.70	BI	0.35 x 0.56
IPP-8029	800 - 2500	150	20	0.25	1.25:1	20.0	0.75	BI	0.50 x 1.00
IPP-8032	800 - 1000	100	20	0.25	1.25:1	20.0	0.30	BI	0.35 x 0.56
IPP-8033	800 - 1000	300	20	0.20	1.25:1	20.0	0.30	BI	0.50 x 1.00
IPP-8004	1000 - 2000	200	20	0.20	1.28:1	20.0	1.20	BI	0.35 x 0.56
IPP-8015	1150 - 2750	150	34	0.25	1.25:1	18.0	0.75	SINGLE	0.50 x 1.00
IPP-8018	1150 - 2750	150	14.5	0.40	1.25:1	20.0	0.75	BI	0.50 x 1.00
IPP-8028	1675 - 2550	150	20	0.30	1.25:1	20.0	0.50	BI	0.50 x 1.00
IPP-8008	1700 - 2200	175	34.0 / 14.5	0.50	1.25:1	20.0	1.00	DUAL	0.39 x 1.80
IPP-8020	1700 - 2200	150	14.5	0.25	1.30:1	22.0	0.75	BI	0.35 x .056
IPP-8023	1700 - 2200	175	38.0 / 14.5	0.50	1.25:1	20.0	1.00	DUAL	0.39 x 1.80
IPP-8034	1930 - 1990	300	20	0.20	1.25:1	20.0	0.20	BI	0.50 x 1.00
IPP-8000	2000 - 6000	100	10	0.25	1.30:1	18.0	1.60	BI	0.20 x 0.56
IPP-8001	2500 - 6000	100	20	0.25	1.30:1	20.0	1.20	BI	0.35 x 0.56
IPP-8007	2500 - 6000	100	20	0.40	1.35:1	14.0	0.50	BI	0.35 x 1.00





DIRECTIONAL COUPLERS WITH CONNECTORS

PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	NOMINAL COUPLING (dB)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	DIRECTIVITY (dB, MIN)	COUPLING FLATNESS (+/- dB)	PACKAGE (W x L) (INCHES)	CONNECTORS	
									MAIN	COUPLED
IPP-3005	20 - 500	200	50	0.30	1.25:1	20.0	0.50	1.50 x 2.50	SMA	SMA
IPP-3011	20 - 500	500	50	0.30	1.25:1	20.0	0.50	1.50 x 2.50	N	SMA
IPP-3014	20 - 500	1000	50	0.30	1.20:1	20.0	0.50	3.00 x 6.00	N	SMA
IPP-3001	20 - 500	1000	50	0.30	1.20:1	20.0	0.50	3.00 x 6.00	N	N
IPP-3120	50 - 1000	1000	50	0.30	1.25:1	20.0	0.60	1.81 x 4.33	SC	SMA
IPP-3111	80 - 1000	500	50	0.25	1.25:1	20.0	0.50	1.50 x 2.50	N	SMA
IPP-3112	80 - 1000	1000	50	0.25	1.30:1	20.0	0.50	3.00 x 3.00	N	N
IPP-3113	80 - 1000	2000	50	0.15	1.25:1	20.0	0.50	3.50 x 3.50	SC	SMA
IPP-3076	100 - 500	200	40	0.25	1.20:1	20.0	0.30	1.50 x 2.50	SMA	SMA
IPP-3116	100 - 500	500	40	0.30	1.25:1	20.0	0.50	1.50 x 2.50	N	SMA
IPP-3020	100 - 600	200	40	0.30	1.25:1	20.0	0.50	1.50 x 2.50	N	SMA
IPP-3013	100 - 1000	200	50	0.25	1.25:1	20.0	0.50	1.50 x 2.50	SMA	SMA
IPP-3109	200 - 1000	200	40	0.25	1.25:1	20.0	0.50	1.50 x 2.50	N	N
IPP-3021	400 - 1000	200	40	0.30	1.25:1	20.0	0.50	1.50 x 2.50	N	SMA
IPP-3006	400 - 1000	200	40	0.25	1.25:1	20.0	0.50	1.50 x 2.50	SMA	SMA
IPP-3004	400 - 1000	500	50	0.25	1.20:1	20.0	0.50	3.00 x 3.00	N	N
IPP-3068	500 - 2500	200	40	0.30	1.25:1	18.0	0.50	1.50 x 2.50	N	SMA
IPP-3070	500 - 3000	200	40	0.35	1.25:1	18.0	0.50	1.50 x 2.50	N	SMA
IPP-3045	700 - 3200	400	40	0.30	1.30:1	20.0	0.50	3.00 x 3.00	N	N
IPP-3008	700 - 4200	200	20	0.35	1.25:1	18.0	1.00	.92 x 2.85	SMA	SMA
IPP-3007	800 - 2500	200	40	0.25	1.25:1	20.0	0.50	1.50 x 2.50	SMA	SMA
IPP-3069	800 - 2500	500	40	0.30	1.25:1	20.0	0.50	1.50 x 2.50	N	SMA
IPP-3031	800 - 4200	200	40	0.30	1.30:1	20.0	0.50	3.00 x 3.00	N	N
IPP-3003	1000 - 3000	200	40	0.30	1.30:1	20.0	0.50	3.00 x 3.00	N	N
IPP-3032	1000 - 3000	1000	50	0.15	1.25:1	20.0	0.50	3.50 x 3.50	SC	SMA
IPP-3072	2000 - 6000	100	20	0.50	1.30:1	15.0	0.70	1.18 x 1.70	SMA	SMA
IPP-3085	2000 - 6000	200	20	0.50	1.30:1	15.0	0.70	1.18 x 1.70	N	SMA

CUSTOM PRODUCTS

We realize that not every project can use a standard part, so we create custom parts to fit your system perfectly. This allows you to engage us in the design phase, and achieve the best solution for your requirements, using state-of-the-art materials, design tools and proven techniques to provide broader bands and higher power in smaller packages.

Our Help Includes:

- Optimizing Frequencies For Better Performance
- Package Sizes
- Product Integration
- Resistor Values
- And More

IPP Custom Products Include:

- Impedance Transforming Couplers
- Combiners With Internal Directional Couplers
- 180° Hybrid Couplers
- Baluns
- Custom Resistor Assemblies

RESISTORS

High-power RF / Microwave resistors offer compact, rugged, high-frequency solutions for the most demanding applications. These parts are constructed on copper flanges and BeO ceramic for the lowest thermal resistance and capacitance. Frequency ranges are available from DC to 6.0 GHz with power levels from 5 Watts to 800 Watts. IPP resistors are available in both bolt-down and solder down packages with silver contacts. Low capacitance and custom values are available.



PART NUMBER	POWER (WATTS)	FREQUENCY (GHz)	CAPACITANCE (Pf)	CHIP SIZE	FLANGE SIZE (INCHES)
IPP-RB101-XXX	30	DC - 3.0	0.75	.100 x .200	No Flange
IPP-RB103-XXX	100	DC - 4.0	1.20	.250 x .250	No Flange
IPP-RB105-XXX	125	DC - 3.0	1.50	.225 x .350	No Flange
IPP-RB111-XXX	150	DC - 2.0	3.50	.250 x .375	No Flange
IPP-RB106-XXX	200	DC - 2.0	2.60	.225 x .350	No Flange
IPP-RB113-XXX	300	DC - 2.0	3.10	.375 x .375	No Flange
IPP-RB114-XXX	400	DC - 1.0	6.00	.500 x .500	No Flange
IPP-RB201-XXX	30	DC - 3.0	0.75	.100 x .200	.200 x .300 x .062
IPP-RB203-XXX	50	DC - 4.2	1.20	.250 x .250	.250 x .515 x .062
IPP-RB211-XXX	100	DC - 2.0	3.50	.250 x .375	.375 x .560 x .062
IPP-RB221-XXX	100	DC - 4.0	1.20	.250 x .250	.250 x .515 x .140
IPP-RB205-XXX	125	DC - 3.0	1.50	.225 x .350	.225 x .800 x .070
IPP-RB206-XXX	150	DC - 2.0	2.60	.225 x .350	.225 x .800 x .070
IPP-RB208-XXX	150	DC - 2.0	2.60	.225 x .350	.225 x .975 x .085
IPP-RB212-XXX	150	DC - 2.0	3.50	.250 x .375	.375 x .870 x .062
IPP-RB213-XXX	250	DC - 2.0	3.10	.375 x .375	.375 x .975 x .110
IPP-RB214-XXX	400	DC - 1.0	6.00	.500 x .500	.500 x 1.10 x .110
IPP-RB215-XXX	400	DC - 1.0	6.00	.500 x .500	.500 x 1.25 x .110
IPP-RB216-XXX	800	DC - 1.0	18.0	1.00 x 1.04	1.04 x 1.90 x .125

LOW CAPACITANCE RESISTORS

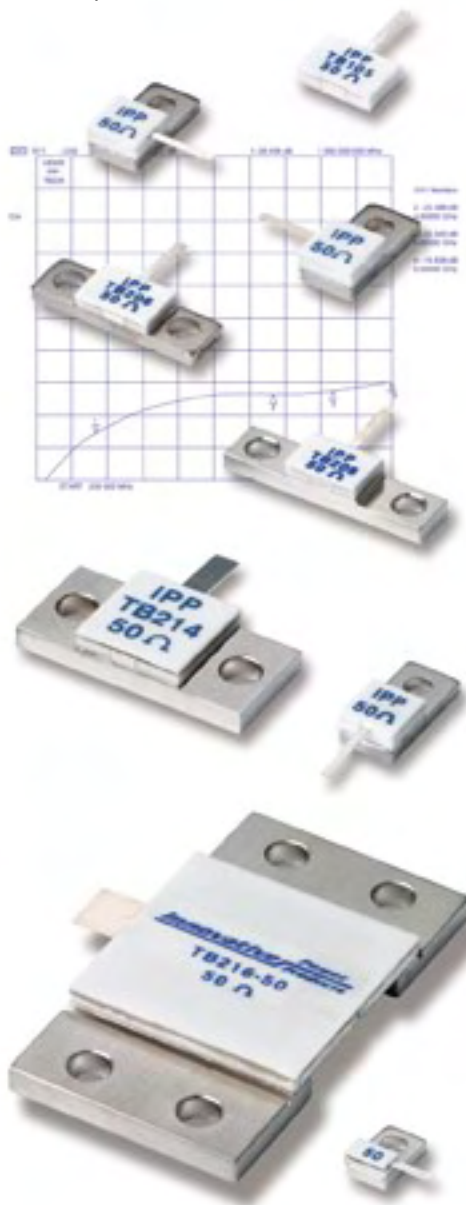
PART NUMBER	POWER (WATTS)	FREQUENCY (GHz)	CAPACITANCE (Pf)	CHIP SIZE	FLANGE SIZE (INCHES)
IPP-RB201LC-XXX	20	DC - 6.0	0.30	.100 x .200	.200 x .300 x .062
IPP-RB203LC-XXX	30	DC - 4.2	0.60	.250 x .250	.250 x .515 x .062
IPP-RB205LC-XXX	60	DC - 4.0	0.75	.225 x .350	.225 x .800 x .070
IPP-RB206LC-XXX	75	DC - 3.0	1.10	.225 x .350	.225 x .800 x .070
IPP-RB213LC-XXX	125	DC - 2.5	1.60	.375 x .375	.375 x .975 x .110



CONTACT US for non-standard values, power levels or custom configurations.

TERMINATIONS

Our high-power RF / Microwave Terminations offer compact, rugged, high-frequency solutions for the most demanding applications. Constructed on BeO with silver solder in tabs, these products are offered in Tab & Cover, flange or connectorized package styles.



PART NUMBER	POWER (WATTS)	FREQUENCY (GHz)	VSWR (GHz)	VSWR (GHz)	CHIP SIZE (INCHES)	FLANGE SIZE (INCHES)
IPP-TB101-XXX	30	DC - 6.0	1.20:1 @ 4.0	1.50:1 @ 6.0	.100 x .200	No Flange
IPP-TB101C-XXX	30	DC - 4.2	1.20:1 @ 3.0	1.30:1 @ 4.2	.100 x .200	No Flange
IPP-TB103-XXX	100	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	.250 x .250	No Flange
IPP-TB105-XXX	125	DC - 5.0	1.25:1 @ 4.0	1.35:1 @ 5.0	.225 x .350	No Flange
IPP-TB111-XXX	150	DC - 3.0	1.25:1 @ 2.0	1.30:1 @ 3.0	.250 x .375	No Flange
IPP-TB106-XXX	200	DC - 2.0	1.17:1 @ 1.0	1.30:1 @ 2.0	.225 x .350	No Flange
IPP-TB113-XXX	300	DC - 3.0	1.25:1 @ 2.0	1.30:1 @ 3.0	.375 x .375	No Flange
IPP-TB114-XXX	400	DC - 1.6	1.20:1 @ 1.0	1.25:1 @ 1.6	.500 x .500	No Flange
IPP-TB201-XXX	30	DC - 6.0	1.20:1 @ 4.0	1.50:1 @ 6.0	.100 x .200	.200 x .300 x .062
IPP-TB201R-XXX	30	DC - 6.0	1.20:1 @ 4.0	1.50:1 @ 6.0	.100 x .200	.200 x .300 x .062
IPP-TB201C-XXX	30	DC - 4.2	1.20:1 @ 3.0	1.30:1 @ 4.2	.100 x .200	.200 x .300 x .062
IPP-TB203-XXX	50	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	.250 x .250	.250 x .515 x .062
IPP-TB203R-XXX	50	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	.250 x .250	.250 x .515 x .062
IPP-TB203C-XXX	50	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	.250 x .250	.250 x .515 x .062
IPP-TB218-XXX	50	DC - 6.0	1.10:1 @ 4.2	1.25:1 @ 6.0	.250 x .250	.250 x .515 x .062
IPP-TB218R-XXX	50	DC - 6.0	1.10:1 @ 4.2	1.25:1 @ 6.0	.250 x .250	.250 x .515 x .062
IPP-TB218C-XXX	50	DC - 6.0	1.10:1 @ 4.2	1.25:1 @ 6.0	.250 x .250	.250 x .515 x .062
IPP-TB211-XXX	100	DC - 3.0	1.25:1 @ 2.0	1.30:1 @ 3.0	.250 x .375	.375 x .560 x .062
IPP-TB211R-XXX	100	DC - 3.0	1.25:1 @ 2.0	1.30:1 @ 3.0	.250 x .375	.375 x .560 x .062
IPP-TB221-XXX	100	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	.250 x .250	.250 x .515 x .140
IPP-TB221R-XXX	100	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	.250 x .250	.250 x .515 x .140
IPP-TB221C-XXX	100	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	.250 x .250	.250 x .515 x .140
IPP-TB220-XXX	100	DC - 6.0	1.10:1 @ 4.2	1.25:1 @ 6.0	.250 x .250	.250 x .515 x .140
IPP-TB220R-XXX	100	DC - 6.0	1.10:1 @ 4.2	1.25:1 @ 6.0	.250 x .250	.250 x .515 x .140
IPP-TB220C-XXX	100	DC - 6.0	1.10:1 @ 4.2	1.25:1 @ 6.0	.250 x .250	.250 x .515 x .140
IPP-TB205-XXX	125	DC - 5.0	1.25:1 @ 4.0	1.35:1 @ 5.0	.225 x .350	.225 x .800 x .062
IPP-TB206-XXX	200	DC - 2.0	1.17:1 @ 1.0	1.30:1 @ 2.0	.225 x .350	.225 x .800 x .070
IPP-TB208-XXX	150	DC - 2.0	1.17:1 @ 1.0	1.30:1 @ 2.0	.225 x .350	.225 x .975 x .085
IPP-TB212-XXX	150	DC - 3.0	1.25:1 @ 2.0	1.30:1 @ 3.0	.250 x .375	.375 x .870 x .070
IPP-TB213-XXX	300	DC - 3.0	1.25:1 @ 2.0	1.30:1 @ 3.0	.375 x .375	.375 x .975 x .110
IPP-TB214-XXX	400	DC - 1.6	1.20:1 @ 1.0	1.25:1 @ 1.6	.500 x .500	.500 x 1.10 x .110
IPP-TB215-XXX	400	DC - 1.6	1.20:1 @ 1.0	1.25:1 @ 1.6	.500 x .500	.500 x 1.25 x .110
IPP-TB216-XXX	800	DC - 0.5	1.50:1 @ 0.5	-----	1.00 x 1.04	1.04 x 1.90 x .125

COAXIAL TERMINATIONS

PART NUMBER	POWER (WATTS)	FREQUENCY (GHz)	VSWR (GHz)	CONNECTOR TYPE	PACKAGE (INCHES)
IPP-TB301-XXX	30	DC - 4.2	1.25:1	SMA	.50 x 1.00
IPP-TB302-XXX	50	DC - 6.0	1.25:1	SMA	.96 x 1.38
IPP-TB303-XXX	100	DC - 6.0	1.25:1	SMA	.96 x 1.38
IPP-TB304-XXX	150	DC - 3.0	1.30:1	SMA	1.63 x 2.00
IPP-TB305-XXX	300	DC - 3.0	1.30:1	N	1.63 x 2.00
IPP-TB306-XXX	500	DC - 1.2	1.25:1	N	1.63 x 2.00
IPP-TB307-XXX	800	DC - 0.5	1.50:1	N	1.97 x 3.66



Innovative *Power* **Products**



90° Hybrid Couplers:

Frequency ranges from 20 MHz. to 8500 MHz.
in power levels up to 1,000 Watts CW, available in
SMD, drop-in or connectorized packages. Some
models available with impedance transformers

Directional Couplers:

Frequency ranges from 20 MHz. to 6000 MHz.
in power levels up to 2,000 Watts CW, available in
SMD, drop-in or connectorized packages

Combiners / Dividers:

Frequency ranges from 20 MHz. to 6000 MHz.
in power levels up to 2,000 Watts CW, available in
drop-in or connectorized packages

RF Resistors:

Frequency ranges from DC to 6000 MHz.
in power levels up to 800 Watts CW

RF Terminations:

Frequency ranges from DC to 6000 MHz.
in power levels up to 800 Watts CW

Custom Products:

We'll create custom parts to fit your system perfectly.
Please contact us with your specifications and we
will work with you to meet your goals.

Most Products Ship From Stock to 4 Weeks



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