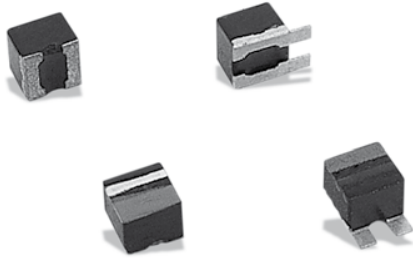


Chip Inductors - MPC1 10000 Series



- eesa qualified 3201/008 and in accordance to Mil Spec M83446/5
- 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 (non RoHS) or gold plated (RoHS) terminations
- Frequency range: 7.9 MHz to 500 MHz
- Operating temperature range: -55°C to +125°C
- Weight: 0.07 gram

Electrical Data (25°C)

ID Code	Inductance* μH	Q Min.	Q Typ.	Test Freq. MHz	SFR Min. MHz	DCR Max. Ω	DC Curr. mA max	Tol** %
MPC1 10 000 010	0.010	50	55	150	2000	0.025	750	10
MPC1 10 000 012	0.012	50	55	150	2000	0.025	750	
MPC1 10 000 015	0.015	50	55	150	1800	0.040	750	
MPC1 10 000 018	0.018	50	55	150	1500	0.040	750	
MPC1 10 000 022	0.022	45	50	100	1400	0.040	750	
MPC1 10 000 027	0.027	45	50	100	1200	0.040	750	5-10
MPC1 10 000 033	0.033	47	55	100	1200	0.050	640	
MPC1 10 000 039	0.039	47	55	100	1200	0.070	600	
MPC1 10 000 047	0.047	47	55	100	1000	0.080	550	
MPC1 10 000 056	0.056	47	55	100	900	0.090	520	
MPC1 10 000 068	0.068	47	55	100	900	0.10	480	10
MPC1 10 000 082	0.082	47	55	100	750	0.11	470	
MPC1 10 000 100	0.100	47	55	50	700	0.11	470	
MPC1 10 000 120	0.120	47	55	50	600	0.11	470	
MPC1 10 000 150	0.150	47	55	50	500	0.12	450	
MPC1 10 000 180	0.180	51	60	50	450	0.14	430	5-10
MPC1 10 000 220	0.220	51	60	50	420	0.20	350	
MPC1 10 000 270	0.270	51	60	50	400	0.25	310	
MPC1 10 000 330	0.330	51	60	50	320	0.30	280	
MPC1 10 000 390	0.390	47	55	50	270	0.45	240	
MPC1 10 000 470	0.470	47	55	25	250	0.50	230	5-10
MPC1 10 000 560	0.560	52	60	25	200	0.55	220	

ID Code	Inductance* μH	Q Min	Q Typ.	Test Freq. MHz	SFR Min. MHz	DCR Max. Ω	DC Curr. mA max	Tol** %
MPC1 10 000 680	0.680	52	60	25	180	0.58	210	5-10
MPC1 10 000 820	0.820	52	60	25	150	0.60	200	
MPC1 10 001 000	1.00	52	60	25	120	0.65	190	
MPC1 10 001 200	1.20	42	50	7.90	110	0.75	180	
MPC1 10 001 500	1.50	42	50	7.90	100	1.10	160	
MPC1 10 001 800	1.80	48	55	7.90	95	1.20	150	2
MPC1 10 002 200	2.20	48	55	7.90	90	1.30	140	
MPC1 10 002 700	2.70	48	55	7.90	65	1.50	130	
MPC1 10 003 300	3.30	48	55	7.90	55	1.80	120	
MPC1 10 003 900	3.90	48	55	7.90	45	2.00	110	
MPC1 10 004 700	4.70	48	55	7.90	43	2.30	100	5-10
MPC1 10 005 600	5.60	48	55	7.90	40	2.50	100	
MPC1 10 006 800	6.80	46	53	7.90	38	2.60	98	
MPC1 10 008 200	8.20	46	53	7.90	35	2.80	95	
MPC1 10 010 000	10.0	46	53	7.90	33	3.30	87	

* Standard inductance tolerance: ± 10%

** Available tolerances.

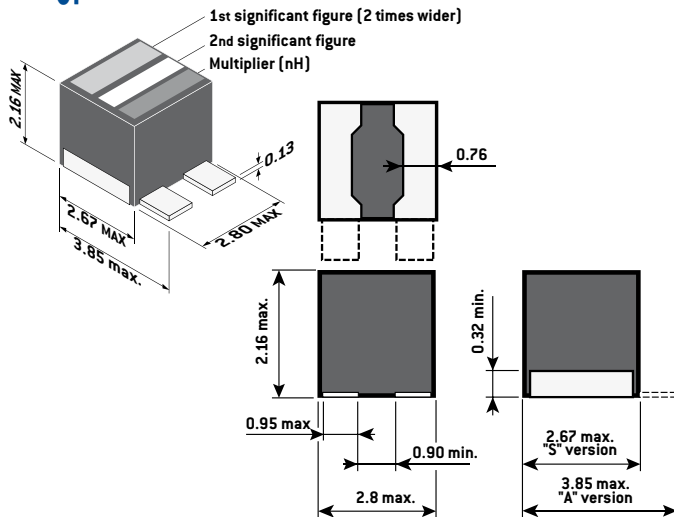
Other inductance values on request.

Inductance variation: 35 PPM/°C max. in the range 0.01 to 12 H
80 PPM/°C max. in the range 1.5 to 10 μH

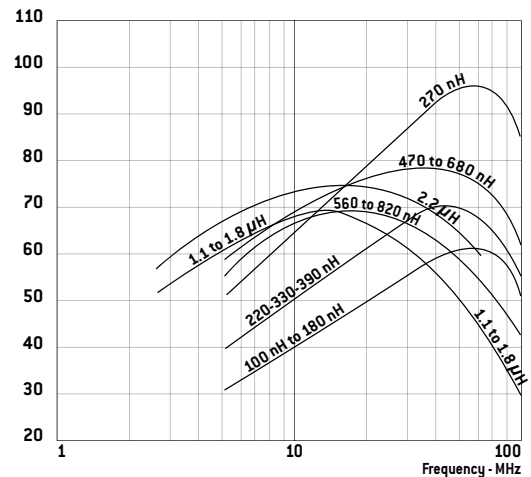
Packaging

Tape and Reel (with or without tab): 100 pieces min. up to 500 pieces
or Tray: 81 pieces without tab, 49 pieces with tab

Typical Dimensions (mm)



Q vs frequency



Miniature Chip Inductors MSCI 10000

esa QPL Components

MPCI 10000 series are usually installed on Military applications and breadboards for Space applications.

Since January 2003, Microspire has been manufacturing Radio Frequency Fixed Coils, MPCI 10000 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.

Max. 500 pieces per lots.

Cross reference chart

Microspire Non - QPL ID Code	Microspire QPL ID Code	ESA SCC Component Part Number	In accordance to MIL-PRX 83446 Part Number	
			* Tin lead (F) or * Gold lead (A) with tab	* Tin lead (F) or * Gold lead (A) without tab
MPCI 10 000 010 x y 10	MSCI 10 000 010 x y 10	3201008 aa b L010 K	M83446/5-01*	M83446/5-38*
MPCI 10 000 012 x y 10	MSCI 10 000 012 x y 10	3201008 aa b L012 K	M83446/5-02*	M83446/5-39*
MPCI 10 000 015 x y 10	MSCI 10 000 015 x y 10	3201008 aa b L015 K	M83446/5-03*	M83446/5-40*
MPCI 10 000 018 x y 10	MSCI 10 000 018 x y 10	3201008 aa b L018 K	M83446/5-04*	M83446/5-41*
MPCI 10 000 022 x y 10/5	MSCI 10 000 022 x y 10/5	3201008 aa b L022 K/J	M83446/5-05*	M83446/5-42*
MPCI 10 000 027 x y 10/5	MSCI 10 000 027 x y 10/5	3201008 aa b L027 K/J	M83446/5-06*	M83446/5-43*
MPCI 10 000 033 x y 10/5	MSCI 10 000 033 x y 10/5	3201008 aa b L033 K/J	M83446/5-07*	M83446/5-44*
MPCI 10 000 039 x y 10/5	MSCI 10 000 039 x y 10/5	3201008 aa b L039 K/J	M83446/5-08*	M83446/5-45*
MPCI 10 000 047 x y 10/5	MSCI 10 000 047 x y 10/5	3201008 aa b L047 K/J	M83446/5-09*	M83446/5-46*
MPCI 10 000 056 x y 10/5	MSCI 10 000 056 x y 10/5	3201008 aa b L056 K/J	M83446/5-10*	M83446/5-47*
MPCI 10 000 068 x y 10/5	MSCI 10 000 068 x y 10/5	3201008 aa b L068 K/J	M83446/5-11*	M83446/5-48*
MPCI 10 000 082 x y 10/5	MSCI 10 000 082 x y 10/5	3201008 aa b L082 K/J	M83446/5-12*	M83446/5-49*
MPCI 10 000 100 x y 10	MSCI 10 000 100 x y 10	3201008 aa b L10 K	M83446/5-13*	M83446/5-50*
MPCI 10 000 120 x y 10	MSCI 10 000 120 x y 10	3201008 aa b L12 K	M83446/5-14*	M83446/5-51*
MPCI 10 000 150 x y 10	MSCI 10 000 150 x y 10	3201008 aa b L15 K	M83446/5-15*	M83446/5-52*
MPCI 10 000 180 x y 10	MSCI 10 000 180 x y 10	3201008 aa b L18 K	M83446/5-16*	M83446/5-53*
MPCI 10 000 220 x y 10	MSCI 10 000 220 x y 10	3201008 aa b L22 K	M83446/5-17*	M83446/5-54*
MPCI 10 000 270 x y 10	MSCI 10 000 270 x y 10	3201008 aa b L27 K	M83446/5-18*	M83446/5-55*
MPCI 10 000 330 x y 10	MSCI 10 000 330 x y 10	3201008 aa b L33 K	M83446/5-19*	M83446/5-56*
MPCI 10 000 390 x y 10	MSCI 10 000 390 x y 10	3201008 aa b L39 K	M83446/5-20*	M83446/5-57*
MPCI 10 000 470 x y 10/5	MSCI 10 000 470 x y 10/5	3201008 aa b L47 K/J	M83446/5-21*	M83446/5-58*
MPCI 10 000 560 x y 10/5	MSCI 10 000 560 x y 10/5	3201008 aa b L56 K/J	M83446/5-22*	M83446/5-59*
MPCI 10 000 680 x y 10/5	MSCI 10 000 680 x y 10/5	3201008 aa b L68 K/J	M83446/5-23*	M83446/5-60*
MPCI 10 000 820 x y 10/5	MSCI 10 000 820 x y 10/5	3201008 aa b L82 K/J	M83446/5-24*	M83446/5-61*
MPCI 10 001 000 x y 10/5	MSCI 10 001 000 x y 10/5	3201008 aa b 1L0 K/J	M83446/5-25*	M83446/5-62*
MPCI 10 001 200 x y 10/5/2	MSCI 10 001 200 x y 10/5/2	3201008 aa b 1L2 K/J/G	M83446/5-26*	M83446/5-63*
MPCI 10 001 500 x y 10/5/2	MSCI 10 001 500 x y 10/5/2	3201008 aa b 1L5 K/J/G	M83446/5-27*	M83446/5-64*
MPCI 10 001 800 x y 10/5/2	MSCI 10 001 800 x y 10/5/2	3201008 aa b 1L8 K/J/G	M83446/5-28*	M83446/5-65*
MPCI 10 002 200 x y 10/5/2	MSCI 10 002 200 x y 10/5/2	3201008 aa b 2L2 K/J/G	M83446/5-29*	M83446/5-66*
MPCI 10 002 700 x y 10/5/2	MSCI 10 002 700 x y 10/5/2	3201008 aa b 2L7 K/J/G	M83446/5-30*	M83446/5-67*
MPCI 10 003 300 x y 10/5/2	MSCI 10 003 300 x y 10/5/2	3201008 aa b 3L3 K/J/G	M83446/5-31*	M83446/5-68*
MPCI 10 003 900 x y 10/5/2	MSCI 10 003 900 x y 10/5/2	3201008 aa b 3L9 K/J/G	M83446/5-32*	M83446/5-69*
MPCI 10 004 700 x y 10/5/2	MSCI 10 004 700 x y 10/5/2	3201008 aa b 4L7 K/J/G	M83446/5-33*	M83446/5-70*
MPCI 10 005 600 x y 10/5/2	MSCI 10 005 600 x y 10/5/2	3201008 aa b 5L6 K/J/G	M83446/5-34*	M83446/5-71*
MPCI 10 006 800 x y 10/5/2	MSCI 10 006 800 x y 10/5/2	3201008 aa b 6L8 K/J/G	M83446/5-35*	M83446/5-72*
MPCI 10 008 200 x y 10/5/2	MSCI 10 008 200 x y 10/5/2	3201008 aa b 8L2 K/J/G	M83446/5-36*	M83446/5-73*
MPCI 10 010 000 x y 10/5/2	MSCI 10 010 000 x y 10/5/2	3201008 aa b 100 K/J/G	M83446/5-37*	M83446/5-74*

aa = 01 for Au Termination
aa = 02 for SnPb Termination

b = B for Chart III level B
b = C for Chart III level C

K/J/G (tolerance)
K for ±10%
J for ±5%
G for ±2%

To Order

MPCI 10 ### ## x y z

MPCI	10	### ##	x	y	z
Radio Frequency Fixed Coils	Size	Inductance Value (nH) from 000 010 to 010 000	Terminations x = G for Gold x = T for SnPb	Terminations shape y = S without tab y = A with tab (Not valid for space use)	Tolerance : z = 10 ±10% z = 5 ±5% z = 2 ±2%

