A FEATURES

- High saturation current rating
- Inductance ratings from 0.8 to 1000 μH
- Widely applications, highly recommend using for switching regulators
- Operating Temperature range from -40°C to +125°C (Including Self-heating)
- 260°C reflow peak temperature qualified.

B PART NUMBER SYSTEM

1MC	105	-	100	M	F
❶	❷		❸	❹	❺

❶	Series
1MC	Series Code

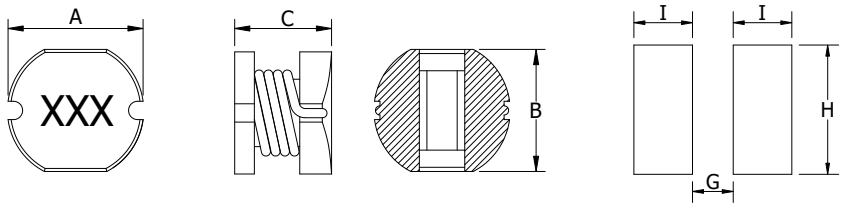
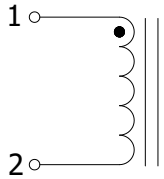
❷	Dimension Code (L*W*H) (mm)	
	32(3.5×3.0×2.1)	43 (4.0×4.5×3.2)
	54 (5.2×5.8×4.5)	75 (7.0×7.8×5.0)
	105 (9.0×10.0×5.4)	

❸	Inductance Code
e.g.	Calculation
2R2	2.2μH
100	10×10^{0}μH = 10μH
101	10×10^{1}μH = 100μH

❹	Inductance Tolerance
K	±10%
L	±15%
M	±20%

❺	RoHS Compliant

C DRAWINGS AND DIMENSIONS

Drawing	Schematic
	

XXX = Inductance value

Case Size	Dimensions (mm)					
	A	B	C	$I_{ref.}$	$G_{ref.}$	$H_{ref.}$
1MC32	3.5±0.2	3.0±0.2	2.1±0.3	1.6	0.8	3.5
1MC43	4.5±0.3	4.0±0.3	3.2±0.3	1.75	1.5	5.0
1MC54	5.8±0.3	5.2±0.3	4.5±0.3	2.15	1.7	6.0
1MC75	7.8±0.3	7.0±0.3	5.0±0.5	3.00	2.0	8.0
1MC105	10.0±0.4	9.0±0.4	5.4±0.5	3.75	2.5	10.0

D SPECIFICATIONS

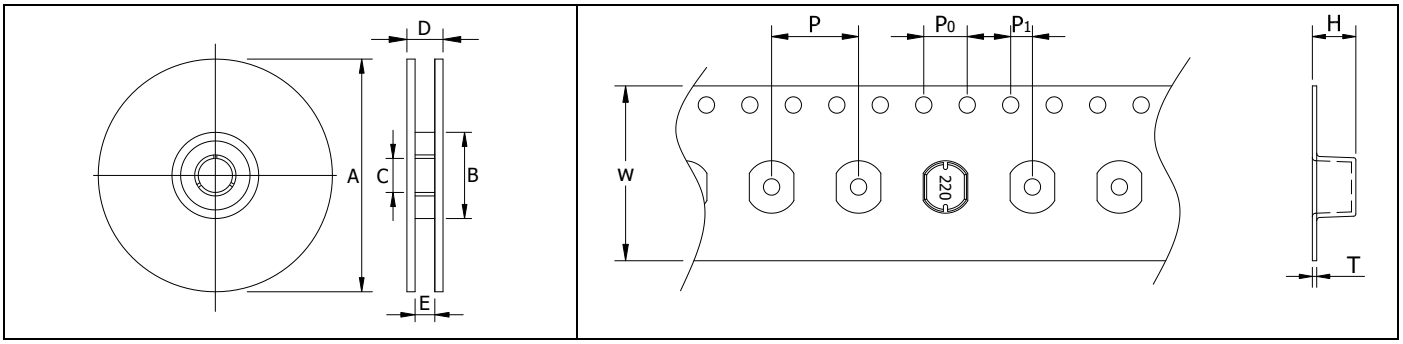
	Inductance[1]		DCR[2]			
Part Number	**μH**	**Tolerance**	**Typ.(Ω)**	**Max.(Ω)**	**Irms[3](A)**	**Isat[4](A)**
1MC32-1R0MF	1.0	±20%	0.040	0.048	1.75	2.45
1MC32-2R2MF	2.2	±20%	0.060	0.072	1.68	2.18
1MC32-3R3MF	3.3	±20%	0.090	0.108	1.58	1.90
1MC32-4R7MF	4.7	±20%	0.143	0.172	1.50	1.65
1MC32-5R6MF	5.6	±20%	0.160	0.192	1.36	1.50
1MC32-6R8MF	6.8	±20%	0.183	0.219	1.22	1.34
1MC32-8R2MF	8.2	±20%	0.206	0.247	1.09	1.20
1MC32-100MF	10	±20%	0.238	0.286	0.95	1.05
1MC32-120MF	12	±20%	0.271	0.325	0.88	0.97
1MC32-150MF	15	±20%	0.390	0.468	0.82	0.95
1MC32-220MF	22	±20%	0.520	0.611	0.78	0.90
1MC43-1R0MF	1.0	±20%	0.014	0.049	4.00	5.72
1MC43-1R4MF	1.4	±20%	0.022	0.056	3.40	5.04
1MC43-1R8MF	1.8	±20%	0.028	0.064	2.70	3.60
1MC43-2R2MF	2.2	±20%	0.034	0.071	2.50	3.38
1MC43-2R7MF	2.7	±20%	0.039	0.079	2.25	2.97
1MC43-3R3MF	3.3	±20%	0.041	0.086	2.00	2.88
1MC43-3R9MF	3.9	±20%	0.054	0.094	1.88	2.57
1MC43-4R7MF	4.7	±20%	0.059	0.110	1.82	2.46
1MC43-5R6MF	5.6	±20%	0.069	0.126	1.58	2.43
1MC43-6R8MF	6.8	±20%	0.076	0.131	1.54	2.10
1MC43-8R2MF	8.2	±20%	0.116	0.146	1.50	1.80
1MC43-100MF	10	±20%	0.118	0.182	1.45	1.74
1MC43-120KF	12	±10%	0.156	0.210	1.28	1.62
1MC43-150KF	15	±10%	0.204	0.235	1.20	1.46
1MC43-180KF	18	±10%	0.225	0.338	1.10	1.29
1MC43-220KF	22	±10%	0.261	0.370	1.00	1.22
1MC43-270KF	27	±10%	0.328	0.522	0.94	1.00
1MC43-330KF	33	±10%	0.370	0.540	0.86	0.90
1MC43-390KF	39	±10%	0.418	0.870	0.77	0.87
1MC43-470KF	47	±10%	0.523	0.844	0.68	0.77
1MC43-560KF	56	±10%	0.714	0.937	0.64	0.75
1MC43-680KF	68	±10%	0.754	1.117	0.56	0.68
1MC43-820KF	82	±10%	1.003	1.180	0.43	0.60
1MC43-101KF	100	±10%	1.012	1.190	0.41	0.58
1MC54-1R0MF	1.0	±20%	0.0120	0.0200	5.90	10.00
1MC54-1R5MF	1.5	±20%	0.0180	0.0250	4.70	9.00
1MC54-2R2MF	2.2	±20%	0.0260	0.0410	4.60	8.20
1MC54-2R7MF	2.7	±20%	0.0320	0.045	4.00	8.00
1MC54-3R3MF	3.3	±20%	0.042	0.060	4.00	7.50
1MC54-4R7MF	4.7	±20%	0.056	0.071	3.00	5.50
1MC54-6R8MF	6.8	±20%	0.071	0.082	2.40	5.00
1MC54-100MF	10	±20%	0.078	0.100	2.20	2.50
1MC54-120KF	12	±10%	0.082	0.110	2.00	1.94
1MC54-150KF	15	±10%	0.089	0.140	1.53	1.90
1MC54-180KF	18	±10%	0.104	0.150	1.45	1.69
1MC54-220KF	22	±10%	0.109	0.180	1.28	1.53
1MC54-270KF	27	±10%	0.133	0.200	1.19	1.40
1MC54-330KF	33	±10%	0.150	0.230	1.09	1.17
1MC54-390KF	39	±10%	0.215	0.320	0.94	1.10
1MC54-470KF	47	±10%	0.260	0.370	0.86	1.00
1MC54-560KF	56	±10%	0.298	0.420	0.77	0.90
1MC54-680KF	68	±10%	0.313	0.460	0.64	0.86
1MC54-820KF	82	±10%	0.475	0.600	0.60	0.72

	Inductance[1]		DCR[2]			
Part Number	**μH**	**Tolerance**	**Typ.(Ω)**	**Max.(Ω)**	**Irms[3](A)**	**Isat[4](A)**
1MC54-101KF	100	±10%	0.510	0.650	0.57	0.68
1MC54-121KF	120	±10%	0.660	0.930	0.49	0.63
1MC54-151KF	150	±10%	0.720	1.100	0.46	0.54
1MC54-181KF	180	±10%	0.850	1.380	0.42	0.50
1MC54-221KF	220	±10%	0.945	1.570	0.42	0.47
1MC54-331KF	330	±10%	1.350	1.700	0.33	0.35
1MC54-471KF	470	±10%	1.950	2.300	0.28	0.33
1MC54-681KF	680	±10%	2.300	3.000	0.23	0.25
1MC54-821KF	820	±10%	3.850	4.500	0.22	0.22
1MC54-102KF	1000	±10%	4.500	4.800	0.21	0.20
1MC75-1R0MF	1.0	±20%	0.015	0.030	9.00	11.0
1MC75-1R5MF	1.5	±20%	0.020	0.040	7.00	8.00
1MC75-2R2MF	2.2	±20%	0.025	0.050	5.00	6.00
1MC75-3R3MF	3.3	±20%	0.030	0.060	4.00	4.90
1MC75-4R7MF	4.7	±20%	0.035	0.070	3.80	4.50
1MC75-5R6MF	5.6	±20%	0.040	0.070	3.50	4.00
1MC75-6R8MF	6.8	±20%	0.045	0.070	3.40	3.80
1MC75-8R2MF	8.2	±20%	0.055	0.070	3.00	3.20
1MC75-100KF	10	±10%	0.044	0.070	2.30	2.95
1MC75-120KF	12	±10%	0.042	0.080	2.18	2.20
1MC75-150KF	15	±10%	0.044	0.090	1.93	2.23
1MC75-180KF	18	±10%	0.053	0.100	1.89	2.14
1MC75-220KF	22	±10%	0.065	0.110	1.76	1.81
1MC75-270KF	27	±10%	0.074	0.120	1.48	1.62
1MC75-330KF	33	±10%	0.088	0.130	1.35	1.47
1MC75-390KF	39	±10%	0.116	0.160	1.25	1.33
1MC75-470KF	47	±10%	0.134	0.180	1.18	1.24
1MC75-560KF	56	±10%	0.189	0.240	1.04	1.14
1MC75-680KF	68	±10%	0.218	0.280	0.99	1.05
1MC75-820KF	82	±10%	0.248	0.370	0.90	0.95
1MC75-101KF	100	±10%	0.208	0.430	0.77	0.86
1MC75-121KF	120	±10%	0.308	0.470	0.67	0.81
1MC75-151KF	150	±10%	0.467	0.640	0.60	0.71
1MC75-181KF	180	±10%	0.574	0.710	0.55	0.57
1MC75-221KF	220	±10%	0.614	0.960	0.51	0.56
1MC75-271KF	270	±10%	0.699	1.110	0.47	0.51
1MC75-331KF	330	±10%	0.810	1.260	0.43	0.48
1MC75-391KF	390	±10%	1.151	1.770	0.38	0.43
1MC75-471KF	470	±10%	1.370	1.960	0.36	0.38
1MC105-1R0MF	1.0	±20%	0.007	0.010	7.40	11.00
1MC105-2R2MF	2.2	±20%	0.010	0.020	7.00	8.00
1MC105-3R3MF	3.3	±20%	0.018	0.030	6.00	7.00
1MC105-4R7MF	4.7	±20%	0.020	0.030	5.00	6.00
1MC105-6R8MF	6.8	±20%	0.022	0.040	4.40	5.00
1MC105-100KF	10	±10%	0.028	0.060	2.98	3.24
1MC105-120KF	12	±10%	0.033	0.070	2.72	3.15
1MC105-150KF	15	±10%	0.034	0.080	2.47	2.88
1MC105-180KF	18	±10%	0.043	0.090	2.36	2.43
1MC105-220KF	22	±10%	0.051	0.100	2.04	2.07
1MC105-270KF	27	±10%	0.063	0.110	1.95	1.98
1MC105-330KF	33	±10%	0.083	0.120	1.78	1.89
1MC105-390KF	39	±10%	0.098	0.140	1.62	1.8
1MC105-470KF	47	±10%	0.095	0.170	1.45	1.62
1MC105-560KF	56	±10%	0.112	0.190	1.36	1.53
1MC105-680KF	68	±10%	0.138	0.220	1.19	1.49
1MC105-820KF	82	±10%	0.150	0.250	1.11	1.17
1MC105-101KF	100	±10%	0.200	0.350	1.02	1.1

Inductance[1]			DCR[2]			
Part Number	**μH**	**Tolerance**	**Typ.(Ω)**	**Max.(Ω)**	**Irms[3](A)**	**Isat[4](A)**
1MC105-121KF	120	±10%	0.243	0.400	0.94	0.99
1MC105-151KF	150	±10%	0.300	0.470	0.81	0.9
1MC105-181KF	180	±10%	0.320	0.630	0.76	0.78
1MC105-221KF	220	±10%	0.451	0.730	0.67	0.77
1MC105-271KF	270	±10%	0.500	0.970	0.62	0.68
1MC105-331KF	330	±10%	0.750	1.150	0.52	0.59
1MC105-391KF	390	±10%	0.794	1.300	0.49	0.54
1MC105-471KF	470	±10%	0.969	1.480	0.44	0.50
1MC105-561KF	560	±10%	1.047	1.900	0.39	0.47
1MC105-681KF	680	±10%	1.245	2.250	0.36	0.43
1MC105-821KF	820	±10%	1.420	2.550	0.32	0.41

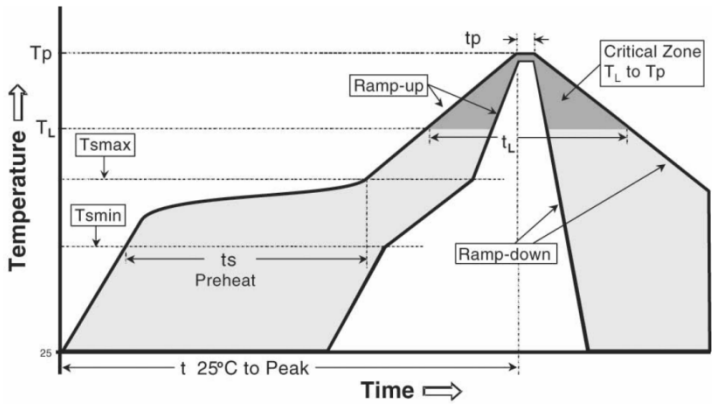
1. Inductance measured @ 100KHz, 0.3V at 25°C temperature.
2. DCR measured @ 25°C.
3. Irms: DC current for an approximate 40°C rise from 20°C ambient temperature.
4. Isat: DC current for approximate 10% roll off at 25°C.
5. Specifications subject to change without notice please check our website for latest information.

E TAPE AND REEL SPECIFICATIONS



Case Size	Parts per Reel	Reel Dimensions(REF)					Tape Dimensions(REF)					
		A	**B**	**C**	**D**	**E**	**W**	**P**	**P_0**	**P1**	**H**	**T**
1MC32	3000	330	100	13	19.5	13.5	12	8	4	2	2.3	0.35
1MC43	2000	330	100	13	19.5	13.5	12	8	4	2	3.6	0.4
1MC54	1500	330	100	13	19.5	13.5	12	8	4	2	4.8	0.4
1MC75	1000	330	100	13	22.5	16.5	16	12	4	2	5.3	0.4
1MC105	500	330	100	13	22.5	16.5	24	16	4	2	6.1	0.4

F RECOMMENDED SOLDER REFLOW PROFILE



Profile Feature	Recommended Conditions
Average ramp-up rate (Ts_{max} to Tp)	3˚C/second max.
Preheat Temperature Min (Ts_{min}) Temperature Max (Ts_{max}) Time (Ts_{min} to Ts_{max})(ts)	 150˚C 200˚C 60-180 seconds
Time maintained above: Temperature (T_L) Time (t_L)	 217˚C 60-150 seconds
Peak Temperature (Tp)	See Table2
Time within 5˚C of actual Peak Temperature $(tp)^2$	20-40 seconds
Ramp-down Rate	6˚C/second max.
Time 25˚C to Peak Temperature	8 minutes max

Table 1

Package Thickness	Volume mm^3 <350	Volume mm^3 350 - 2000	Volume mm^3 >2000
< 1.6mm	260˚C	260˚C	260˚C
1.6mm - 2.5mm	260˚C	250˚C	245˚C
>2.5mm	250˚C	245˚C	245˚C

Table 2

1. The above profiles are based on IPC/JEDEC J-STD-020C.
2. Exceeding these conditions may cause lowered product reliability.