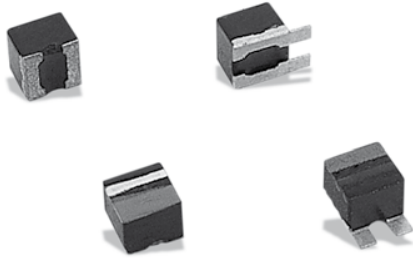


# Chip Inductors - MPC120000 Series



- eesa qualified 3201/008 and in accordance to Mil Spec M83446/10
- Excellent Q values even at high frequencies
- Very high self-resonant frequencies (SFRs)
- Extremely stable inductance values from -55°C to +125°C
- With or without tab terminations
- Tin / lead or gold plated terminations
- Frequency range : 790 KHz to 500 MHz
- Operating temperature range : -55°C to +125°C
- Weight : 0.15 gram

## Electrical Data (25°C)

ID Code	Induct. $\mu$ H	Q Min	Q Typ.	Test Freq. MHz	SFR Min. MHz	DCR Max. $\Omega$	DC Curr. mA max	Tol %
MPC120000010	0.010	60	65	150	2000	0.04	1000	
MPC120000012	0.012	70	82	150	1800	0.04	1000	
MPC120000015	0.015	75	87	150	1500	0.04	1000	
MPC120000018	0.018	75	87	150	1500	0.04	1000	
MPC120000022	0.022	60	65	100	1300	0.05	1000	
MPC120000027	0.027	60	70	100	1300	0.05	1000	
MPC120000033	0.033	60	70	100	1000	0.05	1000	
MPC120000039	0.039	60	70	100	1000	0.06	900	
MPC120000047	0.047	65	75	100	800	0.06	900	
MPC120000056	0.056	65	75	100	760	0.06	900	
MPC120000068	0.068	65	75	100	700	0.07	840	
MPC120000082	0.082	65	75	100	650	0.07	840	
MPC120000100	0.100	65	77	50	570	0.07	840	
MPC120000120	0.120	65	77	50	520	0.07	840	
MPC120000150	0.150	75	87	50	400	0.08	790	
MPC120000180	0.180	75	87	50	360	0.08	790	
MPC120000220	0.220	70	80	50	320	0.08	790	
MPC120000270	0.270	70	80	50	270	0.10	700	
MPC120000330	0.330	70	80	50	240	0.10	700	
MPC120000390	0.390	70	80	50	220	0.10	700	
MPC120000470	0.470	70	80	25	190	0.14	590	
MPC120000560	0.560	70	82	25	170	0.19	510	
MPC120000680	0.680	70	83	25	160	0.26	430	
MPC120000820	0.820	75	84	25	150	0.30	400	
MPC120001000	1.00	75	87	25	130	0.34	380	
MPC120001200	1.20	65	73	7.9	120	0.45	330	
MPC120001500	1.50	65	73	7.9	110	0.57	290	
MPC120001800	1.80	65	73	7.9	100	0.72	260	
MPC120002200	2.20	65	73	7.9	80	0.9	230	
MPC120002700	2.70	65	73	7.9	60	1.1	210	
MPC120003300	3.30	60	70	7.9	50	1.2	200	
MPC120003900	3.90	60	70	7.9	45	1.4	180	
MPC120004700	4.70	60	70	7.9	42	1.6	170	
MPC120005600	5.60	65	75	7.9	40	1.8	160	
MPC120006800	6.80	65	75	7.9	37	2.4	140	

ID Code	Induct. $\mu$ H	Q Min	Q Typ.	Test Freq. MHz	SFR Min. MHz	DCR Max. $\Omega$	DC Curr. mA max	Tol % Min
MPC1200008	8.20	65	75	7.9	34	3.0	130	
MPC120001000	10.0	65	75	7.9	29	3.5	120	
MPC1200012000	12.0	60	70	2.5	27	3.6	118	
MPC1200015000	15.0	60	70	2.5	22	3.7	115	
MPC1200018000	18.0	60	72	2.5	17	3.8	114	
MPC1200022000	22.0	60	72	2.5	16	3.9	113	
MPC1200027000	27.0	65	75	2.5	15	4.0	110	
MPC1200033000	33.0	65	75	2.5	14	5.0	100	
MPC1200039000	39.0	65	75	2.5	13	7.0	84	
MPC1200047000	47.0	70	78	2.5	12	8.0	79	
MPC1200056000	56.0	70	78	2.5	11	10.0	70	
MPC1200068000	68.0	65	75	2.5	10	11.0	67	
MPC1200082000	82.0	60	72	2.5	9	12.0	64	
MPC120100000	100.0	60	70	2.5	8	13.0	62	
MPC120120000	120.0	40	48	0.79	7	14.0	59	
MPC120150000	150.0	40	48	0.79	6	16.0	56	
MPC120180000	180.0	40	48	0.79	5	18.0	52	
MPC120220000	220.0	40	48	0.79	4	24.0	45	
MPC120270000	270.0	40	48	0.79	3.3	25.0	44	
MPC120330000	330.0	40	48	0.79	3.1	29.0	41	
MPC120390000	390.0	40	48	0.79	2.9	32.0	39	
MPC120470000	470.0	35	45	0.79	2.4	35.0	37	
MPC120560000	560.0	35	45	0.79	2.1	45.0	33	
MPC120680000	680.0	35	40	0.79	1.9	55.0	30	
MPC120820000	820.0	30	36	0.79	1.8	70.0	26	
MPC1201000000	1000.0	30	36	0.79	1.7	80.0	25	

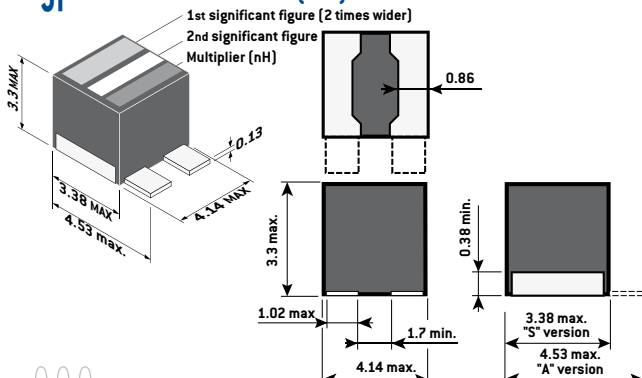
Other inductance values on request.

Inductance variation : 60 PPM/°C max. in the range 0.01 to 1  $\mu$ H  
 80 PPM/°C max. in the range 1.2 to 10  $\mu$ H  
 150 PPM/°C max. in the range 12 to 100  $\mu$ H  
 300 PPM/°C max. in the range 120 to 1000  $\mu$ H

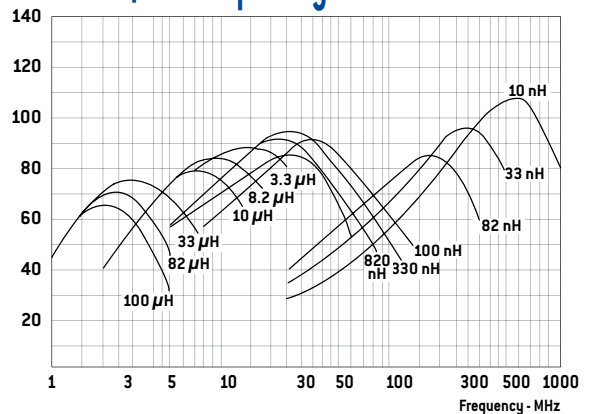
## Packaging

Tape and Reel (with or without tab) : 100 to 500 pieces  
 or Tray : 49 pieces

## Typical Dimensions (mm)



## Q vs frequency



# Miniature Chip Inductors MSCI 20000

## esa QPL Components

MPCI20000 series are usually installed on Military applications and breadboards for Space applications.

Since January 2003, Microspire has been manufacturing Radio Frequency Fixed Coils, MPCI 20000 series fulfilling ESA ESCC Generic specification N° 3201 and detail specification N° 3201/008.

This range is named MSCI (S for space applications).

This qualification approval includes final production tests Chart II, burn-in and electrical measurements to testing level B Chart III and qualification testing Chart IV.

For procurement, different quality levels are offered :

- Final production tests Chart II
- Burn-in and electrical measurements Chart III with level B or C (as required)
- Lot acceptance testing Chart V if required

Components delivered through this specification need to be processed and inspected in accordance with the Microspire Process Identification Document (P.I.D.).

Each component delivered is traceable to its production lot.

## Cross reference chart

Microspire ID Code *MPCI (Non-QPL) *MSCI (QPL)	ESA SCC Component Part Number	In accordance to MIL-PRF-83446 Part Number		Microspire ID Code *MPCI (Non-QPL) *MSCI (QPL)	ESA SCC Component Part Number	In accordance to MIL-PRF-83446 Part Number	
		** Tin lead (F) or ** Gold lead (A) with tab	** Tin lead (F) or ** Gold lead (A) without tab			** Tin lead (F) or ** Gold lead (A) with tab	** Tin lead (F) or ** Gold lead (A) without tab
*20 000 010 x y 10	3201008 aa b L010 K	M83446/10-01**	M83446/10-62**	*20 005 600 x y 10	3201008 aa b 5L6 K	M83446/10-34**	M83446/10-95**
*20 000 012 x y 10	3201008 aa b L012 K	M83446/10-02**	M83446/10-63**	*20 006 800 x y 10	3201008 aa b 6L8 K	M83446/10-35**	M83446/10-96**
*20 000 015 x y 10	3201008 aa b L015 K	M83446/10-03**	M83446/10-64**	*20 008 200 x y 10	3201008 aa b 8L2 K	M83446/10-36**	M83446/10-97**
*20 000 018 x y 10	3201008 aa b L018 K	M83446/10-04**	M83446/10-65**	*20 010 000 x y 10	3201008 aa b 100 K	M83446/10-37**	M83446/10-98**
*20 000 022 x y 10	3201008 aa b L022 K	M83446/10-05**	M83446/10-66**	*20 012 000 x y 10	3201008 aa b 120 K	M83446/10-38**	M83446/10-99**
*20 000 027 x y 10	3201008 aa b L027 K	M83446/10-06**	M83446/10-67**	*20 015 000 x y 10	3201008 aa b 150 K	M83446/10-39**	M83446/10-100**
*20 000 033 x y 10	3201008 aa b L033 K	M83446/10-07**	M83446/10-68**	*20 018 000 x y 10	3201008 aa b 180 K	M83446/10-40**	M83446/10-101**
*20 000 039 x y 10	3201008 aa b L039 K	M83446/10-08**	M83446/10-69**	*20 022 000 x y 10	3201008 aa b 220 K	M83446/10-41**	M83446/10-102**
*20 000 047 x y 10	3201008 aa b L047 K	M83446/10-09**	M83446/10-70**	*20 027 000 x y 10	3201008 aa b 270 K	M83446/10-42**	M83446/10-103**
*20 000 056 x y 10	3201008 aa b L056 K	M83446/10-10**	M83446/10-71**	*20 033 000 x y 10	3201008 aa b 330 K	M83446/10-43**	M83446/10-104**
*20 000 068 x y 10	3201008 aa b L068 K	M83446/10-11**	M83446/10-72**	*20 039 000 x y 10	3201008 aa b 390 K	M83446/10-44**	M83446/10-105**
*20 000 082 x y 10	3201008 aa b L082 K	M83446/10-12**	M83446/10-73**	*20 047 000 x y 10	3201008 aa b 470 K	M83446/10-45**	M83446/10-106**
*20 000 100 x y 10	3201008 aa b L10 K	M83446/10-13**	M83446/10-74**	*20 056 000 x y 10	3201008 aa b 560 K	M83446/10-46**	M83446/10-107**
*20 000 120 x y 10	3201008 aa b L12 K	M83446/10-14**	M83446/10-75**	*20 068 000 x y 10	3201008 aa b 680 K	M83446/10-47**	M83446/10-108**
*20 000 150 x y 10	3201008 aa b L15 K	M83446/10-15**	M83446/10-76**	*20 082 000 x y 10	3201008 aa b 820 K	M83446/10-48**	M83446/10-109**
*20 000 180 x y 10	3201008 aa b L18 K	M83446/10-16**	M83446/10-77**	*20 100 000 x y 10	3201008 aa b 101 K	M83446/10-49**	M83446/10-110**
*20 000 220 x y 10	3201008 aa b L22 K	M83446/10-17**	M83446/10-78**	*20 120 000 x y 10	3201008 aa b 121 K	M83446/10-50**	M83446/10-111**
*20 000 270 x y 10	3201008 aa b L27 K	M83446/10-18**	M83446/10-79**	*20 150 000 x y 10	3201008 aa b 151 K	M83446/10-51**	M83446/10-112**
*20 000 330 x y 10	3201008 aa b L33 K	M83446/10-19**	M83446/10-80**	*20 180 000 x y 10	3201008 aa b 181 K	M83446/10-52**	M83446/10-113**
*20 000 390 x y 10	3201008 aa b L39 K	M83446/10-20**	M83446/10-81**	*20 220 000 x y 10	3201008 aa b 221 K	M83446/10-53**	M83446/10-114**
*20 000 470 x y 10	3201008 aa b L47 K	M83446/10-21**	M83446/10-82**	*20 270 000 x y 10	3201008 aa b 271 K	M83446/10-54**	M83446/10-115**
*20 000 560 x y 10	3201008 aa b L56 K	M83446/10-22**	M83446/10-83**	*20 330 000 x y 10	3201008 aa b 331 K	M83446/10-55**	M83446/10-116**
*20 000 680 x y 10	3201008 aa b L68 K	M83446/10-23**	M83446/10-84**	*20 390 000 x y 10	3201008 aa b 391 K	M83446/10-56**	M83446/10-117**
*20 000 820 x y 10	3201008 aa b L82 K	M83446/10-24**	M83446/10-85**	*20 470 000 x y 10	3201008 aa b 471 K	M83446/10-57**	M83446/10-118**
*20 001 000 x y 10	3201008 aa b 1L0 K	M83446/10-25**	M83446/10-86**	*20 560 000 x y 10	3201008 aa b 561 K	M83446/10-58**	M83446/10-119**
*20 001 200 x y 10	3201008 aa b 1L2 K	M83446/10-26**	M83446/10-87**	*20 680 000 x y 10	3201008 aa b 681 K	M83446/10-59**	M83446/10-120**
*20 001 500 x y 10	3201008 aa b 1L5 K	M83446/10-27**	M83446/10-88**	*20 820 000 x y 10	3201008 aa b 821 K	M83446/10-60**	M83446/10-121**
*20 001 800 x y 10	3201008 aa b 1L8 K	M83446/10-28**	M83446/10-89**	*20 1000 000 x y 10	3201008 aa b 102 K	M83446/10-61**	M83446/10-122**
*20 002 200 x y 10	3201008 aa b 2L2 K	M83446/10-29**	M83446/10-90**				
*20 002 700 x y 10	3201008 aa b 2L7 K	M83446/10-30**	M83446/10-91**				
*20 003 300 x y 10	3201008 aa b 3L3 K	M83446/10-31**	M83446/10-92**				
*20 003 900 x y 10	3201008 aa b 3L9 K	M83446/10-32**	M83446/10-93**				
*20 004 700 x y 10	3201008 aa b 4L7 K	M83446/10-33**	M83446/10-94**				

aa	b	K/J/G [tolerance]
aa = 03 for Au Termination	b = B for Chart III level B	K for ±10%
aa = 04 for SnPb Termination	b = C for Chart III level C	J for ±5%
		G for ±2%

## To Order

MPCI 20 ### ## x y 10

MPCI	20	### ##	x	y	z
Radio Frequency Fixed Coils	Size	Inductance Value (nH) from 000 010 to 010 000	Terminations x = T for SnPb x = G for Gold	Terminations shape y = S without tab y = A with tab (Not valid for space use)	Tolerance : 10 for ±10%

