







Passives with a Passion for Performance











# **About MiniRF, Inc.**

MiniRF is a new name for a passive component company with over 20 years of design and manufacturing experience. The company was originally formed by PDI ( Premier Devices Inc. ) in the early 1990's, was acquired by Sirenza Microdevices in 2006 which in turn was acquired by RFMD in 2007, MiniRF has returned to its roots, focusing strictly on passive components.

MiniRF is dedicated to providing quality RF passive components at competitive prices for existing and emerging Broadband/CATV and Wireless Communications Systems. MiniRF is a proven leader in supplying high performance surface mount passive components. MiniRF components are found in the products of many of the world's largest suppliers of communications products with nearly a billion units shipped.

MiniRF designs and manufactures both standard and custom transformers, couplers, splitters, mixers and chokes. We specialize in delivering quality surface mount passive components and devices. A ferrite core is found in almost every MiniRF product. The performance of MiniRF's product depends on the magnetic properties of the core and the magnetic flux associated with the wires wrapped around it. Winding ferrite cores is a specialized manual process that is labor intensive. RF performance for these passive devices will vary with minor differences in how the wire is wound to the core.



# Global Experience with Local Design Expertise



MiniRF has established a manufacturing process where details are documented from sourcing materials, assembly and all the way through 100% RF testing. All MiniRF manufacturing facilities are ISO9001 certified and its test equipment is regularly calibrated.

The overall market for broadband passive RF components is very competitive so attention to material cost and tight management of our processes are important. The experienced management team understands this and is committed to deliver quality products at competitive prices at any volume.

To learn more about us, please visit www.minirf.com.











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MiniRF is a proven leader in supplying high performance surface mount passive components.

### **Products & Services Include:**

### **Surface Mount Couplers**

MiniRF produces miniature couplers designed for applications that require small, low cost, and highly reliable surface mount components. Coupler applications may be found in Broadband/CATV Communications Systems. A number of surface mount packaging options are available including: S06, S18, and S20 packaging styles.

# Performance solutions for your component needs

## **Surface Mount Splitters**

MiniRF produces 1Ghz and 4-Way bandwidth miniature 0° two way power splitters designed for both  $50\Omega$  and  $75\Omega$  applications which require small, low cost and highly reliable surface mount components. Applications include Broadband, CATV, and Wireless communications systems.

## **New!** Air Coil in Single and Multi Core

Custom Inductors are needed in a number of higher power applications to provide optimum circuit performance given size and frequency of the overall circuit. Mini RF offers a myriad of options to provide high performance inductors in numerous size,

shapes and forms. MiniRF can produce air core wire wound inductors with wire diameters from a little as 0.060 mm (0.0025 in) to 5 mm (0.200 in) in both single layer and multilayer, aircore, coil configurations.

#### **Chokes**



MiniRF also produces miniature RF Chokes for a variety of Broadband/CATV applications. Please contact us with your

specific requirements and applications.

#### **Surface Mount Transformers**



MiniRF produces miniature transformers for designs which require small, low cost, and highly reliable surface mount components. Both  $50\Omega$  and  $75\Omega$ 

applications are supported in the product offering. Impedance ratios of 1:1, 1:4, 1:8, 1:16 are typical in support of applications in broadband, wireless, and other RF communications systems.





ISO 9001 Manufacturing Operations / 100% Testing



50Ω SMT Couplers							
Part	Freq Range	Nominal	Coupling	Mainline Loss	Directivity	Return Loss	Package
Number	(MHz)	Coupling (dB)	Flatness (dB)	(dB)	(dB)	(dB) (Min)	Model
CPA-1001-510H	5 - 1000	10.0 ±0.5	±0.5	1.2	25	14	S06
CPA-1001-56H	5 - 1000	6.5 ±0.5	±0.5	1.9	15	12	S06
CPA-0501-510H	5 - 500	10.0 ±0.5	±0.5	0.8	30	15	S06

Part	Freg Range	Nominal	Coupling	Mainline Loss	Directivity	Return Loss	Package
Number	(MHz)	Coupling (dB)	Flatness (dB)	(dB)	(dB)	(dB) (Min)	Model
MRFCP0015 New	5 - 1220	7.5 ±0.5	±0.5	1.4	19	18	S20
RFCP5742	5 - 1200	10.0 ±0.5	±0.5	1.5	14	11	S18
RFCP5743	5 - 1200	10.0 ±0.5	±0.5	1.5	14	14	S20
RFCP5762	5 - 1200	16.0 ±0.5	±0.5	0.6	20	14	S18
RFCP5763	5 - 1200	16.0 ±0.5	±0.5	0.8	20	14	S20
RFCP5773	5 - 1200	20 ±0.5	±0.5	0.5	20	14	S20
MRFCP0013 New	5 - 1200	7.0 ±0.5	±0.5	1.6	18	14	S20
MRFCP0014 New	5 - 1200	10.0 ±0.5	±0.5	1.1	18	14	S20
CPA-1001-708H	5 - 1000	8.5 ±0.3	±0.5	1.7	20	14	S06
CPA-1001-710H	5 - 1000	10.0 ±0.5	±0.5	1.2	14	14	S06
CPA-1001-716H	5 - 1000	16.0 ±0.5	±0.5	0.6	30	14	S06
CPA-1001-720H	5 - 1000	20.5 ±0.5	±0.7	0.4	20	14	S06
CPK-1001-710H	5 - 1000	10.0 ±0.5	±0.5	1.2	25	14	S01
CPK-1001-716H	5 - 1000	16.0 ±0.5	±0.5	0.6	30	14	S01
CPK-1001-720H	5 - 1000	20.5 ±0.5	±0.5	0.4	20	17	S01
RFCP4792	5 - 1000	17 ±0.5	±0.75	0.75	22	18	S18
NFCF4/92	3 - 1000	17 ±0.3	±0./3	0.73	22	10	

50Ω SMT Two Way Splitters							
Part	Freq Range	Return Loss	Isolation	Insertion Loss	Package		
Number	(MHz)	(dB) (Min)	(dB)	(dB)	Model		
SPA-2501-25H	1700 - 2500	9.6	24	0.5	S06		
MRFSP8525 New	2 - 2500	23	30	0.15	S19		
SPC-2201-25H	1800 - 2200	11	23	0.5	S10		
SPC-2001-25H	1600 - 2000	11	18	0.4	S10		
MRFSP7525 New	2 - 2000	15	22	0.6	S19		
RFSP5522	5 - 1200	14	22	1	S18		
SPA-1002-25H	5 - 1000	9.6	16	0.4	S06		
MRFSP4525 New	1 - 1000	14	33	0.6	S19		
SPA-1001-25H	800 - 980	17.7	23	0.2	S06		
SPA-0701-25H	1 - 650	14	25	0.4	S06		
SPA-0501-25H	1 - 500	14	25	0.4	S06		



75Ω SMT Tw	o Way Spli	tters					
Part	Freq Range	Return Loss	Isolation	Insertion Loss	Package		
Number	(MHz)	(dB) (Min)	(dB)	(dB)	Model		
MRFSP6725 New	5 - 1600	17	25	0.7	S19		
RFSP5722	5 - 1200	12	28	0.8	S18		
MRFSP5725 New	5 - 1200	17	28	0.5	S19		
MRFSP0014 New	5 - 1002	17	30	0.5	S19		
SPA-1002-27H	5 - 1000	17.7	30	0.5	S06		
SPA-1003-27H	30 - 1000	20	30	0.5	S06		
SPA-0101-27H	5 - 100	22	35	0.25	S06		
75Ω SMT Three Way Splitters							
Part	Freq Range	Return Loss	Isolation	Insertion Loss	Package		
Number	(MHz)	(dB) (Min)	(dB)	(dB)	Model		
RFSP5731	20 - 1200	14	25	1.5	S04		
	<u> </u>	†	<u> </u>		1		

75Ω SMT Four Way Splitters							
Part	Freq Range	Return Loss	Isolation	Insertion Loss	Package		
Number	(MHz)	(dB) (Min)	(dB)	(dB)	Model		
MRFSP0012 New	5-1002	18	25	0.75	S25		
MRFSP0018 New	5-1208	18	25	0.75	S25		



5 - 200

RFSP2731

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0.35

S04

50Ω SMT RF	Transf <u>orm</u>	iers			
Part	Freq Range	Insertion Loss	Return Loss	Impedance	Package
Number	(MHz)	(dB)	(dB) (Typ)	Ratio	Model
RFXF9503	3 - 3000	<3.5	14	1:1	S20
RFXF9504	5 - 3000	<3	14	1:1	S21
XFM-3001-1UH *	5 - 3000	<3	14	1:1	S03
RFXF8553	500 - 2500	<3	14	1:4	S20
XFM-2501-4WH	500 - 2500	<3	14	1:4	S03
XFP-2501-1UH	1 - 2500	<3	17	1:1	S09
XFK-2001-1UH *	2.5 - 2000	<3	12	1:1	S01
RFXF6553	10 - 1900	<3	14	1:4	S20
XFM-1901-1UH *	800 - 1900	<3	12	1:1	S03
MRFXF6533 New	5 - 1600	<2	22	1:2	S20
RFXF5553	5 - 1200	<2	16	1:4	S20
MRFXF5532 New	5 - 1200	<2	12	1:2	S18
RFXF3553	2 - 1000	<2	17	1:4	S20
XFM-1001-4WH	1 - 1000	<2	16	1:4	S03
XFP-1001-1UH *	5 - 1000	<2	17	1:1	S09
XFP-1001-4WH	5 - 1000	<2	16	1:4	S09
RFXF4513	5 - 1000	<1.5	14	1:1	S20
XFK-0901-4WH	8 - 900	<2	18	1:4	S01
XFM-0701-4WH	3.5 - 700	<3	15	1:4	S03
MRFXF4533 New	10 - 700	<2.5	16	1:2	S20
RFXF3593	0.5 - 550	<1.5	22	1:1.5	S20
RFXF3513	0.4 - 500	<3	16	1:1	S20
XFA-0401-1UH *	1 - 400	<3	12	1:1	S06
RFXF2533	2 - 350	<1	22	1:2	S20
RFXF2553	1 - 350	<1	26	1:4	S20
XFA-0301-1WH	0.05 - 300	<3	12	1:1	S06
XFA-0301-4BH **	0.1 - 240	<3	15	1:4	S06
XFA-0301-4UH *	0.05 - 220	<3	32	1:4	S06
RFXF2513	0.3 - 200	<1	20	1:1	S20
XFK-0201-16WH	13 - 200	<3	14	1:16	S01
XFM-0201-1WH	3 - 200	1.5	18	1:1	S03
XFA-0201-1WH	0.006 - 150	<3	14	1:1	S06
XFA-0201-8WH	0.05 - 125	<2	21	1:8	S06
XFA-0101-1BH **	0.008 - 100	<3	36	1:1	S06
XFA-0101-25UH *	0.011 - 100	<1	17	1:2.5	S06
RFXF0014	5 - 100	<0.8	23	1:1.5	S20C
RFXF0016	5 - 100	<1.75	17	1:4	S20C
XFA-0101-16UH *	0.165 - 75	<3	17	1:16	S06
RFXF0573	5 - 40	<1	21	1:16	S20



75Ω SMT RF	Transform	ners			
Part	Freq Range	Insertion Loss	Return Loss	Impedance	Package
Number	(MHz)	(dB)	(dB) (Typ)	Ratio	Model
MRFXF0026 New	45 - 1218	<2	16	1:2.78	SP8
RFXF5702	5 - 1200	<2	28	1:1	S18
RFXF5703	5 - 1200	<2	33	1:1	S20
RFXF5704	5 - 1200	<2	29	1:1	S21
RFXF5712	5 - 1200	<2	26	1:1	S18
RFXF5753	5 - 1200	<3	14	1:4	S20
RFXF5792	5 - 1200	<2	20	1:1	S18
RFXF5793	5 - 1200	<1	27	1:1	S20
RFXF5794	5 - 1200	<1	26	1:1	S21
RFXF5743	5 - 1200	<2	15	1:3	S20
RFXF5732	5 - 1200	<2.5	14	1:2	S18
MRFXF5733 New	5-1600	<3	18	1:2	S20
MRFXF5732-1 New	5 - 1200	<2	25	1:2	S18D
MRFXF0025 New	45 - 1200	<1	25	1:1	S20
MRFXF0024 New	45 - 1218	<0.7	25	1:1	S20
MRFXF0032 New	45 - 1200	<0.8	25	1:1	S20A
MRFXF0035 New	45 - 1218	<0.75	25	1:1	S20W
MRFXF5702 New	45 - 1200	<0.65	20	1:1	S18D
XFM-1001-1UH *	15 - 1003	<1.2	22	1:1	S03
XFA-1001-1UH *	40 - 1000	<3	14	1:1	S06
XFK-1001-1UH *	40 - 1000	<1	22	1:1	S01
XFM-1002-1UH *	40 - 1000	<1	15	1:1	S03
MRFXF2753 New	5 - 250	<1	18	1:4	S20
MRFXF0021 New	5 - 250	<0.4	20	1:1	S20
MRFXF2793 New	5 - 250	<1	18	1:04	S20
MRFXF2733 New	5-210	<0.3	27	1:2	S20W
RFXF2713	5 - 200	<1	22	1:1	S20
RFXF2795	5 - 200	<1	27	1:1.78	S19
RFXF0013	5 - 200	<0.8	22	1:1	S20C

<sup>\*</sup> Unbalanced to Unbalanced

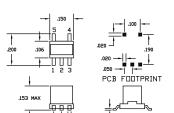


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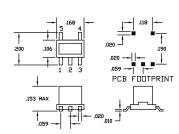
<sup>\*\*</sup> Balanced to Balanced

# **Package Drawings**

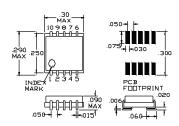
Package Drawing - S03



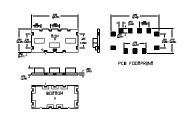
Package Drawing - S09



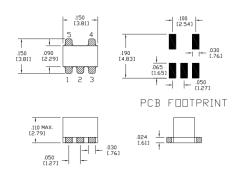
Package Drawing - S10



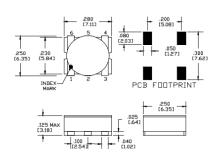
Package Drawing - S25



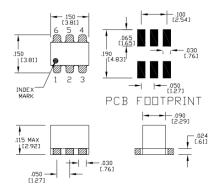
Package Drawing - S20



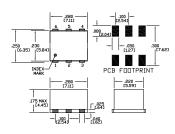
Package Drawing - S18D



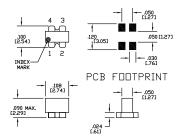
Package Drawing - S19



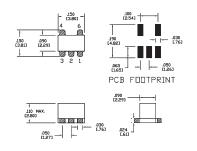
Package Drawing - S18



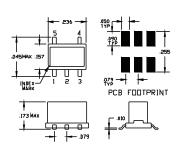
Package Drawing - S21



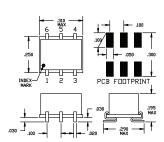
Package Drawing - S20C



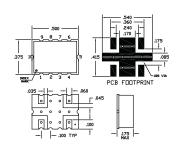
Package Drawing - S01



Package Drawing - S06



Package Drawing - S04







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# **Standard & Custom Components**

# **COUPLERS**



Small, low cost, and highly reliable surface mount couplers found in Broadband / CATV Communications



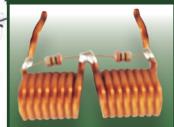
2.5 GHz BW, 2/3&4 way power splitters designed for both 50 & 75 ohm applications.

# **TRANSFORMERS**



 $50 \Omega \& 75 \Omega$  supporting a wide range of applications with impedance ratios of 1:1, 1:4, 1:8, 1:16.

#### **RF CHOKES**



Precision inductors & chokes with wire diameters from 0.060~5mm single & multilayer, air-core, coil configurations.

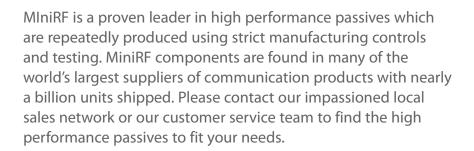
# **Contact us for design support**

www.minirf.com | sales@minirf.com | (408) 228-3533



### Passives with a Passion for Performance

MiniRF is dedicated to supporting the world market with high performance, repeatable ferrite based passive components and our new line of custom air coil inductors! We serve the Broadband and Wireless Communications markets with emphasis on the new generation of hybrid Fiber Coax systems as well as Wireless Communication sub-systems.











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