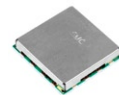


FEATURES

- » Octave & Higher Than Octave Tuning
- » High Spectral Purity Signal
- » Low Power Consumption
- » Wide Modulation Bandwidth
- » Low Microphonic Effects
- » Low Cost Than YIG
- » Excellent Tuning Linearity
- » Extended Temperature Range
- » Exceptional Phase Noise Performance
- » Low Post Thermal Drift
- » High Reliability
- » High Immunity To EMI & Phase Hits
- » Compact Size: 0.5" x 0.5" & 0.75" x 0.75"
- » Rel-Pro® (Patent Pending) Technology

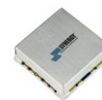
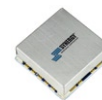


YIG REPLACEMENT OSCILLATORS

Model #	Frequency (MHz)	Tuning Voltage (VDC)	DC Bias VDC @ I (Typ)	Minimum Output Power (dBm)	Typical Tuning Sensitivity (MHz/V)	Typical Harmonic Suppression (dB)	Typical Frequency Pulling (MHz)	Typical Frequency Pushing (MHz/V)	Typical Phase Noise @ 10 kHz (dBc/Hz)	278LF	320LF
										Package	Package
DCYR2060-5	200 - 600	0.5 - 28	+5 @ 60 mA	+5	14 - 28	12	3	1	-119		320LF
DCYR3097-5	300 - 970	0.5 - 28	+5 @ 38 mA	+4	15 - 45	25	3	1	-112		320LF
DCYR50125-10	500 - 1250	0.5 - 24	+10 @ 43 mA	+1	15 - 90	7	5	4	-110		320LF
DCYS100200-12	1000 - 2000	0.5 - 28	+12 @ 33 mA	+4	12 - 60	20	5	5	-105		278LF
DCYS160360-5	1600 - 3600	0.5 - 20	+5 @ 47 mA	0	75 - 225	15	4	2	-90		278LF
DCYS200400-5	2000 - 4000	0.5 - 16	+5 @ 45 mA	+1	150 - 250	15	4	4	-90		278LF
DCYS200400P-5	2000 - 4000	0.5 - 22	+5 @ 45 mA	+1	40 - 200	15	4	4	-95		278LF
DCYS250500-5	2500 - 5000	0.5 - 14	+5 @ 45 mA	-3	150 - 370	15	4	7	-75		278LF
DCYS275550-5	2750 - 5550	0.5 - 22	+5 @ 43 mA	0	150 - 220	10	5	7	-77		278LF
DCYS300600-5	3000 - 6000	0.3 - 17	+5 @ 43 mA	-1	70 - 330	25	6	8	-77		278LF

FEATURES

- » Highly Immune To Phase Hits
- » Superb Phase Noise Performance
- » Fast Tuning Than SAW
- » Compact Size: 0.5" x 0.5" & 0.75" x 0.75"
- » Rel-Pro® (Patent Pending) Technology



SAW REPLACEMENT OSCILLATORS

Model #	Frequency (MHz)	Tuning Voltage (VDC)	DC Bias VDC @ I (Typ)	Minimum Output Power (dBm)	Typical Tuning Sensitivity (MHz/V)	Typical Harmonic Suppression (dB)	Typical Frequency Pulling (MHz)	Typical Frequency Pushing (MHz/V)	Typical Phase Noise @ 10 kHz (dBc/Hz)	249LF	249-1LF	278LF
										Package	Package	Package
DCSR100-5	100	0.5 - 5	+5 @ 14 mA	+5	0.15 - 0.3	22	0.05	0.05	-128			278LF
DCSR200-5	202.7 - 209	0.5 - 11	+5V @ 24 mA	+7	1 - 1.5	22	0.25	0.01	-132			278LF
DCSR500-8	500	0.5 - 8	+8 @ 37 mA	+3.5	1 - 1.3	26	0.5	0.5	-132			278LF
DCSR570-8	570	0.5 - 8	+8 @ 35 mA	+3.5	1.6 - 2.4	27	0.5	0.5	-128			278LF
DCSO1000-12	1000	0.5 - 12	+12 @ 33 mA	+4	1.25	35	0.5	0.05	-126			249LF
DCSO1200-12	1200	0.5 - 12	+12 @ 35 mA	+3	2 - 4	20	0.5	0.05	-125			249LF
DCSR1280-8	1280	0.5 - 8	+8 @ 26 mA	+6	1 - 1.5	23	2	1	-120			278LF
DCSO1300-12	1300	0.5 - 12	+12 @ 35 mA	+3	2 - 4	20	1	0.6	-120			249LF
DCSO-1750	1750	0.5 - 8	+8 @ 32mA	-1	1.2 - 2	22	1.5	0.8	-117			249LF
DCSO1920-12	1920	0.5 - 10	+12 @ 35 mA	+9	0.8 - 1.8	27	1.5	1	-120			249LF
DCSO-2000-8	2000	0.5 - 8	+8 @ 35 mA	+2	1 - 2	20	1.5	1.5	-118			249LF
DCSR2176-6	2176	0.5 - 5	+6 @ 24 mA	+2	2.2 - 3.5	30	4	2.5	-115			278LF
DCSO2200-12	2200	0.5 - 12	+12 @ 27 mA	+2	1 - 3	20	1	1	-116			249-1LF
DCSO2294-10	2293.75	0.5 - 10	+10 @ 50 mA	+3.5	1.1 - 2.2	42	2	1	-113			249LF
DCSO2308-10	2307.8125	0.5 - 10	+10 @ 50 mA	+2	1 - 2	45	1.5	1.5	-116			249LF
DCSO2438-10	2437.50	0.5 - 10	+10 @ 50 mA	+2.5	0.7 - 1.4	35	2	1.5	-116			249LF
DCSO2452-10	2451.5625	0.5 - 10	+10 @ 50 mA	+2	1 - 2	20	1.5	1.5	-116			249LF
DCSR2488-8	2488.32	0.5 - 7	+8 V @ 60 mA	+1.5	1.25 - 1.75	22	3	1.5	-116			278LF
DCSO2488-12	2488.32	0.5 - 7	+12 @ 36 mA	+4	1 - 2	28	0.25	0.2	-117			249LF
DCSO2666-12	2666.057	0.5 - 7	+12 @ 37 mA	+5	1 - 2	30	0.25	0.2	-117			249LF
DCSO2677-12	2677.306	0.5 - 7	+12 @ 37 mA	+4	1 - 2	29	0.25	0.2	-115			249LF
DCSR2688-5	2688.651	0.5 - 8	+5 @ 35 mA	+4	1.3 - 2.6	27	1	0.2	-120			278LF
DCSR2688-12	2688.651	0.5 - 8	+12 @ 40 mA	+5	1.5 - 2.5	20	2	2	-117			278LF
DCSO2688-12	2688.651	0.5 - 7	+12 @ 37 mA	+4	1 - 2	27	0.25	0.2	-115			249LF
DCSR3210-8	3210	0.5 - 6	+8 @ 35 mA	+3	6 - 12	12	2	2	-110			278LF
DCSR3710-8	3710	0.5 - 8	+8 @ 28 mA	+8	4 - 6	23	5	2	-108			278LF
DCSR4096-10	4096	0.5 - 8	+8 @ 28 mA	+5	4 - 6	25	5	2	-110			278LF
DCSR4210-8	4210	0.5 - 8	+8 @ 31 mA	+5	5 - 8	20	5	2	-109			278LF
DCSR4500-10	4500	0.5 - 8	+10 @ 35 mA	+5	5 - 8	17	5	2	-107			278LF
DCSR4710-8	4710	0.5 - 8	+8 @ 31 mA	+4.5	5 - 8	10	5	2	-106			278LF

All Surface Mount Oscillators Are Also Available In Connectorized Packaging!

Add prefix "K" to the surface mount model when requesting quote and ordering connectorized models.
Ex: KDCMO100230-5



FEATURES

- » Octave & Higher Than Octave Bandwidth
- » Exceptional Phase Noise Performance
- » Very Low Post Thermal Drift
- » Simplifies design...better value
- » Power efficient
- » Compact Size: 0.5" x 0.5" & 0.91" x 0.91"
- » Rel-Pro® (Patent Pending) Technology



ULTRA WIDEBAND OSCILLATORS

Model #	Frequency (MHz)	Tuning Voltage (VDC)	DC Bias VDC @ I (Typ)	Minimum Output Power (dBm)	Typical Tuning Sensitivity (MHz/V)	Typical Harmonic Suppression (dB)	Typical Frequency Pulling (MHz)	277		Typical Phase Noise @ 10 kHz (dBc/Hz)	Package
								Typical Frequency Pushing (MHz/V)	Typical Frequency Pulling (MHz)		
DCMO25-5	20 - 50	0.5 - 24	+5 @ 30 mA	+4	1 - 3	12	0.5	0.5		-114	278LF
DCMO514-5	50 - 140	0.5 - 24	+5 @ 28 mA	+3.5	2 - 6	10	3	1		-105	278LF
DCMO616-5	65 - 160	0.5 - 24	+5 @ 28 mA	+3	3.5 - 7	10	3	1		-108	278LF
DCMO1027	100 - 270	0.5 - 24	+5 to +12 @ 20 mA	+2.5	6 - 14	10	0.4	1		-112	278LF
DCMO1129	110 - 330	0.5 - 24	+5 to +12 @ 22mA	+4	6 - 15	10	3	1		-112	278LF
DCMO1545	150 - 450	0.5 - 24	+5 to +12 @ 22mA	+4	8 - 20	10	4	2		-108	278LF
DCMO1857	180 - 570	0.5 - 24	+5 to +12 @ 26 mA	+3	10 - 15	10	7	2		-108	278LF
DCMO2260-5	220 - 600	0.5 - 24	+5 @ 28 mA	+2	15 - 25	10	5	2		-108	278LF
DCMO2476	240 - 760	0.5 - 24	+5 to +12 @ 26 mA	+4	10 - 40	10	3	1		-108	278LF
DCMO3288-5	320 - 880	0.5 - 24	+5 @ 21 mA	+3	15 - 40	10	5	2		-109	278LF
DCMO3288-12	320 - 880	0.5 - 24	+12 @ 25 mA	+5	25 - 50	10	5	2		-80	278LF
DCFO35105-5	350 - 1050	0.5 - 25	+5 @ 51 mA	+7	27 - 54	25	4	2		-112	277
DCMO40110-5	400 - 1100	0.5 - 24	+5 @ 37 mA	+5	17 - 55	10	5	5		-103	278LF
DCMO40110-8	400 - 1100	0.5 - 24	+8 @ 39 mA	+5	17 - 55	10	5	5		-104	278LF
DCMO40110-12	400 - 1100	0.5 - 24	+12 @ 38 mA	+6	15 - 50	8	5	5		-105	278LF
DCMO50120-5	500 - 1200	0.5 - 24	+5 @ 37 mA	+7	25 - 50	15	4	4		-102	278LF
DCMO50120-12	500 - 1200	0.5 - 24	+12 @ 28 mA	+6	20 - 50	10	5	5		-103	278LF
DCMO60170-5	600 - 1700	0.5 - 25	+5 @ 35 mA	+3	25 - 80	12	5	5		-100	278LF
DCMO60170-12	600 - 1700	0.5 - 25	+12 @ 29 mA	+3	30 - 85	10	5	5		-100	278LF
DCMO80210-5	800 - 2100	0.5 - 24	+5 @ 28 mA	+5	35 - 95	10	5	4		-96	278LF
DCMO80210-10	800 - 2100	0.5 - 24	+10 @ 25 mA	+6	45 - 95	15	5	4		-100	278LF
DCMO90220-5	900 - 2200	0.5 - 24	+5 @ 28 mA	+4	24 - 82	15	5	5		-98	278LF
DCMO90220-12	900 - 2200	0.5 - 24	+12 @ 29 mA	+4	30 - 90	10	15	8		-99	278LF
DCMO92200-12	925 - 2000	0.5 - 18	+12 @ 35 mA	+5	50 - 100	15	4	4		-101	278LF
DCMO100230-5	1000 - 2300	0.5 - 24	+5 @ 35 mA	+3	50 - 100	10	3	2		-98	278LF
DCMO100230-12	1000 - 2300	0.5 - 24	+12 @ 33 mA	+3	50 - 100	10	3	2		-101	278LF
DCMO110250-5	1100 - 2500	0.5 - 28	+5 @ 25 mA	+6	30 - 90	18	5	5		-100	278LF
DCMO110250-8	1100 - 2500	0.5 - 28	+8 @ 30 mA	+4	30 - 90	15	5	5		-102	278LF
DCMO130275-5	1300 - 2750	0.5 - 24	+5 @ 20 mA	+3	20 - 150	10	4	4		-93	278LF
DCMO135270-8	1350 - 2700	0.5 - 20	+8 @ 36 mA	+4	45 - 150	15	8	5		-93	278LF
DCMO150318-10	1500 - 3100	0.5 - 22	+10 @ 32 mA	+7	45 - 120	10	12	5		-96	278LF
DCMO150318-5	1500 - 3200	0.5 - 20	+5 @ 24 mA	+7	40 - 160	10	10	5		-93	278LF
DCMO150320-5	1500 - 3200	0.5 - 18	+5 @ 33 mA	0	100 - 225	12	12	2		-92	278LF
DCMO170340-3	1700 - 3400	0.5 - 20	+3.5 @ 18 mA	0	30 - 180	15	12	8		-85	278LF
DCMO170345-5	1700 - 3450	0.5 - 16	+5 @ 43 mA	+4	120 - 200	15	14	12		-88	278LF
DCMO172332-5	1720 - 3320	0.5 - 24	+5 @ 22 mA	+5	20 - 150	18	5	5		-94	278LF
DCMO190410-5	1900 - 4100	0.5 - 18	+5 @ 50 mA	+2	60 - 250	15	4	4		-90	278LF
DCMO200430-5	2000 - 4300	0.5 - 17	+5 @ 50 mA	+3	60 - 260	10	10	5		-89	278LF
DCMO250512-5	2500 - 5125	0.5 - 14	+5 @ 51 mA	-3	130 - 375	15	14	7		-76	278LF

FEATURES

- » Less Than Octave Bandwidth
- » High Immunity To Phase Hits
- » Superb Phase Noise
- » Very Low Post Thermal Drift
- » Rel-Pro® (Patent Pending) Technology

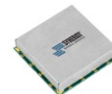


OPTIMIZED BAND OSCILLATORS (0.5" X 0.5")

Model #	Frequency (MHz)	Tuning Voltage (VDC)	DC Bias VDC @ I (Typ)	Minimum Output Power (dBm)	Typical Tuning Sensitivity (MHz/V)	Typical Harmonic Suppression (dB)	Typical Frequency Pulling (MHz)	Typical Frequency Pushing (MHz/V)	Typical Phase Noise @ 10 kHz (dBc/Hz)	Package
MFC1223-12	120 - 230	0.5 - 24	+12 @ 22 mA	+2	2 - 12	10	3	2	-115	278LF
DCRO1317-5	136 - 174	0.5 - 4.5	+5 @ 22 mA	+8.5	13	15	0.8	0.5	-121	278LF
MFC1926-12	190 - 260	0.5 - 12	+12 @ 14 mA	+2	6 - 14	10	3	2	-114	278LF
MFC1921-5	195 - 210	0.5 - 10	+5 @ 14 mA	+3	2 - 3	20	1	0.5	-120	278LF
DCRO2024-5	200 - 239	0.5 - 4.5	+5 @ 23 mA	+7	5 - 13	15	0.8	0.6	-120	278LF
MFC2931-5	290 - 310	0.5 - 10	+5 @ 15 mA	+4	3 - 5	25	5	2	-121	278LF
MFC2941-12	290 - 410	0.5 - 24	+12 @ 18 mA	+1	3 - 7	10	2	2	-110	278LF
DCRO3845-5	380 - 445	0.5 - 4.5	+5 @ 27 mA	-3	13 - 21	10	0.3	0.8	-120	278LF
DCRO3946-5	386 - 456	0.5 - 4.5	+5 @ 27 mA	-2	14 - 22	10	0.05	0.1	-120	278LF

FEATURES

- » Less Than Octave Bandwidth
- » High Immunity To Phase Hits
- » Superb Phase Noise
- » Very Low Post Thermal Drift
- » Small Size Surface Mount
- » Rel-Pro® (Patent Pending) Technology



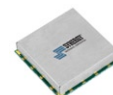
OPTIMIZED BAND OSCILLATORS (0.5" X 0.5")

278LF

Model #	Frequency (MHz)	Tuning Voltage (VDC)	DC Bias VDC @ I (Typ)	Minimum Output Power (dBm)	Typical Tuning Sensitivity (MHz/V)	Typical Harmonic Suppression (dB)	Typical Frequency Pulling (MHz/V)	Typical Frequency Pushing (MHz/V)	Typical Phase Noise @ 10 kHz (dBc/Hz)	Package
MFC4151-12	410 - 510	0.5 - 15	+12 @ 17 mA	+2	6 - 12	15	2	2	-112	278LF
MFC4248-8	425 - 480	0.5 - 15	+8 @ 16 mA	+5	6 - 8	18	5	5	-115	278LF
DCRO4450-5	445 - 510	0.5 - 5	+5 @ 26 mA	-5	16 - 21	20	0.2	1	-118	278LF
DCRO4552-5	450 - 520	0.5 - 4.5	+5 @ 26 mA	-2	14 - 22	20	0.05	0.1	-118	278LF
MFC5360-5	535 - 600	0.5 - 5	+5 @ 13 mA	+3.5	15 - 25	18	3	2	-108	278LF
MFC6170-5	610 - 700	0.5 - 5	+5 @ 13 mA	+4	17 - 30	15	1	0.5	-113	278LF
DCRO6569-5	650 - 690	0.5 - 20	+5 @ 22 mA	+8	2 - 4	11	0.5	0.25	-124	278LF
MFC7995-5	790 - 950	0.5 - 15	+5 @ 20 mA	+4	15 - 22	15	3	1	-110	278LF
DCRO80100-12	800 - 1000	0.5 - 24	+12 @ 27 mA	+8	4 - 14	10	3	0.2	-119	278LF
MFC8192-5	810 - 920	0.5 - 5	+5 @ 20 mA	+3	28 - 40	15	5	2	-106	278LF
DCRO8589-5	820 - 900	0.5 - 5	+5 @ 26 mA	+3.5	20 - 35	12	3	1	-111	278LF
MFC91190-10	910 - 1190	0.5 - 20	+10 @ 24 mA	+2	13 - 26	15	4	3	-114	278LF
DCRO92103-5	920 - 1030	0.5 - 10	+5 @ 15 mA	+2	10 - 25	20	4	3	-112	278LF
MFC96103-5	960 - 1030	0.5 - 8	+5 @ 15 mA	+3	8 - 28	20	4	3	-112	278LF
MFC102110-5	1020 - 1100	0.5 - 5	+5 @ 27 mA	+3	23 - 30	25	4	5	-106	278LF
MFC114133-5	1140 - 1330	0.5 - 10	+5 @ 13 mA	+3	20 - 30	20	3	1	-105	278LF
DCRO123127-10	1230 - 1270	0.5 - 8	+10 @ 16 mA	+1	9 - 12	10	5	2	-116	278LF
DCRO125178-8	1250 - 1750	0.5 - 18	+8 @ 22 mA	+2	20 - 60	15	7	5	-105	278LF
DCRO127175-5	1270 - 1750	0.5 - 18	+5 @ 28 mA	+4	20 - 40	12	5	5	-107	278LF
DCRO128132-8	1280 - 1320	0.5 - 10	+8 @ 16 mA	+2	6 - 8	32	5	2	-115	278LF
DCRO128177-9	1280 - 1775	0.5 - 24	+9 @ 20 mA	+3	12 - 42	17	7	5	-106	278LF
DCRO128177-12	1280 - 1775	0.5 - 24	+12 @ 33 mA	+3	12 - 38	15	7	5	-112	278LF
DCRO133166-9	1330 - 1660	0.5 - 13	+9 @ 22 mA	+3	13 - 43	17	7	5	-106	278LF
MFC138165-5	1380 - 1650	0.5 - 24	+5 @ 15 mA	+3	7 - 20	10	5	2	-102	278LF
DCRO150165-8	1450 - 1650	0.5 - 10	+8 @ 22 mA	+2	20 - 44	20	5	5	-109	278LF
DCRO143177-8	1450 - 1770	2 - 13	+8 @ 30 mA	+1	25 - 50	20	4	4	-80	278LF
DCRO150154-8	1500 - 1540	1 - 10	+8 @ 40 mA	+4	3 - 11	20	5	2	-118	278LF
DCRO150200-5	1505 - 2000	0.5 - 18	+5 @ 25 mA	+3.5	25 - 45	18	6	6	-104	278LF
DCRO153185-10	1530 - 1850	0.5 - 15	+10 @ 29 mA	+5	23 - 45	18	5	2	-107	278LF
DCRO159161-12	1575 - 1610	0.5 - 12	+12 @ 33 mA	+2	5 - 7	27	1	1	-117	278LF
DCRO158160-8	1580 - 1600	1 - 7.5	+8 @ 40 mA	+4	5 - 8	17	3	2	-118	278LF
DCRO160260-5	1600 - 2600	0.5 - 15	+5 @ 23 mA	+3	50 - 125	15	3	1	-95	278LF
DCRO168172-8	1680 - 1720	0.5 - 10	+8 @ 38 mA	+1	8	32	3	2	-116	278LF
MFC170195-5	1700 - 1950	0.5 - 10	+5 @ 26 mA	+2	25 - 37	30	3	1	-109	278LF
DCRO172174-12	1710 - 1750	0.5 - 15	+12 @ 32 mA	+3.5	3 - 6	32	3	1	-118	278LF
DCRO175290-5	1750 - 2900	0.5 - 20	+5 @ 19 mA	+4	25 - 120	20	5	4	-95	278LF
MFC176185-5	1765 - 1850	0.5 - 5	+5 @ 26 mA	+3	28 - 32	30	5	4	-110	278LF
DCRO178205-10	1785 - 2050	0.5 - 12	+10 @ 30 mA	+4	25 - 40	20	4	4	-109	278LF
DCRO191235-10	1910 - 2350	0.5 - 15	+10 @ 29 mA	+2	25 - 45	23	5	1	-103	278LF
DCRO196265-10	1960 - 2650	0.5 - 24	+10 @ 29 mA	+3	17 - 50	23	5	1	-106	278LF
DCRO196225-5	1965 - 2250	0.5 - 24	+5 @ 17 mA	+2	10 - 25	20	3	1	-107	278LF
DCRO200210-10	2000 - 2100	1 - 5	+10 @ 40 mA	+3	33 - 43	12	5	2	-107	278LF
DCRO204235-8	2040 - 2350	0.5 - 24	+8 @ 21 mA	+3	12 - 25	10	2	2	-109	278LF
DCRO205215A-10	2050 - 2150	0.5 - 10	+10 @ 50 mA	+5	20 - 30	-25	5	3	-109	278LF
DCRO205242-10	2050 - 2420	0.5 - 15	+10 @ 33 mA	+1	30 - 45	20	4	4	-108	278LF
DCRO206209-8	2065 - 2095	0.5 - 8	+8 @ 24 mA	+1	15 - 30	25	2	2	-115	278LF
DCRO21217-5	2110 - 2170	0.5 - 4.5	+5 @ 25 mA	-1	30 - 50	30	3	0.5	-105	278LF
DCRO215265-10	2150 - 2650	0.5 - 15	+10 @ 27 mA	+3	32 - 64	18	3	3	-104	278LF
DCRO219250-8	2190 - 2500	0.5 - 24	+8 @ 21 mA	+2	10 - 25	18	2	2	-106	278LF
DCRO230253-10	2300 - 2530	0.5 - 12	+10 @ 33 mA	+5	25 - 35	15	8	5	-104	278LF
DCRO243298-5	2430 - 2980	0.5 - 15	+5 @ 22 mA	+3	25 - 62	10	5	10	-101	278LF
DCRO250300-10	2500 - 3000	0.5 - 24	+10 to +12 @ 29 mA	+3	10 - 37	20	5	5	-107	278LF
DCRO250360-5	2500 - 3600	0.5 - 10.5	+5 @ 45 mA	+2	140 - 350	10	2	2	-110	278LF
DCRO267269-5	2670 - 2690	1 - 4	+5 @ 35 mA	+3	15 - 25	20	3	0.7	-105	278LF
DCRO270400-8	2700 - 4000	0.5 - 18	+8 @ 35 mA	0	10 - 15	5	5	5	-93	278LF
DCRO270420-8	2700 - 4200	0.5 - 24	+8 @ 28 mA	0	30 - 100	15	5	5	-92	278LF
DCRO273290-10	2730 - 2900	0.5 - 15	+10 @ 26 mA	+5	15 - 25	30	1.5	1.5	-108	278LF
DCRO275285-5	2750 - 2850	0.5 - 4.5	+5 @ 35 mA	+4	24 - 52	15	1	1	-110	278LF
DCRO285345-5	2850 - 3450	0.5 - 24	+5 @ 17 mA	+5	16 - 45	15	5	7	-98	278LF
DCRO300330-5	3000 - 3270	1 - 10	+5 @ 22 mA	+3	30 - 80	15	10	10	-100	278LF
DCRO307331-10	3075 - 3310	0.5 - 20	+10 @ 34 mA	+3	15 - 27	20	12	2	-100	278LF
DCRO310430-5	3100 - 4300	0.5 - 10	+5 @ 44 mA	+2	100 - 300	20	12	7	-80	278LF
DCRO330500-5	3300 - 5000	0.5 - 20	+5 @ 50 mA	+3	55 - 140	20	14	5	-87	278LF

FEATURES

- » Less Than Octave Bandwidth
- » High Immunity To Phase Hits
- » Superb Phase Noise
- » Very Low Post Thermal Drift
- » Small Size Surface Mount
- » Rel-Pro® (Patent Pending) Technology



OPTIMIZED BAND OSCILLATORS (0.5" X 0.5")

278LF

Model #	Frequency (MHz)	Tuning Voltage (VDC)	DC Bias VDC @ I (Typ)	Minimum Output Power (dBm)	Typical Tuning Sensitivity (MHz/V)	Typical Harmonic Suppression (dB)	Typical Frequency Pulling (MHz)	Typical Frequency Pushing (MHz/V)	Typical Phase Noise @ 10 kHz (dBc/Hz)	Package
DCRO335395-10	3350 - 3950	0.5 - 24	+10 @ 34 mA	+3	14 - 42	28	8	3	-101	278LF
DCRO354374-10	3540 - 3740	0.5 - 15	+10 @ 27 mA	+3	18 - 28	22	8	5	-102	278LF
DCRO360382-8	3600 - 3820	0.5 - 24	+8 @ 27 mA	+2	10 - 25	20	8	3	-102	278LF
DCRO360440-8	3600 - 4400	0.5 - 14	+8 @ 50 mA	+2	75 - 125	20	4	4	-60	278LF
DCRO390670-5	3900 - 6700	0.5 - 20	+5 @ 47 mA	-3	60 - 265	18	20	10	-80	278LF
DCRO403432-8	4030 - 4350	0.5 - 16	+8 @ 38 mA	+3	10 - 35	15	1	5	-103	278LF
DCRO425514-10	4255 - 5145	0.5 - 25	+10 @ 50 mA	+2	30 - 60	25	10	5	-95	278LF
DCRO440520-5	4400 - 5200	0.5 - 24	+5 @ 38 mA	0	50 - 80	30	5	2	-90	278LF
DCRO446461-5	4460 - 4610	0.5 - 5	+5 @ 29 mA	0	45 - 65	10	8	8	-91	278LF
DCRO490575-5	4900 - 5750	0.5 - 24	+5 @ 42 mA	+2	25 - 60	15	5	5	-88	278LF
DCRO495545-8	4950 - 5450	0.5 - 15	+8 @ 40 mA	+5	15 - 60	20	3	2	-88	278LF
DCRO500630-5	5000 - 6300	0.5 - 18	+5 @ 45 mA	-2	50 - 175	10	15	15	-77	278LF
DCRO550600-8	5500 - 6000	0.5 - 10	+8 @ 35 mA	+2	20 - 170	30	20	10	-85	278LF
DCRO640675-8	6400 - 6750	0.5 - 11	+8 @ 25 mA	0	42 - 52	20	20	10	-85	278LF

FEATURES

- » Exceptional Phase Noise
- » Excellent Tuning Linearity
- » Optimized Bandwidth
- » Rel-Pro® (Patent Pending) Technology



MINIATURE OSCILLATORS (0.3" X 0.3")

343

Model #	Frequency (MHz)	Tuning Voltage (VDC)	DC Bias VDC @ I (Typ)	Minimum Output Power (dBm)	Typical Tuning Sensitivity (MHz/V)	Typical Harmonic Suppression (dB)	Typical Frequency Pulling (MHz)	Typical Frequency Pushing (MHz/V)	Typical Phase Noise @ 10 kHz (dBc/Hz)	Package
DCO1198-8	1198.4 - 1198.7	0.5 - 7.5	+8 @ 30 mA	+8	5 - 7	12	2	1	-116	343
DCO170340-5	1700 - 3400	0.5 - 24	+5 @ 24 mA	+3.5	40 - 160	18	15	8	-90	343
DCO432493-5	4325 - 4950	0.5 - 11	+5 @ 17 mA	0	50 - 110	25	10	8	-88	343
DCO473542-5	4730 - 5420	0.5 - 22	+5 @ 20 mA	0	25 - 50	20	8	5	-88	343
DCO490517-5	4900 - 5175	0.5 - 5	+5 @ 22 mA	-1	60 - 125	25	10	10	-88	343
DCO495550-5	4950 - 5500	0.5 - 12	+5 @ 22 mA	-1	50 - 110	25	10	10	-87	343
DCO608634-5	6080 - 6340	0.5 - 5	+5 @ 22 mA	-3	90 - 100	28	12	12	-86	343
DCO615712-5	6150 - 7120	0.5 - 18	+5 @ 22 mA	-5	50 - 110	25	12	12	-85	343
DXO810900-5	8100 - 8800	0.5 - 16	+5 @ 22 mA	-4	35 - 85	15	15	10	-82	343
DXO900965-5	9000 - 9650	0.5 - 16	+5 @ 22 mA	-3	30 - 105	12	15	10	-80	343

FEATURES

- » Exceptionally Low Phase Noise
- » Fast Warm-up Time
- » Low Power Consumption
- » Tight Frequency Stability
- » Excellent Long-Term Stability
- » EI. Frequency Tuning Input
- » Reference Voltage Output
- » Small SMD package



OVEN CONTROLLED CRYSTAL OSCILLATORS

348

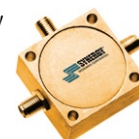
349

Model #	Frequency (MHz)	Tuning Voltage (VDC)	DC Bias VDC @ I (Typ) ♦	Minimum Output Power (dBm)	Typical Tuning Range (ppm)	Frequency Stability (ppm)	Typical Phase Noise (dBc/Hz)			Package
							@10 Hz	@100 Hz	@1000 Hz	
OXO10-1-348	10	0 - 5	+12 @ 200 mA	+5.5	±1.0	≤5x10 ⁻⁹	-130	-150	-160	348
OXO10-1-349	10	0 - 5	+12 @ 200 mA	+3.0	±1.0	≤7x10 ⁻⁹	-130	-150	-155	349
OXO100-1-349	100	0 - 10	+12 @ 150 mA	+7.0	±1.5	≤5x10 ⁻⁸	-100	-130	-153	349
OXO120-1-349	120	0 - 10	+12 @ 150 mA	+7.0	±2.0	≤2x10 ⁻⁷	-90	-125	-150	349

♦ Steady state at 25 °C

All Surface Mount Oscillators Are Also Available In Connectorized Packaging!

Add prefix "K" to the surface mount model when requesting quote and ordering connectorized models.
Ex: KDCMO100230-5



FEATURES

- » Exceptional Phase Noise
- » Interactive Communication
- » Standard Programming Interface
- » Power Supply Options
- » Wide Bandwidth
- » Small Size Surface Mount
- » Lead Free - RoHS Compliant
- » Rel-Pro® (Patent Pending) Technology



SYNTHESIZER (COMPACT SIZE)

197LF

273LF

Model #	Frequency (MHz)	Step Size (KHz)	Minimum Output Power (dBm)	Typical Phase Noise (dBc/Hz)		Package
				@10 kHz	@100 kHz	
FSW511-50	50 - 115	500	+6	-112	-127	273LF
FSW1125-10	110 - 250	100	+5	-104	-132	273LF
FSW1125-50	110 - 250	500	+5	-105	-130	273LF
FSW1545-50	150 - 450	500	0	-102	-120	273LF
FSW1857-100	180 - 570	1000	+3	-98	-120	273LF
FSW2476-10	240 - 760	100	0	-98	-124	273LF
FSW2476-50	240 - 760	500	0	-93	-120	273LF
FSW40110-50	400 - 1100	500	0	-95	-122	273LF
FSW50120-50	500 - 1200	500	0	-97	-118	273LF
FSW60135-50	600 - 1350	500	+1	-92	-118	273LF
FSW60170-50	600 - 1700	500	0	-90	-117	273LF
FSW80150-10	800 - 1500	100	+5	-92	-118	273LF
FSW80210-50	800 - 2100	500	+5	-90	-113	273LF
FSW85150-50	850 - 1500	500	+4	-93	-120	273LF
FSH9496-20	940 - 970	200	+5	-109	-134	273LF
FSW100230-50	1000 - 2300	500	+4	-92	-115	273LF
FSH127171-50	1270 - 1710	500	+1	-95	-122	273LF
FSW150320-10	1500 - 3200	100	+3	-79	-108	273LF
FSW150320-50	1500 - 3200	500	+1	-86	-112	273LF
FSW170280-50	1700 - 2800	500	+3	-85	-112	273LF
FSW190410-50	1900 - 4100	500	-3	-82	-107	273LF
FSW190410-100	1900 - 4100	1000	0	-85	-110	273LF
FSW200400-100	2000 - 4000	1000	0	-85	-110	273LF
FSW216265-50	2160 - 2650	500	+2	-92	-122	273LF
FSH250300-100	2500 - 3000	1000	+4	-92	-122	197LF
FSH250300-1M	2500 - 3000	10000	+8	-98	-122	197LF
FSW300600-100	3000 - 6000	1000	-2	-80	-100	273LF
FSH310410-1M	3100 - 4100	10000	+5	-90	-96	273LF

All Surface Mount Synthesizers Are Also Available In Connectorized Packaging!

*Add prefix "K" to the surface mount model when requesting quote and ordering connectorized models.
Ex: KFSW511-50*



FEATURES

- » Exceptional Phase Noise
- » Interactive Communication
- » Standard Programming Interface
- » Power Supply Options
- » Wide Bandwidth
- » Small Size Surface Mount
- » Buffered Output
- » Rel-Pro® (Patent Pending) Technology



SYNTHESIZER (SINGLE SUPPLY)

197LF

273LF

280LF

Model #	Frequency (MHz)	Step Size (KHz)	Minimum Output Power (dBm)	Typical Phase Noise (dBc/Hz)		Package
				@10 kHz	@100 kHz	
LFSW514-50	50 - 140	500	+7	-115	-127	197LF
LFSW1545-50	150 - 450	500	+7	-98	-120	197LF
LFSW2476-10	240 - 760	100	+6	-97	-124	197LF
LFSW35105-20	350 - 1050	200	+8	-95	-130	280LF
LFSW35105-50	350 - 1050	500	+10	-108	-130	280LF
LFSW35105-100	350 - 1050	1000	+10	-102	-132	280LF
LFSH4055-10	408 - 552	100	+6	-99	-108	197LF
LFSW50120-50	500 - 1200	500	+7	-97	-118	273LF
LFSW60170-10	600 - 1700	100	+4	-93	-120	197LF
LFSW60170-50	600 - 1700	500	+7	-90	-117	197LF
LFSW80210-50	800 - 2100	500	+5	-93	-113	197LF
LFSW80210-100	800 - 2100	1000	+3	-95	-112	197LF
LFSW100230-50	1000 - 2300	500	+5	-93	-113	197LF
LFSW110250-50	1100 - 2500	500	+5	-92	-115	197LF
LFSW110250-100	1100 - 2500	1000	+5	-92	-115	197LF
LFSW120205-100	1200 - 2050	1000	+3	-96	-106	197LF
LFSW150320-25	1500 - 3200	250	+7	-85	-110	197LF
LFSW150320-50	1500 - 3200	500	+10	-85	-110	197LF
LFSW168236-100	1680 - 2360	1000	+5	-95	-120	197LF
LFSW170225-1M	1700 - 2250	10000	+7	-102	-123	197LF
LFSW190410-12	1900 - 4100	125	+7	-80	-105	197LF
LFSW190410-50	1900 - 4100	500	+7	-82	-107	197LF
LFSW190410-100	1900 - 4100	1000	+7	-85	-110	197LF
LFSH196225-50	1960 - 2250	500	+7	-100	-120	197LF
LFSW200400-100	2000 - 4000	1000	+7	-82	-107	197LF
LFSW290342-100	2900 - 3420	1000	+7	-87	-107	197LF
LFSW300600-20	3000 - 6000	200	+5	-73	-98	197LF
LFSW300600-100	3000 - 6000	1000	+5	-78	-100	197LF
LFSW397697-100	3970 - 6970	1000	+5	-80	-100	197LF
LFSW400460-1M	4000 - 4600	10000	+5	-90	-100	197LF

FEATURES

- » Exceptional Phase Noise
- » Small Size Surface Mount
- » Rel-Pro® (Patent Pending) Technology
- » No Programming Required
- » Applications: Phase Locked Oscillators For Converters



SYNTHESIZER (FIXED FREQUENCY)

197LF

273LF

Model #	Frequency (MHz)	Ref. Input Freq. (MHz)	Minimum Output Power (dBm)	Typical Phase Noise (dBc/Hz)		Package
				@10 kHz	@100 kHz	
FCPL840-10	840	10	+3	-101	-120	273LF
FCPH1280F	1280	10	+3	-110	-113	273LF
FCPH1950-13	1950	13	+1	-110	-130	273LF
FCPH3210-10	3210	10	+3	-105	-129	197LF
FCPH3710-10	3710	10	+2.5	-102	-129	197LF
FCPH4210-10	4210	10	0	-105	-128	197LF

All Surface Mount Synthesizers Are Also Available In Connectorized Packaging!

Add prefix "K" to the surface mount model when requesting quote and ordering connectorized models. Ex: KFSW511-50

FEATURES

- » Exceptional Phase Noise
- » Small Size Surface Mount
- » Lead Free - RoHS Compliant
- » Rel-Pro® (Patent Pending) Technology
- » Up To 16 selectable frequencies (see frequency table in spec. sheet)
- » Applications: Phase Locked Oscillators For Converters



SYNTHESIZER (PARALLEL ADDRESSABLE)

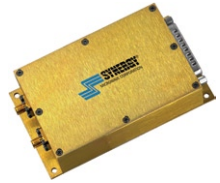
197LF

273LF

Model #	Frequency (MHz)	Ref. Input Freq. (MHz)	Minimum Output Power (dBm)	Typical Phase Noise (dBc/Hz)		Package
				@10 kHz	@100 kHz	
FCPL511-10	50 - 110	10	+6	-116	-125	273LF
FCPL-70	65 - 72	10	-1	-112	-131	273LF
FCPL610-10	65 - 102.5	10	-3	-110	-125	273LF
FCPL1114-5	112.5 - 140	10	+7	-115	-132	273LF
FCPL3239-10	320 - 390	10	-1	-108	-120	273LF
FCPL3644-26	360 - 440	26	+4	-100	-120	273LF
FCPL5460-10	540 - 605	10	+5	-108	-116	197LF
FCPL65120-10	650 - 1200	10	+7	-102	-116	273LF
FCPH90110-15	900 - 1100	15	+7	-93	-113	273LF
FCPH100120-15	1000 - 1200	15	+7	-93	-113	273LF
FCPH100125-10	1000 - 1250	10	+5	-100	-112	273LF
LFCPH100145-10	1000 - 1450	10	+7	-98	-114	197LF
FCPH110175-10	1100 - 1750	10	+7	-102	-113	273LF
LFCPH181254-10	1800 - 2540	10	+5	-90	-110	197LF
FCPH183187-10	1830 - 1870	10	-2	-98	-112	273LF
FCPH243250-100	2430 - 2505	100	-1	-97	-116	273LF
FCPH243290-10	2430 - 2900	10	+7	-90	-110	273LF
FCPH310410-10	3100 - 4100	10	+5	-92	-96	273LF

FEATURES

- » Over an octave bandwidth tuning
- » Small step size resolution
- » Outstanding spectral purity
- » High spurious rejection
- » Fast lock settling time
- » Easy programmable format
- » Rel-Pro® (Patent Pending) Technology



SYNTHESIZER (HIGH RESOLUTION)

344

354

Model #	Frequency (MHz)	Step Size	Minimum Output Power (dBm)	Typical Phase Noise (dBc/Hz)		Package
				@10 kHz	@100 kHz	
MTS2500-110250-10	1100 - 2500	>1 Hz	+9	-95	-110	344
KMTS2500-110250-10	1100 - 2500	>1 Hz	+9	-95	-110	354
MTS2500-200400-10	2000 - 4000	>1 Hz	+7	-87	-115	344
KMTS2500-200400-10	2000 - 4000	>1 Hz	+2	-87	-115	354
MTS2500-300600-10	3000 - 6000	>1 Hz	+2	-83	-108	344
KMTS2500-300600-10	3000 - 6000	>1 Hz	+2	-83	-108	354



FEATURES

- » Multi-Octave Bandwidth
- » Schottky Diode Mixers
- » Low Conversion Loss
- » Conventional & GALAXY Series Of SYNSTRIP® Multi-Layer Technology



110

133LF

133

159



134

310

332

WIDE BANDWIDTH MIXERS

Model #	Frequency (MHz)		Conversion Loss (dB) [Typ/Max]	LO/Rf Isolation (dB) [Typ/Min]	LO/IF Isolation [Typ/Min]	LO Power (dBm) [Nom]	Input IP3 (dBm)	Package
	LO/ RF	IF						
SMD-K1	0.5 - 500	DC - 500	5.5/8.5	55/20	55/20	+7	+13	134
SMD-C8RM	1 - 2500	1 - 2000	7.5/9.5	35/18	26/16	+10	+20	133LF
SMD6000	1 - 6000	DC - 700	8.5/10	25/15	18/12	+10	+15	133*
SRD-KA	5 - 500	DC - 500	6.5/8.5	70/25	65/20	+1	+7	134
SLD-K2	5 - 1000	DC - 1000	6.5/9.0	60/20	55/12	+7	+13	159*
SLD-K5	5 - 1000	5 - 1000	6.5/9.5	40/20	30/20	+10	+18	159*
SMD-K2	5 - 1000	DC - 1000	6.5/9.0	60/20	55/12	+7	+13	134
SMD-K5	5 - 1000	5 - 1000	6.5/9.5	40/20	30/20	+10	+18	134
SMD-K2B	5 - 2000	DC - 1000	7.0/9.5	65/28	55/23	+7	+13	134
SMD-3500L	10 - 3500	1 - 2000	8.0/9.0	40/25	28/18	+10	+19	133*
SMD-3500	10 - 3500	1 - 2000	7.8/8.7	35/25	30/20	+17	+28	133LF
SMD-5000	100 - 5000	DC-1500	7.5/10.5	40/20	35/15	+7	+13	133LF
CMK-3500L ♦	10 - 3500	1 - 2000	8.0/9.0	40/25	28/18	+10	+19	110
CMK-3500 ♦	10 - 3500	1 - 2000	7.8/8.7	35/25	30/20	+17	+28	110
CLK-5000 ♦	100 - 5000	DC-1500	7.5/10.5	40/20	35/15	+7	+13	110
SGM-2-13	250 - 3250	DC - 700	6.5/9.0	25/20	12/5	+13	+14	310
SGM-2-17	250 - 3250	DC - 700	6.5/9.0	30/20	10/5	+17	+18	310
SMD-5500	500 - 6000	50 - 2500	9.5/11.5	28/15	23/15	+13	+18	133LF
SMD-5500M	500 - 6000	50 - 2500	9.5/11.5	28/15	23/15	+18	+25	133LF
CMK-5500M	500 - 6000	50 - 2500	9.5/11.5	28/15	23/15	+18	+25	110
SRD-KB	800 - 1000	DC - 200	7.0/8.5	35/25	30/20	+1	+7	134
SGM-3-13	1350 - 7000	DC - 2000	7.0/9.5	25/10	20/8	+13	+20	310
SRD-KD	1500 - 2500	DC - 1000	6.0/10.0	27/20	15/8	+1	+7	134
SGS-5-10	3000 - 19000	DC - 4000	7.5/11.0	25/15	12/5	+10	+10	332
SGS-5-13	3000 - 19000	DC - 4000	7.5/11.0	25/15	12/5	+13	+12.5	332
KGS-5-10	3000 - 19000	DC - 4000	7.5/11.0	25/15	12/5	+10	+10	328
KGS-5-13	3000 - 19000	DC - 4000	7.5/11.0	25/15	12/5	+13	+12.5	328

* Add suffix - LF to the part number for RoHS compliant version.

♦ Add suffix letter for female connector style options - S = SMA, B = BNC, N = Type N

Unless noted, products are RoHS compliant

FEATURES

- » FET Technology
- » Very High IP³
- » 0.1 to 2400 MHz



SUPER HIGH IP3 FET MIXERS

285

Model #	Frequency (MHz)			Conversion Loss (dB) [Typ/Max]	RF/IF Isolation [Typ/Min]	Input IP3 (dBm) [Typ]	LO Power (dBm) [Nom]	Package
	LO	RF	IF					
SFM-2	62 - 94	0.1 - 32	30 - 96	6.5/8.5	30/20	+40	0	285
SFM-2A-1	89 - 116	19 - 41	70 - 96	6.5/8.5	30/20	+40	0	285
SFM-32	70 - 700	35 - 735	10 - 35	6.5/9.5	45/20	+37	+17	285
SFM-4	650 - 1000	700 - 1200	50 - 200	9/10	20/17	+38	+17	285
SFM-5	1100 - 2000	1200 - 2400	50 - 200	10/11.8	20/17	+38	+17	285
SFM-62	60 - 200	1800 - 2200	1840 - 2275	9.5/10	20/17	+38	+17	285

FEATURES

- » Excellent Performance
- » Wide Bandwidth
- » Moderate Power
- » Applications:
Signal Splitting & Low
Power Combining



2-WAY POWER DIVIDERS

			220	231	232	329	330	336
Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◊	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max] °	Package
SPD-C1	0.01 - 100	0.4/1.0	0.1/0.2	1.0/2.0	25/20	1.3:1	1	133*
DSK-701	0.01 - 100	0.5/1.0	0.1/0.2	1.0/2.0	25/20	1.3:1	1	110
SPD-C2	0.1 - 150	0.4/0.7	0.05/0.2	0.5/2.0	28/20	1.3:1	1	133*
DSK-7A2B	0.25 - 300	0.4/1.0	0.15/0.3	2.0/5.0	25/20	1.3:1	1	110
DSK-7E4	1 - 750	0.8/1.0	0.15/0.3	2.0/4.0	25/20	1.3:1	1	110
DSK-719S	1 - 3000	0.6/1.0	0.1/0.4	0.5/3.0	18/13	1.5:1	1	110
SD-1	2 - 300	0.8/1.0	0.3/0.5	1.0/5.0	25/20	1.2:1	1	134
DSK-7M2	2 - 350	0.4/0.8	0.08/0.2	0.2/2.0	32/26	1.18:1	1	110
SDL-100	2 - 1000	1.2/1.5	0.3/0.6	2.0/4.0	27/17	1.3:1	1	159*
SD-2	5 - 500	0.6/1.0	0.1/0.5	0.5/5.0	25/20	1.1:1	1	134
SD2200	5 - 2000	0.8/1.5	0.2/0.7	1.5/5.0	18/15	1.6:1	1	134LP
DSK-726S	5 - 2000	1.5/1.9	0.05/0.4	1.8/5.0	28/15	1.25:1	1	144
DSK-709	10 - 1000	0.6/0.8	0.1/0.25	1.0/3.0	30/25	1.3:1	1	110
SD-3	10 - 1000	1.0/1.5	0.25/0.7	1.2/7.0	25/17	1.4:1	1	134
SDL-3	10 - 1000	1.0/1.5	0.25/0.7	1.2/7.0	25/17	1.4:1	1	159*
SDL-6	20 - 2000	0.8/1.5	0.2/0.5	2.0/5.0	25/15	1.6:1	1	159*
SPD-C12	400 - 2700	1.0/1.5	0.4/0.5	4.0/6.0	25/20	1.5:1	1	133*
SDL-4	500 - 1500	1.0/1.4	0.4/0.7	4.0/7.0	20/13	1.5:1	1	159*
M2D810	800 - 1000	0.5/0.8	0.2/0.5	2.0/5.0	20/14	1.4:1	1	232
DSK-729S	800 - 2200	0.5/0.8	0.05/0.4	1.0/2.0	25/20	1.3:1	10	215
P2D100800	1000 - 8000	0.6/1.1	0.05/0.2	1.0/2.0	28/22	1.17	20	329
DSK100800	1000 - 8000	0.6/1.1	0.05/0.2	1.0/2.0	28/22	1.17	20	330
DHK-H1N	1700 - 2200	0.3/0.4	0.1/0.3	1.0/3.0	20/18	1.3:1	100	220
M2D1822	1800 - 2200	0.35/1.0	0.05/0.7	2.2/6.0	20/15	1.25:1	1	231
P2D180900L	1800 - 9000	0.4/0.8	0.05/0.2	1.0/2.0	27/23	1.17	20	336
DSK180900	1800 - 9000	0.4/0.8	0.05/0.2	1.0/2.0	27/23	1.17	20	330
M2D2025	2000 - 2550	0.40/1.0	0.03/0.7	0.3/6.0	20/15	1.4:1	1	231
M2D2428	2400 - 2800	0.5/1.0	0.1/0.5	1.5/5.0	20/15	1.3:1	1	231

* Add suffix - LF to the part number for RoHS compliant version.

◊ In excess of theoretical split loss of 3.0 dB

♦ Add suffix letter for female connector style options - S = SMA, B = BNC, N = Type N

■ 75 ohm Model

° With matched operating conditions

Unless noted, products are RoHS compliant



3-WAY POWER DIVIDERS

3-WAY POWER DIVIDERS						113	159	133M	316
Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◊	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max] °	Package	
DCK-7J2➤	1 - 500	0.7/1.2	0.2/0.4	1.0/3.0	27/18	1.3:1	1	113	
SDL-110	2 - 200	0.5/1.0	0.2/0.4	1.0/3.0	38/23	1.18:1	1	159*	
SDL-135	5 - 760	1.3/1.8	0.4/0.75	3.5/7.0	23/18	1.3:1	1	159*	
SPD-3-7	20 - 1200	1.5/1.8	0.25/0.5	1.5/5.0	23/15	1.4:1	1	159*	
DCK-3-7➤	20 - 1200	1.5/1.8	0.25/0.5	1.5/5.0	23/15	1.4:1	1	113	
SDL-115	720 - 800	1.0/1.4	0.3/0.7	2.0/5.0	18/15	1.5:1	1	159*	
SDL-137	850 - 950	1.0/1.4	0.3/0.7	2.0/5.0	17/13	1.5:1	1	159*	
SPD-C9	1700 - 2200	0.4/0.8	0.3/0.5	4.0/5.0	23/18	1.3:1	1	133M*	
S3D1723	1700 - 2300	0.2/0.35	0.3/0.6	2.0/3.0	22/16	1.3:1	5	316	

* Add suffix - LF to the part number for RoHS compliant version.

◊ In excess of theoretical split loss of 4.8 dB

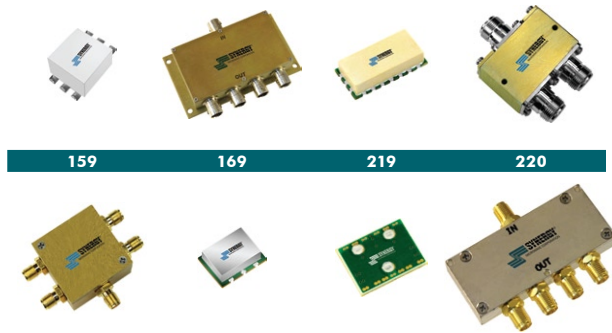
♦ Add suffix letter for female connector style options - S = SMA, B = BNC, N = Type N

° With matched operating conditions

Unless noted, products are RoHS compliant

FEATURES

- » Excellent Performance
- » Wide Bandwidth
- » Moderate Power
- » Applications:
Signal Splitting & Low
Power Combining



4-WAY POWER DIVIDERS

					247	233	312	355
Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◇	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max] □	Package
SDL-140	1 - 100	0.7/1.0	0.2/0.4	1.0/3.0	25/20	1.3:1	1	159*
DDK-702S	1 - 250	0.7/1.2	0.1/0.3	1.0/4.0	30/20	1.2:1	1	355
DSK-7E2B	1 - 200	0.7/1.2	0.1/0.3	2.0/5.0	25/20	1.3:1	1	169
SPD-5-1000	5 - 1000	0.65/1.0	0.1/0.5	2.0/5.0	25/20	1.25:1	1	219
DDK-1000S	5 - 1000	0.85/1.2	0.1/0.5	2.0/5.0	23/20	1.25:1	1	355
SPD-5-1500	5 - 1500	1.3/2.0	0.35/0.5	3.5/5.0	25/20	1.4:1	1	219
DSK-745S	5 - 2000	2.3/2.8	0.2/0.6	2.0/5.0	20/15	1.5:1	1	247
SDL-120	20 - 400	1.3/1.8	0.6/0.75	3.0/7.0	25/17	1.5:1	1	159*
DSK-H3N	800 - 2400	0.5/0.8	0.25/0.5	1.0/4.0	23/18	1.5:1	30	220
SPD-90-210	900 - 2100	0.9/1.25	0.2/0.5	3.0/6.0	20/15	1.3:1	1	219
M4D1626	1600 - 2600	0.5/1.2	0.4/0.7	3.0/7.0	22/12	1.3:1	1	312
M4D1720	1700 - 2000	0.5/0.8	0.2/0.5	2.3/7.0	22/16	1.4:1	1	233
M4D3236	3200 - 3600	0.3/1.0	0.1/0.5	2.0/6.0	20/15	1.2:1	1	312

* Add suffix - LF to the part number for RoHS compliant version.

◇ In excess of theoretical split loss of 6.0 dB

□ With matched operating conditions

Unless noted, products are RoHS compliant



5-WAY POWER DIVIDERS

							124S	157
Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◇	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max] □	Package
DES-901	0.5 - 30	0.7/1.0	0.1/0.3	0.25/4.0	25/20	1.5:1	1	124S*
DDK-701S	0.5 - 30	0.7/1.0	0.1/0.3	0.25/4.0	25/20	1.5:1	1	157
DES-902	1 - 300	1.5/2.0	0.5/0.6	2.5/8.0	25/17	1.6:1	1	124S*
DEK-7G2S	1 - 300	1.5/2.0	0.5/0.6	2.5/8.0	25/17	1.6:1	1	157

* Add suffix - LF to the part number for RoHS compliant version.

◇ In excess of theoretical split loss of 7.0 dB

□ With matched operating conditions

Unless noted, products are RoHS compliant



6-WAY POWER DIVIDERS

6-WAY POWER DIVIDERS						124SL	142	350
Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◇	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max] □	Package
DFS-9B1	1 - 100	0.5/0.9	0.05/0.3	0.8/2.0	30/25	1.2:1	1	124SL*
DFK-7B1S	1 - 100	0.5/0.9	0.05/0.3	0.8/2.0	30/25	1.2:1	1	142
DFK-704B	1 - 250	0.5/1.0	0.2/0.3	2.0/3.0	28/25	1.2:1	1	350
DFS-905	1 - 500	1.0/1.8	0.2/0.6	4.0/8.0	23/15	1.2:1	1	124SL*
DFK-705S	1 - 500	1.0/1.8	0.2/0.6	4.0/8.0	23/15	1.2:1	1	142

* Add suffix - LF to the part number for RoHS compliant version.

◇ In excess of theoretical split loss of 7.78 dB

□ With matched operating conditions

Unless noted, products are RoHS compliant

FEATURES

- » Excellent Performance
- » Wide Bandwidth
- » Moderate Power
- » Applications:
Signal Splitting & Low
Power Combining



8-WAY POWER DIVIDERS

8-WAY POWER DIVIDERS			112	124LF	124S	334	351	352
Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◇	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max] °	Package
DSS-914	0.01-30	0.6/1.1	0.1/0.3	1.0/4.0	35/23	1.3:1	1	124S*
DHK-714S	0.01-30	0.6/1.1	0.1/0.3	1.0/4.0	35/23	1.3:1	1	352
DSK-714B	0.01-30	0.7/1.0	0.1/0.3	1.0/4.0	35/23	1.3:1	1	112
DHK-701S	1-100	1.2/1.4	0.2/0.4	1.0/4.0	33/30	1.3:1	1	352
DHS-902	1-200	0.8/1.2	0.1/0.3	1.5/4.0	25/20	1.2:1	1	124LF
DHK-702S	1-200	0.8/1.2	0.1/0.3	1.5/4.0	25/20	1.2:1	1	352
DSK-773B■	5-200	0.7/1.2	0.1/0.3	3.0/6.0	25/20	1.3:1	1	352
DSS-585	5-1000	1.6/2.0	0.2/0.5	2.0/5.0	30/25	1.2:1	1	334
DHK-585S	5-1000	1.6/2.0	0.2/0.5	2.0/5.0	30/25	1.2:1	1	352
DHK1100◆	10-1000	1.3/1.8	0.3/0.6	3.0/6.0	23/18	1.2:1	0.5	351

* Add suffix - LF to the part number for RoHS compliant version.

◇ In excess of theoretical split loss of 9 dB

♦ Add suffix letter for female connector style options - S = SMA, N = Type N

■ 75 ohm Model

° With matched operating conditions

Unless noted, products are RoHS compliant



10-WAY POWER DIVIDERS

10-WAY POWER DIVIDERS						124	171	
Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◇	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max] °	Package
DXP-9A2	1 - 150	1.0/1.3	0.1/0.3	3.0/6.0	23/18	1.3:1	1	124
DHK-702B	5 - 200	1.2/1.5	0.4/0.8	4.0/8.0	25/20	1.3:1	1	171
DSK-714B■	5 - 200	1.2/1.6	0.4/0.8	4.0/8.0	25/18	1.3:1	1	171

◇ In excess of theoretical split loss of 10 dB

■ 75 ohm Model

° With matched operating conditions

Unless noted, products are RoHS compliant



12-WAY POWER DIVIDERS

12-WAY POWER DIVIDERS					124		143		172	
Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◇	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max] °	Package		
DLP-901	2 - 100	0.6/1.0	0.2/0.6	2.0/3.0	34/20	1.3:1	1	124		
DLK-712S	3 - 250	1.6/2.0	0.4/0.8	4.0/8.0	30/23	1.3:1	1	143		
DLK-702B	5 - 200	1.2/1.5	0.4/0.8	4.0/8.0	25/20	1.3:1	1	172		
DLK-772B■	5 - 200	1.2/1.6	0.4/0.8	4.0/8.0	25/18	1.3:1	1	172		
DLK-7L4S	850 - 1000	3.0/4.0	1.0/2.0	4.0/8.0	20/15	1.6:1	1	143		

◇ In excess of theoretical split loss of 10.8 dB

■ 75 ohm Model

° With matched operating conditions

Unless noted, products are RoHS compliant



16-WAY POWER DIVIDERS

16-WAY POWER DIVIDERS							353	
Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◇	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max] °	Package
DPK1100 ♦	10 - 1000	2.0/2.5	0.7/1.2	6.0/12	20/15	1.4:1	0.5	353

◇ In excess of theoretical split loss of 12 dB

♦ Add suffix letter for female connector style options - S = SMA, N = Type N

° With matched operating conditions

Unless noted, products are RoHS compliant

FEATURES

- » Excellent Performance
- » Ultra Wide Bandwidth
- » Building Block For:
 - Power Amplifier
 - Image Rejection Mixers
 - I & Q / SSB Modulators
 - Phase Shifters & More...



90° HYBRIDS 10% TO 3:1 BANDWIDTH

129

159

134

Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◇	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max]	Package
SMQ-C31	0.5 - 1	0.3/0.6	0.4/0.75	1.0/3.0	25/17	1.10:1	1	129*
SLQ-301	5.5 - 16.5	0.3/0.5	0.8/1.0	1.0/3.0	23/20	1.20:1	1	159*
SMQ-CB1	7 - 14	0.3/0.6	0.4/0.75	1.0/3.0	26/20	1.10:1	1	129*
SMQ-C08	7 - 21	0.3/0.7	0.6/1.0	1.5/4.0	25/18	1.18:1	1	129*
SMQ-C06	10 - 20	0.5/0.7	0.4/0.75	1.0/3.0	25/18	1.20:1	1	129*
SMQ-C51	10.2 - 11.2	0.1/0.5	0.5/0.8	1.0/3.0	35/20	1.10:1	1	129*
SLQ-51	10.2 - 11.2	0.1/0.5	0.5/0.8	1.0/3.0	28/20	1.10:1	1	159*
SMQ-C09	14 - 42	0.4/0.9	0.6/0.9	1.0/3.0	17/14	1.15:1	1	129*
SLQ-57	19 - 21	0.2/0.3	0.5/0.8	1.0/3.0	28/20	1.10:1	1	159*
SMQ-C01	20 - 40	0.3/0.6	0.3/0.75	1.0/3.0	28/20	1.15:1	1	129*
SLQ-K01	20 - 40	0.3/0.6	0.4/0.75	1.0/3.0	25/20	1.10:1	1	159*
SLQ-302	20 - 60	0.3/0.5	0.8/1.0	1.0/3.0	23/20	1.10:1	1	159*
SMQ-C52	20.3 - 22.5	0.2/0.3	0.5/0.8	1.0/3.0	28/20	1.10:1	1	129*
SLQ-52	20.3 - 22.5	0.2/0.3	0.5/0.8	1.0/3.0	28/20	1.10:1	1	159*
SLQ-KF1	25 - 50	0.3/0.6	0.4/0.75	1.0/3.0	25/20	1.20:1	1	159*
SMQ-C53	28.5 - 31.5	0.2/0.3	0.5/0.8	1.0/3.0	25/20	1.10:1	1	129*
SLQ-53	28.5 - 31.5	0.2/0.3	0.5/0.8	1.0/3.0	25/20	1.10:1	1	159*
SQ-53	28.5 - 31.5	0.2/0.3	0.5/0.8	1.0/3.0	25/20	1.10:1	1	134
SLQ-KH1	30 - 60	0.3/0.6	0.4/0.75	2.0/3.0	25/20	1.3:1	1	159*
SLQ-303	30 - 90	0.3/0.6	0.8/1.2	1.0/3.0	23/18	1.2:1	1	159*
SMQ-C58	38 - 42	0.2/0.3	0.5/0.8	1.0/3.0	25/20	1.10:1	1	129*
SLQ-58	38 - 42	0.2/0.3	0.5/0.8	1.0/3.0	28/20	1.10:1	1	159*
SMQ-C02	40 - 80	0.3/0.5	0.5/0.75	1.0/3.0	25/20	1.20:1	1	129*
SLQ-K02	40 - 80	0.3/0.6	0.4/0.75	1.0/3.0	25/20	1.2:1	1	159*
SLQ-305	40 - 120	0.3/0.8	0.6/1.2	2.0/4.0	23/17	1.30:1	1	159*
SMQ-C10	50 - 100	0.5/0.8	0.5/0.75	1.0/3.0	23/17	1.10:1	1	129*
SLQ-K20	50 - 100	0.5/0.8	0.5/0.75	1.0/3.0	23/17	1.10:1	1	159*
SMQ-C20	52 - 88	0.3/0.6	0.2/0.6	1.0/2.5	23/18	1.10:1	1	129*
SMQ-C23	55 - 90	0.3/0.7	0.3/0.9	0.5/3.0	30/17	1.20:1	1	129*
SLQ-54	57 - 63	0.2/0.5	0.5/0.8	1.0/3.0	27/20	1.10:1	1	159*
SMQ-C54	57 - 63	0.2/0.5	0.5/0.8	1.0/3.0	27/20	1.10:1	1	129*
SMQ-C22	60 - 80	0.2/0.6	0.1/0.6	2.0/3.0	27/17	1.10:1	1	129*
SLQ-KA2	60 - 120	0.4/0.75	0.5/1.0	1.0/3.0	25/20	1.30:1	1	159*
SLQ-56	66.5 - 73.5	0.2/0.5	0.5/0.8	0.5/3.0	30/20	1.10:1	1	159*
SMQ-C56	66.5 - 73.5	0.2/0.5	0.5/0.8	0.5/3.0	30/20	1.10:1	1	129*
SQ-56	66.5 - 73.5	0.2/0.5	0.5/0.8	0.5/3.0	30/20	1.10:1	1	134
SLQ-KA3	70 - 140	0.4/0.75	0.5/1.0	0.5/3.0	23/20	1.20:1	1	159*
SLQ-61	76 - 84	0.2/0.5	0.5/0.8	1.5/3.0	28/20	1.10:1	1	159*
SMQ-C61	76 - 84	0.2/0.5	0.5/0.8	1.5/3.0	28/20	1.10:1	1	129*
SMQ-C03	80 - 160	0.35/0.75	0.45/1.0	1.0/3.0	28/18	1.08:1	1	129*
SLQ-KA4	80 - 160	0.4/0.75	0.4/1.0	2.0/3.0	27/18	1.30:1	1	159*
SLQ-304	90 - 270	0.4/0.7	0.8/1.3	2.0/4.0	23/17	1.30:1	1	159*
SLQ-62	95 - 105	0.2/0.5	0.2/0.6	1.0/3.0	25/17	1.10:1	1	159*
SMQ-C62	95 - 105	0.2/0.5	0.2/0.6	1.0/3.0	25/17	1.10:1	1	129*
SQ-62	95 - 105	0.2/0.5	0.2/0.6	1.0/3.0	25/17	1.10:1	1	134
SMQ-C04	100 - 200	0.6/0.9	0.5/1.0	1.0/4.0	28/18	1.10:1	1	129*
SLQ-K04	100 - 200	0.4/0.75	0.5/1.0	1.0/3.0	25/18	1.30:1	1	159*
SMQ-C11	100 - 230	0.4/0.9	0.5/1.2	1.0/4.0	23/18	1.30:1	1	129*
SMQ-C21	104 - 176	0.3/0.7	0.2/0.6	1.0/2.5	30/20	1.10:1	1	129*
SLQ-66	114 - 126	0.2/0.3	0.5/0.8	1.0/3.0	25/17	1.10:1	1	159*
SLQ-310	115 - 345	0.4/0.8	0.8/1.4	2.0/4.0	20/15	1.30:1	1	159*
SLQ-63	133 - 147	0.2/0.3	0.5/0.8	1.0/3.0	23/17	1.10:1	1	159*
SMQ-C63	133 - 147	0.2/0.3	0.5/0.8	1.0/3.0	23/17	1.10:1	1	129*
SQ-63	133 - 147	0.2/0.3	0.5/0.8	1.0/3.0	23/17	1.10:1	1	134
SLQ-K05	150 - 300	0.4/0.75	0.5/1.0	2.0/4.0	25/18	1.10:1	1	159*
SMQ-C05	150 - 300	0.4/0.75	0.5/1.0	2.0/4.0	25/18	1.10:1	1	129*
SLQ-64	190 - 210	0.2/0.4	0.5/0.8	1.0/3.0	25/17	1.20:1	1	159*
SMQ-C64	190 - 210	0.2/0.4	0.5/0.8	1.0/3.0	25/17	1.20:1	1	129*
SQ-64	190 - 210	0.2/0.4	0.5/0.8	1.0/3.0	25/17	1.20:1	1	134

* Add suffix - LF to the part number for RoHS compliant version.

Unless noted, products are RoHS compliant.

◇ In excess of theoretical split loss of 3.0 dB

FEATURES

- » Excellent Performance
- » Ultra Wide Bandwidth
- » Building Block For:
 - Power Amplifier
 - Image Rejection Mixers
 - I & Q / SSB Modulators
 - Phase Shifters & More...



90° HYBRIDS 10% TO 3:1 BANDWIDTH

					129	159	134	226
Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◇	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max]	Package
SMQ-C07	200 - 400	0.6/1.0	0.6/1.2	1.5/4.0	25/18	1.30:1	1	129*
SLQ-K07	225 - 400	0.6/1.0	0.6/1.2	1.0/4.0	17/15	1.40:1	1	159*
SLQ-330	240 - 720	0.7/1.0	1.2/1.8	3.0/5.0	23/15	1.35:1	1	159*
SLQ-K08	250 - 500	0.6/1.0	0.6/1.2	2.0/4.0	25/15	1.30:1	1	159*
SLQ-65	285 - 315	0.2/0.4	0.5/0.8	2.0/3.0	20/15	1.25:1	1	159*
SMQ-C65	285 - 315	0.2/0.4	0.5/0.8	2.0/3.0	20/15	1.25:1	1	129*
SLQ-K09	300 - 600	0.6/1.0	0.6/1.2	2.0/4.0	25/15	1.30:1	1	159*
SMQ-C13	350 - 450	0.5/0.8	0.6/1.0	2.5/4.0	23/18	1.30:1	1	129*
SLQ-67	428 - 473	0.2/0.4	0.5/0.9	1.0/3.0	25/17	1.30:1	1	159*
SMQ-C67	428 - 473	0.2/0.4	0.4/0.9	0.5/3.0	25/17	1.20:1	1	129*
SQ-67	428 - 473	0.2/0.4	0.5/0.9	1.0/3.0	25/17	1.30:1	1	134
SMQ-C74	475 - 525	0.2/0.4	0.5/0.9	1.0/3.0	18/15	1.18:1	1	129*
SLQ-K10	500 - 1000	0.8/1.5	1.3/1.6	6.0/10	15/10	1.80:1	1	159*
SLQ-68	570 - 630	0.3/0.5	0.5/0.9	2.0/4.0	25/15	1.30:1	1	159*
SMQ-C68	570 - 630	0.3/0.5	0.45/0.7	2.0/3.0	28/20	1.18:1	1	129*
MSQ-8012	800 - 1200	0.2/0.3	0.2/0.4	2.0/3.0	22/18	1.20:1	50	226
SLQ-69	836 - 934	0.3/0.5	0.5/0.9	2.0/4.0	25/15	1.30:1	1	159*
SLQ-70	900 - 994	0.3/0.5	0.5/0.9	2.0/4.0	25/15	1.30:1	1	159*
SLQ-71	1420 - 1570	0.3/0.6	0.7/1.0	3.0/5.0	17/13	1.30:1	1	159*
SLQ-72	1496 - 1654	0.3/0.6	0.7/1.0	3.0/5.0	17/13	1.30:1	1	159*
SLQ-73	1748 - 1932	0.3/0.6	0.7/1.0	3.0/5.0	17/13	1.30:1	1	159*

* Add suffix - LF to the part number for RoHS compliant version.

Unless noted, products are RoHS compliant.

◇ In excess of theoretical split loss of 3.0 dB



90° HYBRIDS 10% TO 3:1 BANDWIDTH

								113
Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◇	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max]	Package
DQK-301♦	5.5 - 16.5	0.3/0.5	0.8/1.0	1.0/3.0	23/20	1.20:1	1	113
DQK-706♦	10 - 20	0.5/0.7	0.4/0.75	1.0/3.0	25/18	1.20:1	1	113
DQK-751♦	10.2 - 10.5	0.2/0.3	0.5/0.7	1.0/3.0	35/20	1.10:1	1	113
DQK-757♦	19 - 21	0.2/0.3	0.5/0.8	1.0/3.0	28/20	1.10:1	1	113
DQK-701♦	20 - 40	0.3/0.6	0.3/0.75	1.0/3.0	28/20	1.15:1	1	113
DQK-302♦	20 - 60	0.3/0.5	0.8/1.0	1.0/3.0	23/20	1.10:1	1	113
DQK-752♦	20.3 - 22.5	0.2/0.3	0.5/0.8	1.0/3.0	28/20	1.10:1	1	113
DQK-753♦	28.5 - 31.5	0.2/0.3	0.5/0.8	1.0/3.0	25/20	1.10:1	1	113
DQK-303♦	30 - 90	0.3/0.6	0.8/1.2	1.0/3.0	23/18	1.2:1	1	113
DQK-702♦	40 - 80	0.3/0.6	0.4/0.75	1.0/3.0	25/20	1.20:1	1	113
DQK-305♦	40 - 120	0.3/0.8	0.6/1.2	2.0/4.0	23/17	1.30:1	1	113
DQK-720♦	52 - 88	0.3/0.6	0.2/0.6	1.0/2.5	23/18	1.10:1	1	113
DQK-723♦	55 - 90	0.3/0.7	0.3/0.9	0.5/3.0	30/17	1.20:1	1	113
DQK-754♦	57 - 63	0.2/0.5	0.5/0.8	1.0/3.0	27/20	1.10:1	1	113
DQK-722♦	60 - 80	0.2/0.6	0.1/0.6	2.0/3.0	27/17	1.10:1	1	113
DQK-756♦	66.5 - 73.5	0.2/0.5	0.5/0.8	0.5/3.0	30/20	1.10:1	1	113
DQK-761♦	76 - 84	0.2/0.5	0.5/0.8	1.5/3.0	28/20	1.10:1	1	113
DQK-703♦	80 - 160	0.35/0.75	0.45/1.0	1.0/3.0	28/18	1.08:1	1	113
DQK-304♦	90 - 270	0.4/0.7	0.8/1.3	2.0/4.0	23/17	1.30:1	1	113
DQK-762♦	95 - 105	0.2/0.5	0.2/0.6	1.0/3.0	25/17	1.10:1	1	113
DQK-704♦	100 - 200	0.6/0.9	0.5/1.0	1.0/4.0	28/18	1.10:1	1	113
DQK-721♦	104 - 176	0.3/0.7	0.2/0.6	1.0/2.5	30/20	1.10:1	1	113
DQK-310♦	115 - 345	0.4/0.8	0.8/1.4	2.0/4.0	20/15	1.30:1	1	113
DQK-705♦	150 - 300	0.4/0.75	0.5/1.0	2.0/4.0	25/18	1.10:1	1	113
DQK-707♦	200 - 400	0.6/1.0	0.6/1.2	1.5/4.0	25/18	1.30:1	1	113
DQK-330♦	240 - 720	0.7/1.0	1.2/1.8	3.0/5.0	23/15	1.35:1	1	113

* Unless noted, products are RoHS compliant.

◇ In excess of theoretical split loss of 3.0 dB

♦ Add suffix letter for female connector style options - S = SMA, B = BNC, N = Type N

FEATURES

- » Excellent Performance
- » Ultra Wide Bandwidth
- » Building Block For:
 - Power Amplifier
 - Image Rejection Mixers
 - I & Q / SSB Modulators
 - Phase Shifters & More...



90° HYBRIDS 10% TO 3:1 BANDWIDTH

113

Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◇	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max]	Package
DQK-708♦	250 - 500	0.6/1.0	0.6/1.2	2.0/4.0	25/15	1.30:1	1	113
DQK-765♦	285 - 315	0.2/0.4	0.5/0.8	2.0/3.0	20/15	1.25:1	1	113
DQK-709♦	300 - 600	0.6/1.0	0.6/1.2	2.0/4.0	25/15	1.30:1	1	113
DQK-767♦	430 - 470	0.2/0.4	0.4/0.9	0.5/3.0	25/17	1.20:1	1	113
DQK-774♦	475 - 525	0.2/0.4	0.5/0.9	1.0/3.0	18/15	1.18:1	1	113
DQK-712♦	500 - 1000	0.8/1.5	1.3/1.6	6.0/10	15/10	1.80:1	1	113
DQK-768♦	570 - 630	0.3/0.5	0.5/0.9	2.0/4.0	25/15	1.30:1	1	113

* Unless noted, products are RoHS compliant.

◇ In excess of theoretical split loss of 3.0 dB

♦ Add suffix letter for female connector style options - S = SMA, B = BNC, N = Type N



90° HYBRIDS - WIDE BANDWIDTH

102S

301LF

325

Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◇	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max]	Package
DQS-3-32	3 - 32	1.0/1.5	0.9/1.2	2.0/3.0	25/20	1.30:1	1	102S*
DQS-5-50	5 - 50	1.0/1.5	0.9/1.2	2.0/3.0	25/20	1.30:1	1	102S*
DQS-10-50	10 - 50	0.8/1.0	0.5/0.9	1.5/3.0	30/20	1.30:1	1	102S*
DQS-10-100	10 - 100	1.0/1.5	0.9/1.2	2.0/3.0	25/20	1.30:1	1	102S*
DQS-15-150	15 - 150	1.2/1.7	0.9/1.2	2.5/4.0	25/17	1.30:1	1	102S*
DQS-20-100	20 - 100	0.6/1.0	0.5/0.8	1.5/3.0	27/20	1.20:1	1	102S*
DQS-20-200	20 - 200	1.3/1.8	0.9/1.2	2.5/4.0	25/17	1.30:1	1	102S*
DQS-25-250	25 - 250	1.5/2.0	0.9/1.2	2.5/4.0	25/17	1.30:1	1	102S*
DQS-30-90	30 - 90	0.3/0.6	0.8/1.2	1.0/3.0	23/18	1.35:1	25	102S*
DQS-3-11-10	30 - 110	0.5/0.8	0.6/0.9	1.0/3.0	30/20	1.30:1	10	102S*
DQS-30-150	30 - 150	0.8/1.0	0.5/0.9	1.5/3.0	30/20	1.30:1	1	102S*
DQS-30-300	30 - 300	1.5/2.0	1.0/1.4	3.0/5.0	25/16	1.30:1	1	102S*
DQS-30-450	30 - 450	1.2/1.7	1.0/1.5	4.0/6.0	23/18	1.40:1	5	102S*
DQS-40-200	40 - 200	0.9/1.0	0.5/1.0	2.0/4.0	30/18	1.30:1	1	102S*
DQS-40-400	40 - 400	1.7/2.2	1.0/1.5	3.0/5.0	25/16	1.30:1	1	102S*
DQS-45-450	45 - 450	1.7/2.2	1.0/1.4	3.0/5.0	25/15	1.30:1	1	102S*
DQS-50-250	50 - 250	0.9/1.0	0.5/1.0	2.0/4.0	30/18	1.30:1	1	102S*
DQS-50-500	50 - 500	1.7/2.2	1.0/1.5	3.0/5.0	23/15	1.3:1	1	102S*
DQS-90-450	90 - 450	1.2/1.5	0.7/1.0	3.0/5.0	22/16	1.5:1	1	102S*
DQS-100-500	100 - 500	1.2/1.5	0.8/1.25	3.0/5.0	25/16	1.4:1	1	102S*
DQS-100-1000	100 - 1000	1.7/2.3	1.2/1.8	6.0/10	25/16	1.5:1	1	301LF
DQS-118-174	118 - 174	0.3/0.6	0.4/1.0	1.0/3.0	23/18	1.35:1	25	102S*
MSQ80300	800 - 3000	0.2/0.4	0.5/0.8	2.0/5.0	20/18	1.3:1	40	325
MSQ100800	1000 - 8000	0.8/1.6	1.0/1.6	1.0/4.0	22/20	1.2:1	40	325

* Add suffix - LF to the part number for RoHS compliant version.

Unless noted, products are RoHS compliant.

◇ In excess of theoretical split loss of 3.0 dB

FEATURES

- » Excellent Performance
- » Ultra Wide Bandwidth
- » Building Block For:
 - Power Amplifier
 - Image Rejection Mixers
 - I & Q / SSB Modulators
 - Phase Shifters & More...



90° HYBRIDS - WIDE BANDWIDTH

113

150

326

Model #	Frequency (MHz)	Insertion Loss (dB) [Typ/Max] ◇	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	Isolation (dB) [Typ/Min]	VSWR (Typ)	Input Power (Watts) [Max]	Package
DQK-2-125B	2 - 250	1.8/2.0	1.1/1.3	4.0/6.0	18/15	1.40:1	1	150
DQK-2-16B	3 - 32	0.8/1.0	0.9/1.0	1.0/3.0	23/20	1.30:1	1	150
DQK-3-32S	3 - 32	1.0/1.5	0.9/1.2	2.0/3.0	25/20	1.30:1	1	113
DQK-5-50S	5 - 50	1.0/1.5	0.9/1.2	2.0/3.0	25/20	1.30:1	1	113
DQK-10-50S	10 - 50	0.8/1.0	0.5/0.9	1.5/3.0	30/20	1.30:1	1	113
DQK-10-100S	10 - 100	1.0/1.5	0.9/1.2	2.0/3.0	25/20	1.30:1	1	113
DQK-20-100S	20 - 100	0.6/1.0	0.5/0.8	1.5/3.0	27/20	1.20:1	1	113
DQK-20-200S	20 - 200	1.3/1.8	0.9/1.2	2.5/4.0	25/17	1.30:1	1	113
DQK-25-250S	25 - 250	1.5/2.0	0.9/1.2	2.5/4.0	25/17	1.30:1	1	113
DQK-30-150S	30 - 150	0.8/1.0	0.5/0.9	1.5/3.0	30/20	1.30:1	1	113
DQK-30-300S	30 - 300	1.5/2.0	1.0/1.4	3.0/5.0	25/16	1.30:1	1	113
DQK-45-450S	45 - 450	1.7/2.2	1.0/1.4	3.0/5.0	25/15	1.30:1	1	113
DQK-50-250S	50 - 250	0.9/1.0	0.5/1.0	2.0/4.0	30/18	1.30:1	1	113
DQK-50-500S	50 - 500	1.7/2.2	1.0/1.5	3.0/5.0	23/15	1.3:1	1	113
DQK-90-450S	90 - 450	1.2/1.5	0.7/1.0	3.0/5.0	22/16	1.5:1	1	113
DQK-100-500S	100 - 500	1.2/1.5	0.8/1.25	3.0/5.0	25/16	1.4:1	1	113
DQK-100-1000S	100 - 1000	1.7/2.3	1.2/1.8	6.0/10	25/16	1.5:1	1	113
DQK80300	800 - 3000	0.2/0.4	0.5/0.8	2.0/5.0	20/18	1.3:1	40	326
DQK100800	1000 - 8000	0.8/1.6	1.0/1.6	1.0/4.0	22/20	1.2:1	40	326

◇ In excess of theoretical split loss of 3.0 dB

Unless noted, products are RoHS compliant.

FEATURES

- » Low Loss
- » Small Size
- » High Rejection



LOW PASS FILTERS

102S

Model #	3 dB Cutoff (MHz)	Passband Loss < 1dB (MHz)	Stop Band Frequency (MHz)			Typical Passband VSWR (50 ohms)	Package
			>35 dB	>23 dB	>20 dB		
FLS-12	12	DC - 10.7	21	19	16	1.70 :1	102S*
FLS-24	24	DC - 21.4	42	37	32	1.70 :1	102S*
FLS-33	33	DC - 30	58	51	44	1.70 :1	102S*
FLS-55	55	DC - 50	96	85	74	1.70 :1	102S*
FLS-66	66	DC - 60	115	102	89	1.70 :1	102S*
FLS-77	77	DC - 70	135	120	103	1.70 :1	102S*
FLS-100	100	DC - 92	175	155	133	1.70 :1	102S*
FLS-154	154	DC - 140	270	235	208	1.70 :1	102S*
FLS-220	220	DC - 200	385	340	300	1.70 :1	102S*
FLS-330	330	DC - 300	575	510	445	1.70 :1	102S*
FLS-495	495	DC - 450	865	765	665	1.70 :1	102S*
FLS-570	570	DC - 520	995	880	765	1.70 :1	102S*
FLS-660	660	DC - 600	1160	1020	890	1.70 :1	102S*
FLS-770	770	DC - 700	1345	1185	1000	1.70 :1	102S*
FLS-825	825	DC - 750	1445	1360	1275	1.70 :1	102S*
FLS-850	850	DC - 780	1485	1315	1130	1.70 :1	102S*
FLS-965	965	DC - 875	1690	1595	1495	1.70 :1	102S*
FLS-1100	1100	DC - 1000	1925	1815	1700	1.70 :1	102S*

* Add suffix - LF to the part number for RoHS compliant version.

Unless noted, products are RoHS compliant.

NOTE: For other frequencies and impedances, please contact Synergy. All units meet or exceed applicable MIL-F-18327

FEATURES

- » Low Loss
- » Small Size
- » High Rejection



HIGH PASS FILTERS

102S

Model #	3 dB Cutoff (MHz)	Passband Loss < 1dB (MHz)	Stop Band Frequency (MHz)			Typical Passband VSWR (50 ohms)	Package
			>35 dB	>23 dB	>20 dB		
FHS-10	10	10.7 - 50	5	6	7	1.70 :1	102S*
FHS-20	20	21.4 - 100	10	13	15	1.70 :1	102S*
FHS-27	27	30 - 150	14	17	20	1.70 :1	102S*
FHS-45	45	50 - 250	23	29	34	1.70 :1	102S*
FHS-55	55	60 - 300	28	35	41	1.70 :1	102S*
FHS-64	64	70 - 300	32	40	48	1.70 :1	102S*
FHS-127	127	140 - 630	65	80	95	1.70 :1	102S*
FHS-182	182	200 - 850	90	110	135	1.70 :1	102S*
FHS-270	270	300 - 1200	135	170	200	1.70 :1	102S*
FHS-410	410	450 - 1400	205	255	305	1.70 :1	102S*
FHS-545	545	600 - 1600	225	320	410	1.70 :1	102S*
FHS-680	680	750 - 1900	340	425	510	1.70 :1	102S*
FHS-795	795	875 - 2000	400	500	600	1.70 :1	102S*



BAND PASS FILTERS

124S

Model #	Center (MHz)	Insertion Loss (Max)	Passband (MHz)	35 dB BW (MHz)	Typical Passband VSWR (50 ohms)	Package
FNS-10.7	10.7	1.7	10.2 - 11.2	5.1 - 22.5	1.5:1	124S*
FNS-21.4	21.4	1.7	20.3 - 22.5	10.2 - 45.0	1.5:1	124S*
FNS-30	30.0	1.7	28.5 - 31.5	14.3 - 63.0	1.5:1	124S*
FNS-45	45	1.7	42.8 - 47.3	21.3 - 94.5	1.5:1	124S*
FNS-50	50	1.7	47.5 - 52.5	23.8 - 105	1.5:1	124S*
FNS-60	60	1.7	57.0 - 63.0	28.4 - 126	1.5:1	124S*
FNS-70	70.0	1.7	66.5 - 73.5	33.3 - 147	1.5:1	124S*
FNS-100	100	2.7	95.0 - 105	47.5 - 210	1.5:1	124S*
FNS-120	120	2.7	114 - 126	57.0 - 252	1.5:1	124S*
FNS-140	140	2.7	133 - 147	66.5 - 294	1.5:1	124S*
FNS-160	160	2.7	152 - 168	76.0 - 336	1.5:1	124S*
FNS-180	180	2.7	171 - 189	85.5 - 378	1.5:1	124S*
FNS-200	200	2.7	190 - 210	95 - 420	1.5:1	124S*
FNS-250	250	3.0	238 - 262.5	119 - 525	1.5:1	124S*
FNS-300	300	3.0	285.7 - 315	142.8 - 630	1.5:1	124S*
FNS-350	350	3.0	333.3 - 367.5	166.7 - 735	1.5:1	124S*
FNS-400	400	3.0	380.9 - 420	190.5 - 840	1.5:1	124S*
FNS-450	450	3.0	428.6 - 472.5	214.3 - 945	1.5:1	124S*
FNS-500	500	3.0	476.2 - 525	238.1 - 1050	1.5:1	124S*



BAND PASS FILTERS

102S

Model #	Center (MHz)	Insertion Loss (Max)	1 dB Ripple BW (MHz)	20 dB BW (MHz)	40 dB BW (MHz)	Package
FIS-10.7	10.7	1.5	9.80 - 11.6	7.49 - 13.9	3.40 - 32.1	102S*
FIS-21.4	21.4	1.5	19.6 - 23.2	14.9 - 27.8	6.8 - 64.2	102S*
FIS-30	30.0	1.5	27.5 - 32.5	21.0 - 39.0	9.3 - 90.0	102S*
FIS-45	45.0	1.5	41.2 - 48.8	31.5 - 58.5	13.0 - 135	102S*
FIS-50	50.0	1.5	45.8 - 54.3	35.0 - 65.0	15.8 - 150	102S*
FIS-60	60.0	1.5	54.9 - 65.1	42.0 - 78.0	19.0 - 180	102S*
FIS-70	70.0	1.5	64.0 - 75.9	49.0 - 91.0	20.3 - 210	102S*
FIS-100	100	1.5	91.5 - 108.5	70.0 - 130	30.3 - 300	102S*
FIS-120	120	1.5	109.8 - 130.2	84.0 - 156	36.0 - 360	102S*
FIS-140	140	1.5	128.1 - 151.9	98.0 - 182	42.7 - 420	102S*

* Add suffix - LF to the part number for RoHS compliant version.

Unless noted, products are RoHS compliant.

NOTE: For other frequencies and impedances, please contact Synergy. All units meet or exceed applicable MIL-F-18327

FEATURES

- » Low Loss
- » Small Size
- » High Rejection



BAND PASS HIGH SUPPRESSION FILTERS

124S

Model #	Center (MHz)	Insertion Loss (Max)	1 dB Ripple BW (MHz)	20 dB BW (MHz)	40 dB BW (MHz)	Package
FBS-11	10.7	3.5	0.3	9.63 - 11.8	8.5 - 12.85	124S*
FBS-21	21.4	3.5	1.0	19.26 - 23.6	17 - 25.7	124S*
FBS-30	30	3.5	1.5	27 - 33	24 - 36	124S*
FBS-45	45	3.5	2.2	40 - 50	35 - 56	124S*
FBS-50	50	4.0	2.5	45 - 56	40 - 62	124S*
FBS-60	60	4.0	3.0	54 - 67	48 - 74	124S*
FBS-70	70	4.6	3.5	63 - 77	56 - 86	124S*
FBS-140	140	5.0	8.0	125 - 160	110 - 175	124S*
FBS-200	200	6.0	12.0	180 - 230	155 - 250	124S*

* Add suffix - LF to the part number for RoHS compliant version.

Unless noted, products are RoHS compliant.

NOTE: For other frequencies and impedances, please contact Synergy. All units meet or exceed applicable MIL-F-18327

FEATURES

- » Excellent Performance
- » Low VSWR
- » High Efficiency
- » Lead Free - RoHS Compliant



PHASE SHIFTERS

306

307

Model #	Frequency (MHz)	Phase Shift (Deg.) [Min]	Insertion Loss (dB) [Typ/Max]	Control Voltage (VDC)	Typical VSWR	Input Power (dBm) [Max]	Package
PS193199B	1930 - 1990	0 - 360	2.5/3.5	0 - 12	1.8:1	0	307
PS210220B	2100 - 2200	0 - 360	2.5/3.5	0 - 12	1.5:1	0	307
PS2122A	2100 - 2200	0 - 90	1.5/2.2	0 - 5	1.5:1	0	306
PS2122B	2100 - 2200	0 - 180	1.5/2.2	0 - 15	1.5:1	0	306

FEATURES

- » Wide Bandwidth
- » Low Loss
- » High Power (40 to 50 W)
- Conventional & SYNSTRIP® Technology
- » Applications: Signal Sampling & VSWR Bridges



110

110N

133

134



COUPLERS

152

255

321

322

Model #	Frequency (MHz)	Coupling (dB) [Nom]	Coupling Flatness (dB)	Mainline Loss (dB) [Typ/Max]	Directivity (dB) [Typ/Min]	Input Power (Watts) [Max] °	Package
KBK-703 ♦	1 - 500	11.25 ±0.5	±0.6	0.6/1.0	32/20	1	110
KBK-7C4 ♦	1 - 1000	11.0 ±0.5	±0.5	1.2/2.0	26/20	1	110
SDC5100D	5 - 1000	20 ±0.5	±0.5	0.45/0.95	30/18	1	133*
SC-4B	5 - 1000	10.7 ±0.5	±0.5	0.8/1.6	35/15	1	134
KBK-708S	10 - 2000	9.8 ±0.8	±1.0	2.4/3.0	22/13	1	110
SDC-C7	10 - 2000	9.8 ±0.8	±1.0	2.4/3.0	17/13	1	152*
KBS-10-225	225 - 400	10.5 ±1.0	±0.5	0.6/0.7	25/18	50	255*
KDS-20-225	225 - 400	20 ±1.0	±0.5	0.2/0.4	25/18	50	255*
KBK-10-225	225 - 400	10.5 ±1.0	±0.5	0.6/0.7	25/18	50	110N
KDK-20-225	225 - 400	20.0 ±1.0	±0.5	0.2/0.4	25/18	50	110N
SCS100800-10	1000 - 8000	10.5 ±1.5	±1.75	1.2/1.5	18/7	25	321
KBK100800-10	1000 - 8000	10.5 ±1.5	±1.75	1.2/1.5	18/7	25	322
SCS100800-20	1000 - 8000	20.5 ±1.5	±2.5	0.45/0.75	14/5	25	321
KDK100800-20	1000 - 8000	20.5 ±1.5	±2.5	0.45/0.75	18/5	25	322

* Add suffix - LF to the part number for RoHS compliant version.

♦ Add suffix letter for female connector style options - S = SMA, B = BNC, N = Type N

° With matched operating conditions

Unless noted, products are RoHS compliant

FEATURES

- » Good Impedance Matching
- » Low Loss
- » Small Size



TRANSFORMERS

134
156

Model #	Frequency (MHz)	Impedance Ratio	Center Tap		Bandwidth (MHz) for Insertion Loss			Package
			PRI	SEC	1 dB	2 dB	3 dB	
ST-K1	0.003 - 300	1:1	No	Yes	0.02 - 50	0.01 - 150	0.003 - 300	134
TW-2A2	0.003 - 300	1:1	No	Yes	0.02 - 50	0.01 - 150	0.003 - 300	156
TW-205	0.028 - 1000	1:1	No	No	0.055 - 450	0.035 - 900	0.028 - 1000	156
TW-207	0.04 - 140	1:1	No	Yes	0.100 - 55	0.05 - 100	0.04 - 140	156
TW-2Q2	0.05 - 200	1:1	No	Yes	0.2 - 80	0.08 - 150	0.05 - 200	156
TW-206	5 - 450	1:1	No	Yes	12 - 150	7 - 300	5 - 450	156
TW-204	9 - 1200	1:1	No	No	20 - 150	12 - 790	9 - 1200	156
ST-K2	0.075 - 400	1:1.5	No	No	0.370 - 185	0.120 - 300	0.075 - 400	134
TW-208	0.075 - 400	1:1.5	No	No	0.370 - 185	0.120 - 300	0.075 - 400	156
TW-211	0.0100 - 400	1:1.5	No	No	0.250 - 200	0.140 - 300	0.100 - 400	156
TW-209	0.480 - 175	1:1.5	No	Yes	2 - 54	0.135 - 120	0.480 - 175	156
TW-2A3	0.075 - 500	1:1.5	Yes	Yes	1 - 50	0.2 - 100	0.075 - 500	156
TW-2A4	0.050 - 600	1:2	No	No	0.5 - 200	0.1 - 400	0.050 - 600	156
TW-216	0.060 - 250	1:2	No	Yes	1.7 - 55	0.100 - 190	0.060 - 250	156
TW-215	0.100 - 275	1:2	No	No	1 - 85	0.200 - 195	0.100 - 275	156
ST-K3	0.650 - 525	1:2	No	No	-	2.2 - 400	0.650 - 525	134
TW-210	0.650 - 525	1:2	No	No	-	2.2 - 400	0.650 - 525	156
TW-2A1	0.01 - 100	1:2.5	No	Yes	0.50 - 20	0.02 - 50	0.01 - 100	156
ST-K4	0.070 - 300	1:2.5	No	Yes	0.780 - 175	0.140 - 225	0.070 - 300	134
TW-219	0.070 - 300	1:2.5	No	Yes	0.780 - 175	0.140 - 225	0.070 - 300	156
TW-217	0.230 - 495	1:2.5	No	No	4.8 - 175	0.400 - 425	0.230 - 495	156
TW-218	0.300 - 300	1:2.5	No	Yes	-	0.700 - 200	0.300 - 300	156
TW-220	0.080 - 340	1:3	No	Yes	0.550 - 150	0.160 - 295	0.080 - 340	156
ST-K5	0.270 - 500	1:3	No	No	3.6 - 160	0.490 - 430	0.270 - 500	134
TW-225	0.270 - 500	1:3	No	No	3.6 - 160	0.490 - 430	0.270 - 500	156
TW-2B2	0.50 - 250	1:3	No	Yes	0.5 - 70	0.1 - 200	0.05 - 250	156
TW-2C2	0.02 - 200	1:4	No	No	0.1 - 100	0.05 - 150	0.02 - 200	156
TW-227	0.115 - 200	1:4	No	No	12 - 50	0.240 - 155	0.115 - 200	156
ST-K6	0.2 - 350	1:4	No	Yes	2 - 100	0.35 - 300	0.2 - 350	134
TW-2C3	0.2 - 350	1:4	No	Yes	2 - 100	0.35 - 300	0.2 - 350	156
TW-226	0.245 - 425	1:4	No	Yes	5.5 - 215	0.475 - 350	0.245 - 425	156
ST-K7	0.3 - 300	1:5	No	Yes	0.5 - 100	0.6 - 200	0.3 - 300	134
TW-2E2	0.3 - 300	1:5	No	Yes	0.5 - 100	0.6 - 200	0.3 - 300	156
ST-K8	0.3 - 200	1:6	No	No	0.5 - 50	0.5 - 150	0.3 - 200	134
TW-2G2	0.15 - 250	1:8	No	No	2 - 100	0.25 - 200	0.15 - 250	156
TW-2D2	0.15 - 200	1:9	No	No	2 - 40	0.3 - 150	0.15 - 200	156
TW-2F2	0.3 - 120	1:13	No	Yes	5 - 20	0.7 - 80	0.3 - 120	156
TW-2H2	0.3 - 120	1:16	No	No	5 - 20	0.7 - 80	0.3 - 120	156
TW-2B1	0.03 - 20	1:36	No	No	0.1 - 50.0	0.05 - 10	0.03 - 20	156
TW-2K1	0.02 - 250	1:4	No	Yes	0.1 - 100	0.05 - 150	0.02 - 250	156



TRANSFORMERS

311

Model #	Frequency (MHz)	Impedance Ratio	Insertion Loss (dB) [Typ/Max]	Amplitude Unbalance (dB) [Typ/Max]	Phase Unbalance (Deg.) [Typ/Max]	DC Current (Max)	Input Power (Watts) [Max]	PKG. #
TM1-0	0.3 - 1000	1:1	2.5/3.4	0.75/1.0	10.0/10.0	30	0.25	311
TM1-1	0.4 - 500	1:1	1.2/1.8	0.1/0.3	1.0/3.0	30	0.25	311
TM1-6	5 - 3000	1:1	1.0/2.5	0.5/0.7	10.0/12.0	50	1.0	311
TM1-2	20 - 1200	1:1	1.2/1.7	0.6/0.75	8.0/11.0	30	0.25	311
TM1-8	800 - 4000	1:1	2.0/3.0	0.3/0.5	2.0/5.0	25	0.25	311
TM4-1	10 - 1000	1:4	1.9/2.6	0.4/0.7	4.0/8.0	50	1	311
TM4-4	10 - 2500	1:4	1.9/2.6	0.4/0.7	4.0/8.0	50	1	311
TM1.5-2	0.5 - 550	1.5:1	0.4/1.0	0.25/0.75	2.0/4.0	30	0.25	311
TM2-1	1 - 600	2:1	0.5/1.2	0.6/0.8	8.0/10.0	30	0.25	311
TM2-GT	5 - 1500	2:1	0.8/1.5	-	-	30	0.25	311
TM4-0	0.2 - 350	4:1	1.5/2.2	0.5/0.8	3.0/5.0	30	0.25	311
TM4-GT	5 - 1000	4:1	1.2/1.6	-	-	30	0.25	311
TM8-GT	5 - 1000	8:1	1.6/2.2	-	-	30	0.25	311

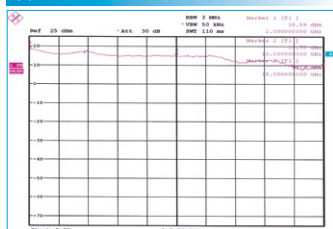
Unless noted, products are RoHS compliant.

BROADBAND POWER AMPLIFIERS

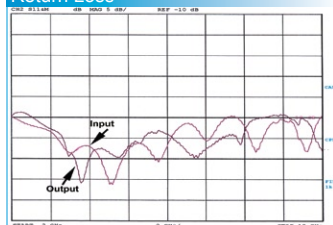
PRELIMINARY

Model	BPA20180
Frequency	2 - 18 GHz
Gain	15 dB (Typ.)
VSWR	2:1 (Typ.) / 3:1 (Max.)
P1 dB	29 dBm (Typ.)
Harmonics	-30 dBc (Typ.)
Spurious	-70 dBc (Typ.)
Voltage	13.5V (Min.) / 14V (Typ.) / 15V (Max.)
Current	1.15A (Typ.) / 1.3A (Max.)

Gain



Return Loss

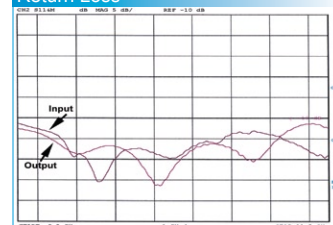


Model	BPA35115
Frequency	3.5 - 11.5 GHz
Gain	15 dB (Typ.)
VSWR	1.3:1 (Typ.) / 1.75:1 (Max.)
P1 dB	29 dBm (Typ.)
Harmonics	-30 dBc (Typ.)
Spurious	-70 dBc (Typ.)
Voltage	13.5V (Min.) / 14V (Typ.) / 15V (Max.)
Current	1.15A (Typ.) / 1.3A (Max.)

Gain

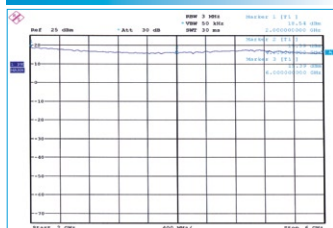


Return Loss

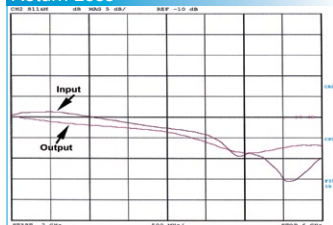


Model	BPA2060
Frequency	2 - 6 GHz
Gain	17 dB (Typ.)
VSWR	1.5:1 (Typ.) / 2.2:1 (Max.)
P1 dB	29 dBm (Typ.)
Harmonics	-30 dBc (Typ.)
Spurious	-70 dBc (Typ.)
Voltage	13.5V (Min.) / 14V (Typ.) / 15V (Max.)
Current	1.1A (Typ.) / 1.3A (Max.)

Gain

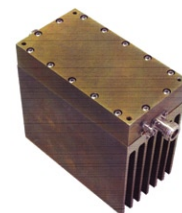
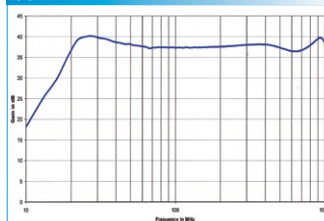


Return Loss

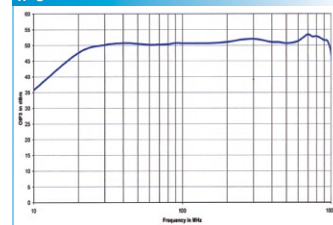


Model	BPA2100
Frequency	25 - 1000 MHz
Gain	37 dB (Typ.)
Gain Ripple	±1.5 dB (Typ.)
Output IP3	+50 dBm (Typ.)
VSWR	Input: <1.4:1 / Output: <3.0:1
P1 dB	39 dBm (Typ.)
Reverse Isolation	>60 dB (Typ.)
Voltage	32V (Nom.)
Current	1.15A (Typ.) / 1.3A (Max.)

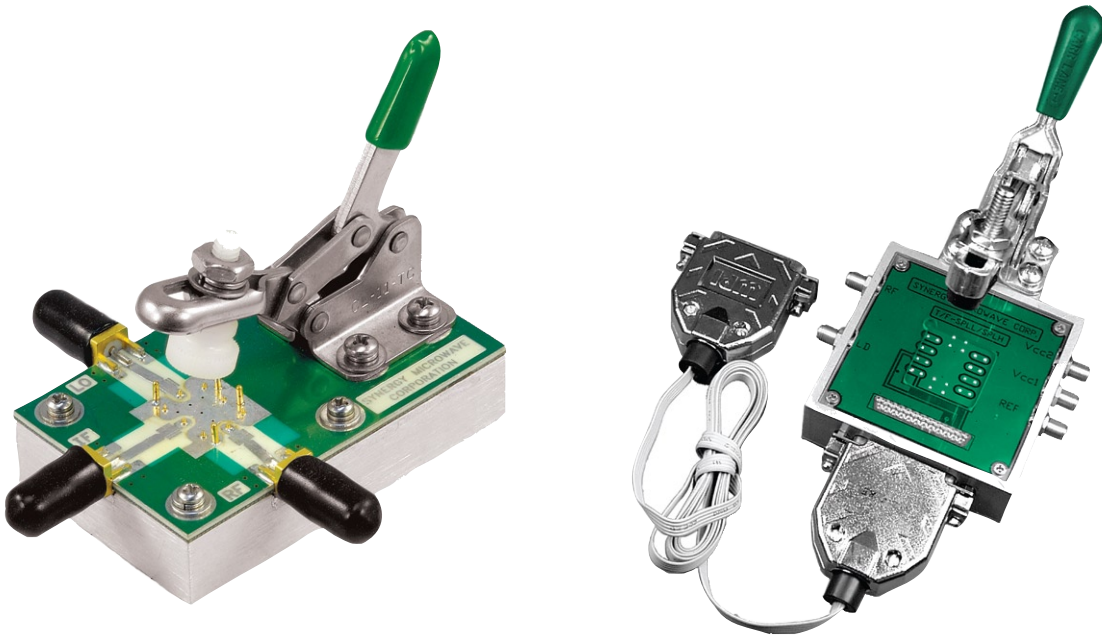
Gain



IP3



VCO & SYNTHESIZER TEST FIXTURE



VCO & SYNTHESIZER TEST BOARDS

