

Chip Inductors - MPC10000 Series

- Cesa qualified 3201/008 and as per 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
- Tinned or gold plated terminations
- Frequency range: 7.9MHz to 500MHz
- Operating temperature range: -55 °C to +125 °C
- Weight: 0.07 gram

Electrical Data (25°C)

ID Code	Inductance* μH	Q Min	Test Freq. MHz	SFR Min. MHz	DCR Max. Ω	DC Current mA max	Tol** % Min
MPC1 10 000 010	0.010	60	150	2000	0.025	750	10
MPC1 10 000 012	0.012	60	150	2000	0.025	750	
MPC1 10 000 015	0.015	60	150	1800	0.04	750	
MPC1 10 000 018	0.018	60	150	1500	0.04	750	
MPC1 10 000 022	0.022	51	100	1400	0.04	750	5
MPC1 10 000 027	0.027	51	100	1200	0.04	750	
MPC1 10 000 033	0.033	47	100	1200	0.05	640	
MPC1 10 000 039	0.039	47	100	1200	0.07	600	
MPC1 10 000 047	0.047	47	100	1000	0.08	550	
MPC1 10 000 056	0.056	47	100	900	0.09	520	
MPC1 10 000 068	0.068	47	100	900	0.10	480	
MPC1 10 000 082	0.082	47	100	750	0.11	470	
MPC1 10 000 100	0.10	47	50	620	0.11	470	10
MPC1 10 000 120	0.12	47	50	540	0.11	470	
MPC1 10 000 150	0.15	47	50	450	0.12	450	
MPC1 10 000 180	0.18	51	50	400	0.14	430	
MPC1 10 000 220	0.22	51	50	380	0.20	350	5
MPC1 10 000 270	0.27	51	50	340	0.25	310	
MPC1 10 000 330	0.33	51	50	280	0.30	280	
MPC1 10 000 390	0.39	47	50	240	0.45	240	
MPC1 10 000 470	0.47	47	25	210	0.50	230	5
MPC1 10 000 560	0.56	52	25	180	0.55	220	

ID Code	Inductance* μH	Q Min	Test Freq. MHz	SFR Min. MHz	DCR Max. Ω	DC Current mA max	Tol** % Min
MPC1 10 000 680	0.68	52	25	160	0.58	210	5
MPC1 10 000 820	0.82	52	25	130	0.60	200	
MPC1 10 001 000	1.00	52	25	110	0.65	190	2
MPC1 10 001 200	1.20	42	7.9	110	0.75	180	
MPC1 10 001 500	1.50	42	7.9	100	1.1	160	
MPC1 10 001 800	1.80	48	7.9	95	1.2	150	
MPC1 10 002 200	2.20	48	7.9	90	1.3	140	
MPC1 10 002 700	2.70	48	7.9	65	1.5	130	
MPC1 10 003 300	3.30	48	7.9	55	1.8	120	
MPC1 10 003 900	3.90	48	7.9	45	2.0	110	
MPC1 10 004 700	4.70	48	7.9	43	2.3	100	
MPC1 10 005 600	5.60	48	7.9	40	2.5	100	
MPC1 10 006 800	6.80	46	7.9	38	2.6	98	
MPC1 10 008 200	8.20	46	7.9	35	2.8	95	
MPC1 10 010 000	10.0	46	7.9	33	3.3	87	

* Standard inductance tolerance: $\pm 10\%$

** Tightest achievable tolerances.

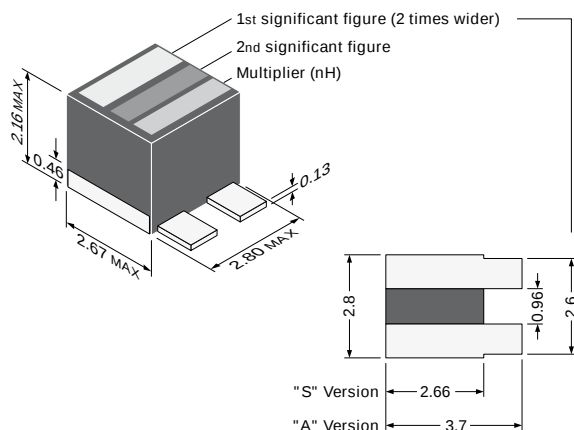
Other inductance values and S parameters on request.

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

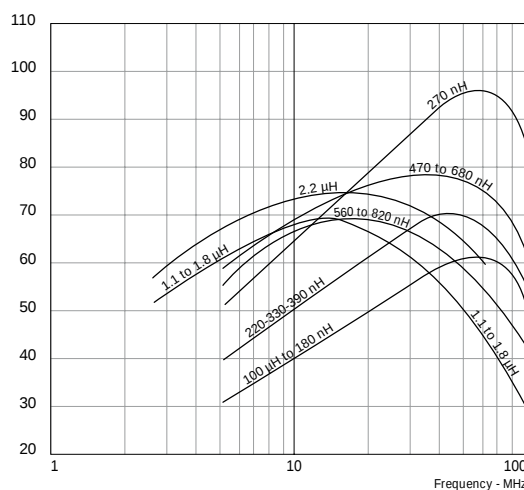
Packaging

Tape and Reel (without tab): 500 pieces
or Tray: 81 pieces without tab, 49 pieces with tab

Typical Dimensions (mm)



Q vs frequency



Miniature Chip Inductors MSCI 10000

MPCI10000 series are usually installed on Military applications and breadboards for Space applications.

Since January 2003, Microspire has been manufacturing Radio Frequency Fixed Coils, MPC1 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.

Cross reference chart

Microspire Non-QPL ID Code	Microspire QPL ID Code	ESA SCC Component Part Number
MPCI 10 000 010 x y 10	MSCI 10 000 010 x y 10	3201008 aa b L010 K
MPCI 10 000 012 x y 10	MSCI 10 000 012 x y 10	3201008 aa b L012 K
MPCI 10 000 015 x y 10	MSCI 10 000 015 x y 10	3201008 aa b L015 K
MPCI 10 000 018 x y 10	MSCI 10 000 018 x y 10	3201008 aa b L018 K
MPCI 10 000 022 x y 10/5	MSCI 10 000 022 x y 10/5	3201008 aa b L022 K/J
MPCI 10 000 027 x y 10/5	MSCI 10 000 027 x y 10/5	3201008 aa b L027 K/J
MPCI 10 000 033 x y 10/5	MSCI 10 000 033 x y 10/5	3201008 aa b L033 K/J
MPCI 10 000 039 x y 10/5	MSCI 10 000 039 x y 10/5	3201008 aa b L039 K/J
MPCI 10 000 047 x y 10/5	MSCI 10 000 047 x y 10/5	3201008 aa b L047 K/J
MPCI 10 000 056 x y 10/5	MSCI 10 000 056 x y 10/5	3201008 aa b L056 K/J
MPCI 10 000 068 x y 10/5	MSCI 10 000 068 x y 10/5	3201008 aa b L068 K/J
MPCI 10 000 082 x y 10/5	MSCI 10 000 082 x y 10/5	3201008 aa b L082 K/J
MPCI 10 000 100 x y 10	MSCI 10 000 100 x y 10	3201008 aa b L10 K
MPCI 10 000 120 x y 10	MSCI 10 000 120 x y 10	3201008 aa b L12 K
MPCI 10 000 150 x y 10	MSCI 10 000 150 x y 10	3201008 aa b L15 K
MPCI 10 000 180 x y 10	MSCI 10 000 180 x y 10	3201008 aa b L18 K
MPCI 10 000 220 x y 10	MSCI 10 000 220 x y 10	3201008 aa b L22 K
MPCI 10 000 270 x y 10	MSCI 10 000 270 x y 10	3201008 aa b L27 K
MPCI 10 000 330 x y 10	MSCI 10 000 330 x y 10	3201008 aa b L33 K
MPCI 10 000 390 x y 10	MSCI 10 000 390 x y 10	3201008 aa b L39 K
MPCI 10 000 470 x y 10/5	MSCI 10 000 470 x y 10/5	3201008 aa b L47 K/J

To Order

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 Tinned	Terminations shape y = S without tab y = A with tab (Not valid for space use)	Tolerance : z = 10 for ±10% z = 5 for ±5% z = 2 for ±2%