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We can design and manufacture custom products to suit your individual needs.

180° Baluns

PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	AMPLITUDE BALANCE (+/- dB)	PHASE BALANCE (+/- DEG)	IMPEDANCE (OHMS) J1 J2, J3		PACKAGE SIZE (INCHES)
IPP-5002	20 - 520	100	0.45	1.30:1	0.45	5	50	25	1.10 x 1.15
IPP-5003	20 - 1000	100	0.50	1.30:1	0.45	6	50	25	1.10 x 1.15
IPP-5005	80 - 1000	100	0.45	1.30:1	0.35	5	50	25	1.10 x 1.15
IPP-5006	100 - 520	100	0.30	1.30:1	0.40	5	50	25	1.10 x 1.15
IPP-5001	225 - 2000	100	0.55	1.35:1	0.55	8	50	25	1.10 x 1.15
IPP-5007	500 - 2000	100	0.45	1.35:1	0.40	7	50	25	1.10 x 1.15
IPP-5008	800 - 2500	100	0.45	1.35:1	0.40	8	50	25	1.10 x 1.15

90° Couplers With Impedance Transformation

PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	ISOLATION (dB, MIN)	AMPLITUDE BALANCE (+/- dB)	PHASE BALANCE (+/- DEG)	IMPEDANCE (OHMS) IN OUT		PACKAGE SIZE (INCHES)	PACKAGE STYLE
IPP-7102IT	225 - 450	100	0.45	1.25:1	15.0	0.60	5	50	25	0.75 x 2.00	SMD
IPP-7103IT	400 - 1000	200	0.50	1.30:1	15.0	0.65	5	50	25	0.80 x 1.80	SMD
IPP-2281IT	700 - 2700	200	0.75	1.30:1	14.0	0.80	5	50	25	1.30 x 2.20	Drop-In
IPP-7104IT	900 - 1300	200	0.45	1.25:1	16.0	0.50	5	50	25	0.50 x 1.00	SMD
IPP-7105IT	1000 - 2500	200	0.50	1.30:1	14.0	0.90	5	50	25	0.50 x 1.50	SMD
IPP-2282IT	1000 - 2500	300	0.50	1.30:1	14.0	0.90	5	50	25	0.80 x 2.20	Drop-In
IPP-7106IT	2700 - 3500	250	0.40	1.30:1	15.0	0.25	5	50	25	0.50 x 1.00	SMD

U.S. Patent Number 8174338

Other impedance values available

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 SIZE (INCHES)
IPP-7068	30 - 88	200	0.53	1.35:1	15.5	1.00	7	0.75 x 2.00
IPP-7064	88 - 108	200	0.45	1.30:1	17.0	0.35	5	0.75 x 2.00
IPP-7057	100 - 520	200	0.60	1.30:1	16.0	0.80	7	0.75 x 2.00
IPP-7030	130 - 180	250	0.25	1.25:1	20.0	0.25	5	1.00 x 1.00
IPP-7084	176 - 220	200	0.45	1.30:1	17.0	0.40	5	0.75 x 2.00
IPP-7012	200 - 1000	150	0.60	1.30:1	16.0	0.80	5	0.75 x 2.00
IPP-7094	225 - 450	150	0.25	1.25:1	18.0	0.45	5	0.50 x 1.00
IPP-7054	225 - 450	200	0.25	1.25:1	20.0	0.50	5	0.50 x 1.26
IPP-7116	225 - 2000	200	0.80	1.30:1	17.0	1.00	5	1.13 x 1.47
IPP-7129	225 - 2500	200	0.90	1.30:1	16.0	1.10	6	1.13 x 1.47
IPP-7061	280 - 330	200	0.25	1.27:1	18.0	0.25	5	0.50 x 1.00
IPP-7022	295 - 605	300	0.25	1.27:1	18.0	0.65	5	0.50 x 1.00
IPP-7123	380 - 2700	200	0.80	1.30:1	17.0	1.00	5	1.13 x 1.47
IPP-7056	400 - 1000	150	0.25	1.25:1	18.0	0.65	5	0.50 x 1.00
IPP-7046	500 - 1000	200	0.25	1.25:1	18.0	0.55	5	0.48 x 0.65
IPP-7017	500 - 2500	100	0.50	1.30:1	18.0	0.65	5	0.50 x 1.80
IPP-7032	500 - 3000	100	0.60	1.30:1	18.0	0.80	5	0.50 x 1.80
IPP-7025	595 - 1300	100	0.28	1.30:1	17.0	0.65	5	0.35 x 0.56
IPP-7040	595 - 1300	200	0.25	1.25:1	18.0	0.65	5	0.50 x 1.00

This chart continues on the next page

90° SMD Couplers (Continued)

PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	ISOLATION (dB, MIN)	AMPLITUDE BALANCE (+/- dB)	PHASE BALANCE (+/- DEG)	PACKAGE SIZE (INCHES)
IPP-7095	600 - 1600	150	0.25	1.25:1	19.0	0.85	5	0.38 x 1.40
IPP-7118	690 - 6000	50	0.80	1.40:1	15.0	1.10	7	0.50 x 1.00
IPP-7052	800 - 1000	225	0.20	1.25:1	20.0	0.30	5	0.48 x 0.65
IPP-7053	800 - 1000	300	0.15	1.25:1	20.0	0.30	5	0.50 x 1.00
IPP-7048	800 - 1600	200	0.25	1.25:1	19.0	0.55	5	0.25 x 0.85
IPP-7059	800 - 2200	150	0.25	1.30:1	18.0	0.80	5	0.35 x 0.56
IPP-7077	800 - 2500	150	0.25	1.25:1	20.0	1.10	5	0.35 x 0.56
IPP-7010	800 - 2500	200	0.50	1.30:1	18.0	0.60	5	0.40 x 1.80
IPP-7013	800 - 2700	200	0.50	1.35:1	17.0	0.65	5	0.40 x 1.80
IPP-7063	800 - 3800	100	0.5	1.30:1	18.0	0.65	5	0.40 x 1.80
IPP-7066	800 - 4500	125	0.65	1.35:1	15.0	0.80	5	0.20 x 1.80
IPP-7016	960 - 1220	200	0.25	1.25:1	20.0	0.25	5	0.35 x 0.56
IPP-7047	1000 - 2000	150	0.25	1.25:1	20.0	0.55	5	0.35 x 0.56
IPP-7055	1000 - 2500	150	0.25	1.25:1	19.0	0.70	5	0.35 x 0.56
IPP-7109	1000 - 3000	400	0.25	1.30:1	17.0	1.10	6	0.50 x 1.00
IPP-7015	1000 - 4200	80	0.50	1.30:1	18.0	0.60	5	0.40 x 1.80
IPP-7120	1000 - 4200	90	0.50	1.35:1	16.0	0.70	5	0.50 x 0.90
IPP-7026	1000 - 6000	50	0.75	1.40:1	15.0	0.80	5	0.20 x 1.65
IPP-7009	1400 - 1700	200	0.20	1.25:1	20.0	0.35	5	0.48 x 0.65
IPP-7045	1500 - 2750	150	0.25	1.25:1	20.0	0.45	5	0.25 x 0.85
IPP-7036	1700 - 2200	150	0.25	1.25:1	20.0	0.40	5	0.35 x 0.56
IPP-7007	1700 - 2700	200	0.25	1.30:1	15.0	0.60	5	0.35 x 0.56
IPP-7050	1930 - 1990	150	0.20	1.20:1	20.0	0.20	5	0.35 x 0.56
IPP-7051	1930 - 1990	300	0.15	1.25:1	20.0	0.25	5	0.50 x 1.00
IPP-7018	2000 - 4000	100	0.35	1.31:1	18.0	0.50	5	0.35 x 0.56
IPP-7006	2000 - 6000	100	0.30	1.30:1	18.0	1.00	5	0.20 x 0.56
IPP-7111	2000 - 6000	250	0.25	1.30:1	17.0	1.40	5	0.35 x 0.56
IPP-7043	2000 - 6800	100	0.30	1.30:1	17.0	1.25	5	0.20 x 0.56

IPP-7004 2500 - 6000	100	0.30	1.30:1	18.0	0.75	5	0.20 x 0.56
IPP-7031 2600 - 6100	100	0.30	1.30:1	18.0	0.75	5	0.20 x 0.56
IPP-7019 2700 - 3100	300	0.30	1.30:1	18.0	0.30	5	0.50 x 1.00
IPP-7075 2700 - 3500	200	0.25	1.25:1	20.0	0.20	5	0.35 x 0.56
IPP-7074 2700 - 3500	300	0.20	1.30:1	18.0	0.25	5	0.50 x 1.00
IPP-7133 4000 - 6000	100	0.25	1.30:1	18.0	0.45	5	0.20 x 0.56
IPP-7039 4000 - 8000	75	0.30	1.30:1	17.0	0.60	6	0.20 x 0.40
IPP-7044 6000 - 8500	100	0.40	1.30:1	17.0	0.35	6	0.20 x 0.40
IPP-7114 6000 - 12000	50	0.45	1.35:1	16.0	0.70	6	0.20 x 0.25
IPP-7020 7000 - 8000	125	0.30	1.30:1	17.0	0.35	5	0.20 x 0.40
IPP-7112 8000 - 12000	50	0.45	1.35:1	17.0	0.55	6	0.20 x 0.25

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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 SIZE (INCHES)
IPP-2255	20 - 520	200	0.80	1.30:1	16.0	0.30	10	2.20 x 3.00
IPP-2315	20 - 1000	50	0.90	1.30:1	16.0	0.30	12	1.71 x 1.90
IPP-2247	20 - 1000	150	0.90	1.30:1	16.0	0.25	12	2.20 x 3.00
IPP-2291	30 - 76	800	0.50	1.40:1	15.0	0.80	2	2.00 x 2.10
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-2269	80 - 1000	250	0.75	1.35:1	16.0	1.30	8	2.00 x 3.00
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-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-2092	100 - 520	200	0.60	1.30:1	16.0	0.75	6	1.51 x 2.07
IPP-2001	120 - 230	200	0.30	1.25:1	20.0	0.50	5	0.80 x 2.20
IPP-2019	130 - 180	200	0.25	1.25:1	20.0	0.40	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-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	250	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-2037	225 - 520	200	0.25	1.25:1	20.0	0.70	5	0.50 x 2.00
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-2298	500 - 2500	300	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-2139	800 - 2000	300	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-2312	800 - 3100	200	0.50	1.30:1	16.0	0.70	5	0.80 x 2.20
IPP-2297	900 - 1300	400	0.20	1.25:1	19.0	0.40	5	0.50 x 1.35
IPP-2314	950 - 1250	800	0.20	1.25:1	18.0	0.40	5	1.00 x 2.50
IPP-2025	960 - 1220	125	0.25	1.20:1	20.0	0.40	5	0.50 x 1.35
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-2267	1000 - 2500	200	0.25	1.25:1	19.0	0.65	5	0.50 x 1.35
IPP-2067	1000 - 3000	150	0.30	1.30:1	18.0	1.10	5	0.50 x 1.35
IPP-2307	1000 - 3000	450	0.25	1.35:1	16.0	1.10	5	0.50 x 1.35
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-2295	1500 - 3000	400	0.25	1.30:1	18.0	0.50	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-2277	2000 - 6000	100	0.30	1.30:1	18.0	1.00	5	0.25 x 1.30

90° Couplers 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 SIZE (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	1.30	8	3.44 x 4.39	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-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-2316	700 - 6000	50	1.00	1.35:1	15.0	0.90	7	1.71 x 1.94	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-2134	800 - 2700	1500	0.50	1.35:1	16.0	0.70	5	2.67 x 4.98	7/16
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	1.71 x 1.94	SMA
IPP-2214	4000 - 8000	75	0.60	1.30:1	17.0	0.60	6	1.26 x 1.53	SMA
IPP-2216	6000 - 8500	100	0.40	1.30:1	17.0	0.35	6	1.26 x 1.53	SMA
IPP-2215	7000 - 8000	125	0.60	1.30:1	17.0	0.35	5	1.26 x 1.53	SMA

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Page 8 Dual Directional Drop-In Couplers

PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	NOMINAL COUPLING (dB)	COUPLING FLATNESS (+/- dB)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	DIRECTIVITY (dB, MIN)	PACKAGE SIZE (INCHES)
IPP-3025	20 - 500	200	50	0.50	0.25	1.25:1	20.0	1.50 x 2.50
IPP-3105	20 - 500	500	50	0.50	0.30	1.25:1	20.0	1.50 x 2.50
IPP-3121	20 - 1000	200	50	0.60	0.35	1.25:1	20.0	1.50 x 2.50
IPP-3122	80 - 1000	300	50	0.60	0.25	1.25:1	20.0	1.50 x 2.50
IPP-3057	100 - 500	100	40	0.50	0.25	1.25:1	20.0	1.50 x 2.50
IPP-3150	100 - 500	500	40	0.50	0.30	1.25:1	20.0	1.50 x 2.50
IPP-3091	100 - 850	200	50	0.50	0.25	1.25:1	20.0	1.50 x 1.50
IPP-3064	100 - 1000	200	50	0.50	0.25	1.25:1	20.0	1.50 x 2.50

IPP-3088	200 - 1000	200	40	0.50	0.25	1.25:1	20.0	1.50 x 1.50
IPP-3026	500 - 2500	200	40	0.50	0.25	1.25:1	18.0	1.50 x 2.50
IPP-3078	500 - 3000	200	40	0.75	0.35	1.25:1	16.0	1.46 x 2.50
IPP-3037	800 - 2500	300	40	0.50	0.25	1.25:1	18.0	1.50 x 2.50
IPP-3009	1000 - 2000	200	20	1.00	0.30	1.20:1	18.0	1.30 x 3.20

Directional SMD Couplers

PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	NOMINAL COUPLING (dB)	COUPLING FLATNESS (+/- dB)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	DIRECTIVITY (dB, MIN)	COUPLER TYPE	PACKAGE SIZE (INCHES)
IPP-8047	1 - 200	30	20	0.50	0.20	1.25:1	20.0	BDC	0.66 x 0.66
IPP-8071	2 - 100	120	20	0.50	0.25	1.25:1	20.0	BDC	1.10 x 1.15
IPP-8044	20 - 520	300	50	0.60	0.25	1.25:1	20.0	DDC	1.00 x 1.50
IPP-8070	20 - 1000	150	50	0.65	0.30	1.30:1	18.0	DDC	0.75 x 1.25
IPP-8036	20 - 1000	300	50	0.60	0.35	1.25:1	20.0	DDC	1.00 x 1.50
IPP-8045	30 - 520	300	50	0.50	0.25	1.25:1	20.0	DDC	1.00 x 1.50
IPP-8046	100 - 500	300	40	0.60	0.25	1.25:1	20.0	DDC	1.00 x 1.50
IPP-8025	200 - 1000	300	40	0.60	0.35	1.25:1	20.0	DDC	1.00 x 1.50
IPP-8061	225 - 450	150	30	1.25	0.25	1.25:1	16.0	BDC	0.50 x 1.00
IPP-8002	225 - 450	200	30	1.25	0.25	1.25:1	16.0	BDC	1.00 x 1.00
IPP-8086	225 - 2500	200	35	1.00	0.25	1.25:1	18.0	SDC	0.62 x 1.00
IPP-8059	225 - 1850	100	35	1.00	0.40	1.25:1	18.0	DDC	0.75 x 1.50
IPP-8042	225 - 2500	100	35	1.00	0.30	1.25:1	18.0	DDC	1.00 x 1.00
IPP-8063	225 - 2500	200	45	0.75	0.25	1.25:1	20.0	DDC	1.00 x 1.50
IPP-8057	500 - 2500	150	33	1.00	0.25	1.25:1	20.0	DDC	0.50 x 1.00
IPP-8041	500 - 2500	200	36	0.75	0.25	1.25:1	20.0	DDC	1.00 x 1.50
IPP-8090	500 - 3000	200	32	1.00	0.30	1.30:1	17.0	DDC	1.00 x 1.00
IPP-8013	595 - 1300	150	34	0.75	0.25	1.25:1	18.0	SDC	0.50 x 1.00
IPP-8005	800 - 1200	150	10	0.70	0.25	1.25:1	16.0	BDC	0.35 x 0.56
IPP-8032	800 - 1200	150	20	0.60	0.25	1.25:1	20.0	BDC	0.35 x 0.56
IPP-8033	800 - 1220	300	20	0.30	0.20	1.25:1	20.0	BDC	0.50 x 1.00
IPP-8069	800 - 2500	150	15	0.75	0.40	1.25:1	20.0	BDC	0.50 x 1.00

IPP-8029	800 - 2500	150	20	0.75	0.25	1.25:1	20.0	BDC	0.50 x 1.00
IPP-8051	800 - 2500	150	20	0.85	0.40	1.25:1	20.0	DDC	1.00 x 1.50
IPP-8078	800 - 4200	150	32	0.80	0.30	1.30:1	18.0	DDC	0.50 x 1.00
IPP-8004	1000 - 2000	200	20	1.20	0.20	1.28:1	20.0	BDC	0.35 x 0.56

This chart continues on the next page

Page 9 Directional SMD Couplers (Continued)

PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	NOMINAL COUPLING (dB)	COUPLING FLATNESS (+/- dB)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	DIRECTIVITY (dB, MIN)	COUPLER TYPE	PACKAGE SIZE (INCHES)
IPP-8015	1150 - 2750	150	34	0.50	0.25	1.25:1	18.0	SDC	0.50 x 1.00
IPP-8034	1930 - 1990	300	20	0.20	0.20	1.25:1	20.0	BDC	0.50 x 1.00
IPP-8038	2000 - 4000	100	20	0.90	0.25	1.30:1	20.0	BDC	0.35 x 0.56
IPP-8000	2000 - 6000	100	10	1.60	0.25	1.30:1	18.0	BDC	0.20 x 0.56
IPP-8039	2000 - 6000	100	20	1.90	0.25	1.30:1	16.0	BDC	0.20 x 0.56
IPP-8007	2500 - 6000	100	20	0.50	0.40	1.35:1	18.0	BDC	0.35 x 1.00
IPP-8001	2500 - 6000	100	20	1.20	0.25	1.30:1	20.0	BDC	0.35 x 0.56

Directional Couplers With Connectors

PART NUMBER	FREQUENCY (MHz)	AVERAGE POWER (WATTS)	NOMINAL COUPLING (dB)	COUPLING FLATNESS (+/- dB)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	DIRECTIVITY (dB, MIN)	PACKAGE SIZE (INCHES)	CONNECTOR TYPE MAIN COUPLED	
IPP-3151	2 - 30	2500	50	0.30	0.15	1.25:1	22.0	2.00 x 4.00	N	SMA
IPP-3011	20 - 500	500	50	0.50	0.20	1.25:1	20.0	1.50 x 2.50	N	SMA
IPP-3001	20 - 500	1000	50	0.50	0.30	1.20:1	20.0	3.00 x 6.00	N	N
IPP-3005	20 - 520	200	50	0.50	0.30	1.25:1	20.0	1.50 x 2.50	SMA	SMA
IPP-3175	20 - 520	1000	50	0.50	0.20	1.25:1	20.0	1.75 x 4.33	N	SMA
IPP-3131	20 - 1000	200	50	0.60	0.35	1.25:1	20.0	1.50 x 2.50	SMA	SMA
IPP-3132	20 - 1000	500	50	0.60	0.35	1.25:1	20.0	1.50 x 2.50	N	SMA
IPP-3130	20 - 1000	1000	50	0.60	0.35	1.25:1	20.0	1.75 x 4.33	SC	SMA
IPP-3192	30 - 400	40	20	0.50	0.80	1.30:1	20.0	1.25 x 1.25	SMA	SMA

IPP-3111	80 - 1000	500	50	0.50	0.25	1.25:1	20.0	1.50 x 2.50	N	SMA
IPP-3112	80 - 1000	1000	50	0.50	0.25	1.30:1	20.0	3.00 x 3.00	N	N
IPP-3113	80 - 1000	2000	50	0.50	0.15	1.25:1	20.0	3.50 x 3.50	SC	SMA
IPP-3076	100 - 500	200	40	0.30	0.25	1.20:1	20.0	1.50 x 2.50	SMA	SMA
IPP-3116	100 - 500	500	40	0.50	0.30	1.25:1	20.0	1.50 x 2.50	N	SMA
IPP-3177	100 - 500	1000	40	0.50	0.30	1.25:1	20.0	1.50 x 2.50	N	SMA
IPP-3020	100 - 600	200	40	0.50	0.30	1.25:1	20.0	1.50 x 2.50	N	SMA
IPP-3013	100 - 1000	200	50	0.50	0.25	1.25:1	20.0	1.50 x 2.50	SMA	SMA
IPP-3109	200 - 1000	200	40	0.50	0.25	1.25:1	20.0	1.50 x 2.50	N	N
IPP-3185	225 - 2500	100	50	1.00	0.50	1.30:1	18.0	2.16 x 2.41	N	SMA
IPP-3006	400 - 1000	200	40	0.50	0.25	1.25:1	20.0	1.50 x 2.50	SMA	SMA
IPP-3021	400 - 1000	200	40	0.50	0.30	1.25:1	20.0	1.50 x 2.50	N	SMA
IPP-3004	400 - 1000	500	50	0.50	0.25	1.20:1	20.0	3.00 x 3.00	N	N
IPP-3068	500 - 2500	200	40	0.50	0.30	1.25:1	18.0	1.50 x 2.50	N	SMA
IPP-3146	500 - 2500	500	40	0.60	0.30	1.25:1	20.0	1.50 x 2.50	N	SMA
IPP-3070	500 - 3000	200	40	0.50	0.35	1.25:1	18.0	1.50 x 2.50	N	SMA
IPP-3155	700 - 2000	750	40	0.50	0.15	1.25:1	20.0	3.50 x 3.50	N	SMA
IPP-3045	700 - 3200	400	40	0.50	0.30	1.30:1	20.0	3.00 x 3.00	N	N
IPP-3008	700 - 4200	200	20	1.00	0.35	1.25:1	18.0	0.92 x 2.85	SMA	SMA
IPP-3007	800 - 2500	200	40	0.50	0.25	1.25:1	20.0	1.50 x 2.50	SMA	SMA
IPP-3069	800 - 2500	500	40	0.50	0.30	1.25:1	20.0	1.50 x 2.50	N	SMA
IPP-3031	800 - 4200	200	40	0.50	0.30	1.30:1	20.0	3.00 x 3.00	N	N
IPP-3186	800 - 4200	500	40	0.50	0.30	1.30:1	20.0	3.00 x 3.00	N	SMA
IPP-3003	1000 - 3000	200	40	0.50	0.30	1.30:1	20.0	3.00 x 3.00	N	N
IPP-3032	1000 - 3000	1000	50	0.50	0.15	1.25:1	20.0	3.50 x 3.50	SC	SMA
IPP-3072	2000 - 6000	100	20	0.70	0.35	1.30:1	16.0	1.18 x 1.70	SMA	SMA
IPP-3085	2000 - 6000	200	20	0.70	0.38	1.30:1	15.0	1.18 x 1.70	N	SMA
IPP-3190	2000 - 6000	400	40	0.75	0.35	1.30:1	17.0	2.00 x 2.00	7 / 16	SMA

Page 10 Dividers/Combiners With Connectors

PART NUMBER	FREQUENCY (MHz)	N-WAY AVERAGE POWER (WATTS)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	ISOLATION (dB, MIN)	AMPLITUDE BALANCE (+/- dB)	PHASE BALANCE (+/- DEG)	PACKAGE SIZE (INCHES)	CONNECTOR TYPE INPUT SUM
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IPP-1154	2 - 30	2-WAY	1000	0.30	1.30:1	10	0.15	5	4.35 x 5.00	N	N
IPP-1228	5 - 1000	2-WAY	150	0.60	1.45:1	12	0.30	5	2.00 x 3.25	SMA	SMA
IPP-1025	20 - 1000	2-WAY	100	0.60	1.30:1	15	0.30	5	2.00 x 3.25	N	N
IPP-1193	20 - 1000	8-WAY	150	1.10	1.25:1	10	0.20	5	3.44 x 6.28	SMA	SMA
IPP-1020	20 - 1000	4-WAY	200	0.75	1.30:1	12	0.25	5	3.00 x 4.00	SMA	SMA
IPP-1022	20 - 1000	4-WAY	300	0.75	1.25:1	12	0.25	5	4.72 x 5.10	SMA	N
IPP-1021	20 - 1000	4-WAY	300	0.75	1.25:1	12	0.25	5	4.72 x 5.10	N	N
IPP-1164	20 - 1000	2-WAY	400	0.80	1.30:1	10	0.20	5	4.35 x 5.00	SMA	N
IPP-1141	20 - 1000	2-WAY	500	0.80	1.30:1	10	0.20	5	4.35 x 5.00	N	N
IPP-1205	80 - 1000	2-WAY	100	0.55	1.25:1	15	0.20	5	2.00 x 3.25	SMA	SMA
IPP-1206	80 - 1000	8-WAY	150	1.00	1.25:1	10	0.20	5	3.44 x 6.28	SMA	SMA
IPP-1207	80 - 1000	2-WAY	200	0.55	1.25:1	15	0.20	5	2.25 x 3.25	SMA	N
IPP-1014	80 - 1000	4-WAY	200	0.75	1.30:1	12	0.25	5	3.00 x 4.00	SMA	SMA
IPP-1208	80 - 1000	2-WAY	500	0.80	1.25:1	10	0.20	5	4.35 x 5.00	N	N
IPP-1015	80 - 1000	4-WAY	500	0.75	1.30:1	12	0.25	5	4.72 x 5.10	N	N
IPP-1238	80 - 1000	8-WAY	750	1.00	1.30:1	8	0.20	5	5.50 x 9.50	SMA	N
IPP-1176	80 - 1000	2-WAY	1500	0.40	1.30:1	N/A	0.25	5	5.00 X 5.50	SC	7/16
IPP-1177	80 - 1000	4-WAY	1500	0.90	1.25:1	5	0.25	5	4.40 x 4.83	N	SC
IPP-1145	100 - 500	8-WAY	50	0.75	1.30:1	10	0.20	5	3.34 x 9.37	N	N
IPP-1209	100 - 500	2-WAY	100	0.45	1.25:1	18	0.10	5	2.00 x 3.25	SMA	SMA
IPP-1146	100 - 500	3-WAY	150	0.50	1.30:1	8	0.20	5	4.00 x 6.00	N	N
IPP-1210	100 - 500	2-WAY	200	0.45	1.25:1	18	0.20	5	2.00 x 3.25	SMA	SMA
IPP-1211	100 - 500	4-WAY	200	0.60	1.25:1	15	0.20	5	3.00 x 4.00	SMA	SMA
IPP-1212	100 - 500	4-WAY	500	0.50	1.25:1	15	0.20	5	4.72 x 5.10	N	N
IPP-1132	100 - 500	2-WAY	500	0.60	1.40:1	8	0.20	5	4.36 x 5.36	N	N
IPP-1044	100 - 500	2-WAY	1000	0.60	1.40:1	8	0.20	5	4.36 x 5.36	N	SC
IPP-1213	100 - 500	2-WAY	1500	0.60	1.40:1	8	0.20	5	4.73 x 5.36	N	SC
IPP-1199	100 - 500	4-WAY	1500	0.60	1.25:1	11	0.25	5	4.40 x 4.96	N	SC
IPP-1092	250 - 1000	2-WAY	750	0.50	1.30:1	10	0.20	5	4.35 x 6.75	N	N
IPP-1091	250 - 1000	4-WAY	750	0.80	1.30:1	10	0.25	5	4.72 x 5.10	N	N
IPP-1070	400 - 1000	2-WAY	200	0.50	1.25:1	15	0.20	5	2.40 x 2.40	SMA	SMA
IPP-1068	400 - 1000	4-WAY	200	0.60	1.30:1	10	0.25	5	3.00 x 4.00	SMA	SMA
IPP-1000	400 - 1000	4-WAY	750	0.40	1.30:1	10	0.20	5	3.27 x 8.52	TNC	SC
IPP-1077	400 - 1000	4-WAY	1000	0.40	1.30:1	10	0.20	5	5.25 x 5.60	N	SC
IPP-1241	400 - 1000	2-WAY	1500	0.40	1.25:1	N/A	0.20	5	3.50 x 3.50	N	SC

IPP-1100	500 - 2500	2-WAY	200	0.40	1.30:1	13	0.20	5	2.00 x 4.70	SMA	N
IPP-1101	500 - 2500	4-WAY	200	0.80	1.30:1	8	0.25	5	3.00 x 4.00	SMA	SMA
IPP-1224	500 - 2500	4-WAY	300	0.80	1.30:1	6	0.25	5	3.00 x 4.00	SMA	N
IPP-1157	700 - 2000	4-WAY	750	0.75	1.30:1	6	0.30	5	5.00 x 5.25	N	N

This chart continues on the next page

Page 11 Dividers/Combiners With Connectors (Continued)

PART NUMBER	FREQUENCY (MHz)	N-WAY AVERAGE POWER (WATTS)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	ISOLATION (dB, MIN)	AMPLITUDE BALANCE (+/- dB)	PHASE BALANCE (+/- DEG)	PACKAGE SIZE (INCHES)	CONNECTORS INPUT SUM	
IPP-1191	800 - 2500	2-WAY	175	0.50	1.25:1	13	0.20	5	2.40 x 2.40	SMA SMA
IPP-1035	800 - 2500	4-WAY	200	0.60	1.30:1	12	0.25	5	3.00 x 4.00	SMA SMA
IPP-1088	800 - 4200	2-WAY	200	1.00	1.30:1	10	0.25	5	3.00 x 5.20	N N
IPP-1221	800 - 2500	2-WAY	600	0.50	1.30:1	7.5	0.20	5	2.24 x 4.10	N N
IPP-1036	800 - 2500	4-WAY	600	0.60	1.30:1	6	0.20	5	4.35 x 4.50	N N
IPP-1054	800 - 2500	2-WAY	800	0.60	1.30:1	7.5	0.20	5	3.00 x 4.50	N SC
IPP-1171	800 - 3100	4-WAY	600	0.65	1.30:1	N/A	0.30	5	4.35 x 5.00	N N
IPP-1089	800 - 4200	4-WAY	200	1.00	1.30:1	10	0.25	5	3.90 x 5.20	N N
IPP-1174	800 - 4200	8-WAY	200	1.20	1.30:1	6	0.25	6	5.70 x 6.13	SMA N
IPP-1027	850 - 2650	4-WAY	1000	0.60	1.25:1	10	0.25	5	4.25 x 4.25	TNC SC
IPP-1110	1000 - 2000	4-WAY	400	0.60	1.30:1	13	0.50	5	3.00 x 5.00	SMA N
IPP-1214	1000 - 3000	2-WAY	100	0.50	1.25:1	13	0.20	5	2.40 x 2.40	SMA SMA
IPP-1215	1000 - 3000	2-WAY	200	0.45	1.30:1	13	0.20	5	2.00 x 4.70	SMA N
IPP-1216	1000 - 3000	4-WAY	200	0.60	1.30:1	12	0.25	5	3.35 x 4.00	SMA N

IPP-1217	1000 - 3000 2-WAY	500	0.50	1.30:1	7.5	0.20	5	3.00 x 4.50	N	N
IPP-1218	1000 - 3000 4-WAY	500	0.65	1.30:1	8	0.25	6	5.00 x 5.00	N	N
IPP-1049	1000 - 3000 2-WAY	1000	0.25	1.30:1	N/A	0.20	5	4.18 x 4.35	SC	SC
IPP-1219	1000 - 3000 4-WAY	1000	0.50	1.30:1	N/A	0.25	5	5.00 x 5.75	N	N
IPP-1046	1000 - 4000 2-WAY	100	0.60	1.30:1	14	0.25	5	2.00 x 4.50	SMA	SMA
IPP-1158	1000 - 6000 4-WAY	100	0.85	1.50:1	6	0.30	6	3.90 x 5.20	SMA	SMA
IPP-1398	1000 - 6000 2-WAY	200	0.80	1.30:1	8	0.25	5	3.00 x 4.20	SMA	N
IPP-1016	2000 - 6000 2-WAY	100	0.35	1.30:1	12	0.25	5	1.40 x 2.00	SMA	SMA
IPP-1013	2000 - 6000 4-WAY	100	0.80	1.30:1	10	0.25	5	2.50 x 5.00	SMA	SMA
IPP-1256	2000 - 6000 2-WAY	200	0.30	1.30:1	N/A	0.15	5	2.20 x 2.30	SMA	N

Drop-In Dividers/Combiners

PART NUMBER	FREQUENCY (MHz)	N-WAY AVERAGE POWER (WATTS)	INSERTION LOSS (dB, MAX)	VSWR (MAX)	ISOLATION (dB, MIN)	AMPLITUDE BALANCE (+/- dB)	PHASE BALANCE (+/- DEG)	PACKAGE (INCHES)
IPP-1102	20 - 1000	2-WAY 100	0.75	1.30:1	12	0.30	5	2.00 x 3.25
IPP-1103	20 - 1000	4-WAY 200	0.75	1.30:1	12	0.25	5	3.00 x 4.00
IPP-1106	80 - 1000	4-WAY 200	0.75	1.30:1	12	0.25	5	3.00 x 4.00
IPP-1107	400 - 1000	2-WAY 200	0.50	1.25:1	15	0.20	5	2.40 x 2.40
IPP-1108	400 - 1000	4-WAY 200	0.60	1.30:1	10	0.25	5	2.61 x 3.63
IPP-1104	500 - 2500	2-WAY 200	0.40	1.30:1	15	0.20	5	2.00 x 4.70
IPP-1105	500 - 2500	4-WAY 200	0.80	1.30:1	8	0.25	5	3.00 x 4.00
IPP-1109	1000 - 4000	2-WAY 100	0.60	1.30:1	14	0.25	5	2.00 x 4.50

Flangeless / Flanged Resistors

PART NUMBER	POWER (WATTS)	FREQUENCY (GHz)	CAPACITANCE (Pf)	LEAD WIDTH (INCHES)	CHIP SIZE (INCHES)	FLANGE SIZE (INCHES)
IPP-RB101-XXX	30	DC - 3.0	0.75	0.040	.100 x .200	No Flange
IPP-RB103-XXX	100	DC - 4.0	1.20	0.040	.250 x .250	No Flange
IPP-RB105-XXX	125	DC - 3.0	1.50	0.050	.225 x .350	No Flange
IPP-RB111-XXX	150	DC - 2.0	3.50	0.050	.250 x .375	No Flange
IPP-RB106-XXX	200	DC - 2.0	2.60	0.050	.225 x .350	No Flange
IPP-RB113-XXX	300	DC - 2.0	3.10	0.050	.375 x .375	No Flange
IPP-RB114-XXX	400	DC - 1.0	6.00	0.120	.500 x .500	No Flange
IPP-RB201-XXX	30	DC - 3.0	0.75	0.040	.100 x .200 .200 x .300 x .062	
IPP-RB203-XXX	50	DC - 4.2	1.20	0.040	.250 x .250 .250 x .515 x .062	
IPP-RB211-XXX	100	DC - 2.0	3.50	0.050	.250 x .375 .375 x .560 x .062	
IPP-RB221-XXX	100	DC - 4.0	1.20	0.040	.250 x .250 .250 x .515 x .140	
IPP-RB205-XXX	125	DC - 3.0	1.50	0.050	.225 x .350 .225 x .800 x .070	
IPP-RB206-XXX	150	DC - 2.0	2.60	0.050	.225 x .350 .225 x .800 x .070	
IPP-RB208-XXX	150	DC - 2.0	2.60	0.050	.225 x .350 .225 x .975 x .085	
IPP-RB212-XXX	150	DC - 2.0	3.50	0.050	.250 x .375 .375 x .870 x .062	
IPP-RB213-XXX	300	DC - 2.0	3.10	0.050	.375 x .375 .375 x .975 x .110	
IPP-RB214-XXX	400	DC - 1.0	6.00	0.120	.500 x .500 .500 x 1.10 x .110	
IPP-RB215-XXX	400	DC - 1.0	6.00	0.120	.500 x .500 .500 x 1.25 x .110	
IPP-RB216-XXX	800	DC - 1.0	18.0	0.250	1.00 x 1.04 1.04 x 1.90 x .125	

Note: All parts listed have a lead thickness of 0.005 inches.

Low Capacitance Resistors

PART NUMBER	POWER (WATTS)	FREQUENCY (GHz)	CAPACITANCE (Pf)	LEAD WIDTH (INCHES)	CHIP SIZE (INCHES)	FLANGE SIZE (INCHES)
IPP-RB101LC-XXX	30	DC - 6.0	0.30	0.040	.100 x .200	No Flange
IPP-RB103LC-XXX	75	DC - 4.2	0.60	0.040	.250 x .250	No Flange
IPP-RB105LC-XXX	100	DC - 4.0	0.75	0.050	.225 x .350	No Flange
IPP-RB113LC-XXX	225	DC - 2.5	1.60	0.050	.375 x .375	No Flange
IPP-RB114LC-XXX	300	DC - 2.0	3.00	0.120	.500 x .500	No Flange
IPP-RB201LC-XXX	30	DC - 6.0	0.30	0.040	.100 x .200	.200 x .300 x .062
IPP-RB203LC-XXX	75	DC - 4.2	0.60	0.040	.250 x .250	.250 x .515 x .062
IPP-RB205LC-XXX	100	DC - 4.0	0.75	0.050	.225 x .350	.225 x .800 x .070
IPP-RB206LC-XXX	125	DC - 3.0	1.10	0.050	.225 x .350	.225 x .800 x .070
IPP-RB213LC-XXX	225	DC - 2.5	1.60	0.050	.375 x .375	.375 x .975 x .110
IPP-RB214LC-XXX	300	DC - 2.0	3.00	0.120	.500 x .500	.500 x 1.10 x .110

Flangeless / Flanged Terminations

PART NUMBER	POWER (WATTS)	FREQUENCY (GHz)	VSWR (GHz)	VSWR (GHz)	LEAD WIDTH (INCHES)	CHIP SIZE (INCHES)	FLANGE SIZE (INCHES)
IPP-TB101-50	30	DC - 6.0	1.20:1 @ 4.0	1.50:1 @ 6.0	0.040	.100 x .200	No Flange
IPP-TB101C-50	30	DC - 4.2	1.20:1 @ 3.0	1.30:1 @ 4.2	0.040	.100 x .200	No Flange
IPP-TB103-50	100	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	0.040	.250 x .250	No Flange
IPP-TB105-50	125	DC - 5.0	1.25:1 @ 4.0	1.35:1 @ 5.0	0.050	.225 x .350	No Flange
IPP-TB111-50	150	DC - 3.0	1.25:1 @ 2.0	1.30:1 @ 3.0	0.050	.250 x .375	No Flange
IPP-TB106-50	200	DC - 2.0	1.17:1 @ 1.0	1.30:1 @ 2.0	0.050	.225 x .350	No Flange
IPP-TB113-50	300	DC - 3.0	1.25:1 @ 2.0	1.30:1 @ 3.0	0.050	.375 x .375	No Flange

IPP-TB114-50	400	DC - 1.6	1.20:1 @ 1.0	1.25:1 @ 1.6	0.120	.500 x .500	No Flange
IPP-TB201C-50	30	DC - 4.2	1.20:1 @ 3.0	1.30:1 @ 4.2	0.040	.100 x .200 .200 x .300 x .062	
IPP-TB201-50	30	DC - 6.0	1.20:1 @ 4.0	1.50:1 @ 6.0	0.040	.100 x .200 .200 x .300 x .062	
IPP-TB201R-50	30	DC - 6.0	1.20:1 @ 4.0	1.50:1 @ 6.0	0.040	.100 x .200 .200 x .300 x .062	
IPP-TB203-50	50	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	0.040	.250 x .250 .250 x .515 x .062	
IPP-TB203R-50	50	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	0.040	.250 x .250 .250 x .515 x .062	
IPP-TB203C-50	50	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	0.040	.250 x .250 .250 x .515 x .062	
IPP-TB218-50	50	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 6.0	0.040	.250 x .250 .250 x .515 x .062	
IPP-TB218R-50	50	DC - 6.0	1.10:1 @ 4.2	1.25:1 @ 6.0	0.040	.250 x .250 .250 x .515 x .062	
IPP-TB218C-50	50	DC - 6.0	1.10:1 @ 4.2	1.25:1 @ 6.0	0.040	.250 x .250 .250 x .515 x .062	
IPP-TB222-50	50	DC - 8.5	1.25:1 @ 5.0	1.30:1 @ 8.5	0.040	.250 x .250 .250 x .515 x .062	
IPP-TB222R-50	50	DC - 8.5	1.25:1 @ 5.0	1.30:1 @ 8.5	0.040	.250 x .250 .250 x .515 x .062	
IPP-TB222C-50	50	DC - 8.5	1.25:1 @ 5.0	1.30:1 @ 8.5	0.040	.250 x .250 .250 x .515 x .062	
IPP-TB211-50	100	DC - 3.0	1.25:1 @ 2.0	1.30:1 @ 3.0	0.050	.250 x .375 .375 x .560 x .062	
IPP-TB211R-50	100	DC - 3.0	1.25:1 @ 2.0	1.30:1 @ 3.0	0.050	.250 x .375 .375 x .560 x .062	
IPP-TB221-50	100	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	0.040	.250 x .250 .250 x .515 x .140	
IPP-TB221R-50	100	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	0.040	.250 x .250 .250 x .515 x .140	
IPP-TB221C-50	100	DC - 5.0	1.10:1 @ 4.2	1.25:1 @ 5.0	0.040	.250 x .250 .250 x .515 x .140	
IPP-TB220-50	100	DC - 6.0	1.10:1 @ 4.2	1.25:1 @ 6.0	0.040	.250 x .250 .250 x .515 x .140	
IPP-TB220R-50	100	DC - 6.0	1.10:1 @ 4.2	1.25:1 @ 6.0	0.040	.250 x .250 .250 x .515 x .140	
IPP-TB220C-50	100	DC - 6.0	1.10:1 @ 4.2	1.25:1 @ 6.0	0.040	.250 x .250 .250 x .515 x .140	
IPP-TB205-50	125	DC - 5.0	1.25:1 @ 4.0	1.35:1 @ 5.0	0.050	.225 x .350 .225 x .800 x .070	
IPP-TB208-50	150	DC - 2.0	1.17:1 @ 1.0	1.30:1 @ 2.0	0.050	.225 x .350 .225 x .975 x .085	
IPP-TB212-50	150	DC - 3.0	1.25:1 @ 2.0	1.30:1 @ 3.0	0.050	.250 x .375 .375 x .870 x .070	
IPP-TB206-50	200	DC - 2.0	1.17:1 @ 1.0	1.30:1 @ 2.0	0.050	.225 x .350 .225 x .800 x .070	
IPP-TB213-50	300	DC - 3.0	1.25:1 @ 2.0	1.30:1 @ 3.0	0.050	.375 x .375 .375 x .975 x .110	
IPP-TB214-50	400	DC - 1.6	1.20:1 @ 1.0	1.25:1 @ 1.6	0.120	.500 x .500 .500 x 1.10 x .110	
IPP-TB215-50	400	DC - 1.6	1.20:1 @ 1.0	1.25:1 @ 1.6	0.120	.500 x .500 .500 x 1.25 x .110	
IPP-TB216-50	800	DC - 0.5	1.50:1 @ 0.5	-----	0.250	1.00 x 1.04 1.04 x 1.90 x .125	

Note: All parts listed have a lead thickness of 0.005 inches.

Coaxial Terminations

PART NUMBER	POWER (WATTS)	FREQUENCY (GHz)	VSWR	CONNECTOR TYPE	PACKAGE (INCHES)
IPP-TB301-50	30	DC - 4.2	1.25:1	SMA	.50 x 1.00

IPP-TB302-50	50	DC - 6.0	1.25:1	SMA	.96 x 1.38
IPP-TB303-50	100	DC - 6.0	1.25:1	SMA	.96 x 1.38
IPP-TB304-50	150	DC - 3.0	1.30:1	SMA	1.63 x 2.00
IPP-TB305-50	300	DC - 3.0	1.30:1	N	1.63 x 2.00
IPP-TB306-50	500	DC - 1.2	1.25:1	N	1.63 x 2.00
IPP-TB307-50	800	DC - 0.5	1.50:1	N	1.97 x 3.66

Note: Other connector types are available.

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Flanged Attenuators

PART NUMBER	POWER (WATTS)	FREQUENCY (GHz)	ATTENUATION (dB)	ATTENUATION TOLERANCE (dB)	VSWR	LEAD WIDTH (INCHES)	CHIP SIZE (INCHES)	FLANGE SIZE (INCHES)
IPP-AB201-2	10	DC - 6.0	2	+/- 0.50	1.30:1	0.04	.100 x .200	.200 x .300 x .062
IPP-AB201-4	10	DC - 6.0	4	+/- 0.50	1.30:1	0.04	.100 x .200	.200 x .300 x .062
IPP-AB201-6	10	DC - 6.0	6	+ 0.75 / - 0.50	1.30:1	0.04	.100 x .200	.200 x .300 x .062
IPP-AB201-8	10	DC - 6.0	8	+ 0.75 / - 0.50	1.30:1	0.04	.100 x .200	.200 x .300 x .062
IPP-AB201-10	10	DC - 6.0	10	+ 1.00 / - 0.50	1.30:1	0.04	.100 x .200	.200 x .300 x .062
IPP-AB201-20	10	DC - 6.0	20	+ 1.50 / - 0.50	1.30:1	0.04	.100 x .200	.200 x .300 x .062
IPP-AB203-2	30	DC - 4.0	2	+/- 0.50	1.35:1	0.05	.250 x .250	.250 x .515 x .062
IPP-AB203-4	30	DC - 4.0	4	+/- 0.50	1.35:1	0.05	.250 x .250	.250 x .515 x .062
IPP-AB203-6	30	DC - 4.0	6	+/- 0.50	1.35:1	0.05	.250 x .250	.250 x .515 x .062
IPP-AB203-8	30	DC - 4.0	8	+/- 0.75	1.35:1	0.05	.250 x .250	.250 x .515 x .062
IPP-AB203-10	30	DC - 4.0	10	+/- 1.00	1.35:1	0.05	.250 x .250	.250 x .515 x .062
IPP-AB203-20	30	DC - 4.0	20	+/- 1.50	1.35:1	0.05	.250 x .250	.250 x .515 x .062
IPP-AB204-2	75	DC - 2.5	2	+/- 0.50	1.25:1	0.05	.250 x .250	.250 x .515 x .062

IPP-AB204-4	75	DC - 2.5	4	+/- 0.50	1.25:1	0.05	.250 x .250	.250 x .515 x .062
IPP-AB204-6	75	DC - 2.5	6	+/- 0.50	1.25:1	0.05	.250 x .250	.250 x .515 x .062
IPP-AB204-8	75	DC - 2.5	8	+/- 0.75	1.25:1	0.05	.250 x .250	.250 x .515 x .062
IPP-AB204-10	75	DC - 2.5	10	+/- 1.00	1.25:1	0.05	.250 x .250	.250 x .515 x .062
IPP-AB204-20	75	DC - 2.5	20	+/- 1.50	1.25:1	0.05	.250 x .250	.250 x .515 x .062
IPP-AB213-2	100	DC - 2.0	2	+/- 0.35	1.30:1	0.05	.375 x .375	.375 x .975 x .110
IPP-AB213-4	100	DC - 2.0	4	+/- 0.75	1.30:1	0.05	.375 x .375	.375 x .975 x .110
IPP-AB213-6	100	DC - 2.0	6	+/- 0.75	1.30:1	0.05	.375 x .375	.375 x .975 x .110
IPP-AB213-8	100	DC - 2.0	8	+/- 0.75	1.30:1	0.05	.375 x .375	.375 x .975 x .110
IPP-AB213-10	100	DC - 2.0	10	+/- 1.00	1.30:1	0.05	.375 x .375	.375 x .975 x .110
IPP-AB213-20	100	DC - 2.0	20	+/- 1.50	1.30:1	0.05	.375 x .375	.375 x .975 x .110
IPP-AB206-2	100	DC - 2.5	2	+/- 0.50	1.25:1	0.05	.225 x .350	.225 x .800 x .070
IPP-AB206-4	100	DC - 2.5	4	+/- 0.50	1.25:1	0.05	.225 x .350	.225 x .800 x .070
IPP-AB206-6	100	DC - 2.5	6	+/- 0.50	1.25:1	0.05	.225 x .350	.225 x .800 x .070
IPP-AB206-8	100	DC - 2.5	8	+/- 0.75	1.25:1	0.05	.225 x .350	.225 x .800 x .070
IPP-AB206-10	100	DC - 2.5	10	+/- 1.00	1.25:1	0.05	.225 x .350	.225 x .800 x .070
IPP-AB206-20	100	DC - 2.5	20	+/- 1.50	1.25:1	0.05	.225 x .350	.225 x .800 x .070

Note: All parts listed have a lead thickness of 0.005 inches.

We've recently developed a line of feedback resistors to support wideband RF/Microwave solid state transistor power amplifiers which require resistive feedback. Using negative resistive feedback is a simple way to improve transistor amplifier stability and frequency gain sloping. Our new feedback resistors are flange mounted and designed to fit directly over the RF/microwave transistor using the same mounting holes as the transistor. This mounting configuration utilizes normally unused space above the transistor without taking up valuable pcb area adjacent to the transistor. In addition to saving space this mounting arrangement decreases parasitic inductance associated with the resistor leads by providing for the shortest lead length possible between the transistors input and output. The short lead length and corresponding lower inductance allow for higher frequency operation.

Our feedback resistors are constructed using nickel-plated aluminum flanges with BeO ceramic resistors, providing excellent thermal conductivity and low parasitic capacitance. These products are available in a range of resistor values and power levels to match various applications. Flange styles are designed with mounting holes to match up with many popular transistor footprints. Feedback resistors are available with or without DC blocking capacitors with values which can be customized as required.

PART NUMBER	POWER PER RESISTOR (WATTS)	FREQUENCY (MHz)	RESISTOR VALUE (OHMS)	RESISTOR CAPACITANCE VALUE (pF)	DC BLOCKING CAPACITANCE (pF)	FLANGE SIZE (INCHES)	RESISTORS PER FLANGE
IPP-RB401-100	15	DC - 3000	100	0.75	N/A	0.225 x 0.689 x .330	Single
IPP-RB401-200	15	DC - 3000	200	0.75	N/A	0.225 x 0.689 x .330	Single
IPP-RB401-100-0100	15	DC - 3000	100	0.75	100	0.225 x 0.689 x .330	Single
IPP-RB401-200-0100	15	DC - 3000	200	0.75	100	0.225 x 0.689 x .330	Single
IPP-RB402-100	15	DC - 3000	100	0.75	N/A	0.225 x 0.800 x .375	Single
IPP-RB402-200	15	DC - 3000	200	0.75	N/A	0.225 x 0.800 x .375	Single
IPP-RB402-100-0100	15	DC - 3000	100	0.75	100	0.225 x 0.800 x .375	Single
IPP-RB402-200-0100	15	DC - 3000	200	0.75	100	0.225 x 0.800 x .375	Single
IPP-RB403-100	15	DC - 3000	100	0.75	N/A	0.225 x 1.140 x .375	Dual
IPP-RB403-200	15	DC - 3000	200	0.75	N/A	0.225 x 1.140 x .375	Dual
IPP-RB403-100-0100	15	DC - 3000	100	0.75	100	0.225 x 1.140 x .375	Dual
IPP-RB403-200-0100	15	DC - 3000	200	0.75	100	0.225 x 1.140 x .375	Dual

Custom Products

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