

A FEATURES

- Excellent saturation current capability
- Shielded construction reduces leakage flux and EMI
- Metallization on ferrite core results in excellent shock resistance and damage-free durability
- Extremely higher current rating than conventional inductors of equal size
- Save PCB real estate and save more power
- Operating Temperature range from -40°C to +125°C (Including Self-heating)
- 260°C reflow peak temperature qualified



B PART NUMBER SYSTEM

1ME 3010 X - 100 M F
① ② ③ ④ ⑤ ⑥

①	Series	②	Dimension Code (L*W*H) (mm)	
1ME	Series Code		201610(2.0×1.6×1.0)	252010(2.5×2.0×1.0)
			252012(2.5×2.0×1.2)	3012(3.0×3.0×1.2)
			4012 (3.0×3.0×1.5)	4020(4.0×4.0×1.2)
④	Inductance Code	③	Design Code	
e.g.	Calculation			
2R2	2.2μH			
101	10×10 ¹ μH = 100μH			
⑤	Inductance Tolerance	⑥	RoHS Compliant	
M	±20%			

C DRAWINGS AND DIMENSIONS

Fig.A - 1ME201610X,252010X,252012X	Fig.B - 1ME3012X
Land Pattern	Land Pattern
Fig.C - 1ME4012X,4020X	Schematic
Land Pattern	

XXX = Marking

Case Size	Dimensions (mm)									Fig.
	A	B	C _{max}	D	E	F	H _{ref.}	I _{ref.}	J _{ref.}	
1ME201610X	2.0±0.2	1.6±0.2	1.0	1.2±0.2	0.6±0.2	0.8±0.2	1.7	0.7	0.7	A
1ME252010X	2.5±0.1	2.0±0.1	1.0	1.5±0.2	0.8±0.2	0.8±0.2	2.0	0.85	0.8	A
1ME252012X	2.5±0.1	2.0±0.1	1.2	1.5±0.2	0.8±0.2	0.8±0.2	2.0	0.85	0.8	A
1ME3012X	3.0±0.2	3.0±0.2	1.2	2.5±0.2	0.75±0.2	1.5±0.2	2.7	0.8	1.5	B
1ME4012X	4.0±0.2	4.0±0.2	1.2	3.3±0.2	0.95±0.2	2.1±0.2	3.7	1.1	1.9	C
1ME4020X	4.0±0.2	4.0±0.2	2.0	3.3±0.2	0.95±0.2	2.1±0.2	3.7	1.1	1.9	C

D SPECIFICATIONS

Part Number	Inductance ¹		DCR ²			
	μH	Tolerance	Typ.(Ω)	Max.(Ω)	I _{rms} ³ (A)	I _{sat} ⁴ (A)
1ME201610X-R24MF	0.24	±20%	0.033	0.040	3.45	5.50
1ME201610X-R47MF	0.47	±20%	0.041	0.049	3.10	4.70
1ME201610X-R68MF	0.68	±20%	0.057	0.065	2.80	4.00
1ME201610X-1R0MF	1.0	±20%	0.075	0.090	2.35	3.85
1ME201610X-1R5MF	1.5	±20%	0.110	0.130	2.00	2.30
1ME201610X-2R2MF	2.2	±20%	0.142	0.170	1.70	2.15
1ME201610X-4R7MF	4.7	±20%	0.370	0.425	1.00	1.50
1ME201610X-100MF	10	±20%	0.688	0.826	0.75	0.95
1ME252010X-R33MF	0.33	±20%	0.033	0.039	4.05	5.50
1ME252010X-R47MF	0.47	±20%	0.038	0.045	3.70	5.20
1ME252010X-R68MF	0.68	±20%	0.049	0.059	3.20	3.60
1ME252010X-1R0MF	1.0	±20%	0.063	0.076	2.90	3.50
1ME252010X-1R5MF	1.5	±20%	0.088	0.106	2.30	3.00
1ME252010X-2R2MF	2.2	±20%	0.129	0.155	1.80	2.20
1ME252010X-3R3MF	3.3	±20%	0.196	0.235	1.40	1.80
1ME252010X-4R7MF	4.7	±20%	0.230	0.276	1.30	1.50
1ME252010X-100MF	10	±20%	0.435	0.500	0.90	1.00
1ME252012X-R24MF	0.24	±20%	0.019	0.023	4.70	7.80
1ME252012X-R33MF	0.33	±20%	0.023	0.028	4.30	6.20
1ME252012X-R47MF	0.47	±20%	0.029	0.035	4.00	5.60
1ME252012X-R68MF	0.68	±20%	0.036	0.043	3.60	4.30
1ME252012X-1R0MF	1.0	±20%	0.048	0.054	3.40	4.20
1ME252012X-1R5MF	1.5	±20%	0.060	0.072	2.80	3.50
1ME252012X-2R2MF	2.2	±20%	0.100	0.120	2.15	3.00
1ME252012X-3R3MF	3.3	±20%	0.136	0.163	2.05	2.10
1ME252012X-4R7MF	4.7	±20%	0.225	0.260	1.45	1.90
1ME252012X-6R8MF	6.8	±20%	0.305	0.366	1.10	1.35
1ME252012X-100MF	10	±20%	0.435	0.480	1.00	1.35
1ME3012X-R33MF	0.33	±20%	0.023	0.027	4.85	8.90
1ME3012X-R47MF	0.47	±20%	0.028	0.033	4.50	8.00
1ME3012X-R68MF	0.68	±20%	0.035	0.042	3.90	6.80
1ME3012X-1R0MF	1.0	±20%	0.045	0.054	3.10	5.40
1ME3012X-1R5MF	1.5	±20%	0.064	0.074	2.90	4.10
1ME3012X-2R2MF	2.2	±20%	0.090	0.108	2.35	3.35
1ME3012X-3R3MF	3.3	±20%	0.129	0.155	2.00	2.60
1ME3012X-4R7MF	4.7	±20%	0.196	0.235	1.50	2.50
1ME3012X-6R8MF	6.8	±20%	0.290	0.340	1.25	1.90
1ME3012X-100MF	10	±20%	0.395	0.474	1.15	1.45
1ME4012X-R33MF	0.33	±20%	0.030	0.036	3.50	9.70
1ME4012X-2R2MF	2.2	±20%	0.072	0.089	3.00	3.50
1ME4012X-100MF	10	±20%	0.290	0.345	1.50	1.85

Part Number	Inductance ¹		DCR ²		Irms ³ (A)	Isat ⁴ (A)
	μ H	Tolerance	Typ.(Ω)	Max.(Ω)		
1ME4012X-220MF	22	±20%	0.590	0.708	0.80	1.35
1ME4020X-1R0MF	1.0	±20%	0.022	0.026	6.70	11.10
1ME4020X-1R5MF	1.5	±20%	0.030	0.036	6.00	9.60
1ME4020X-2R2MF	2.2	±20%	0.040	0.048	5.00	7.60
1ME4020X-3R3MF	3.3	±20%	0.060	0.072	4.00	5.90
1ME4020X-4R7MF	4.7	±20%	0.090	0.108	3.30	4.90
1ME4020X-6R8MF	6.8	±20%	0.130	0.156	2.80	4.20
1ME4020X-100MF	10	±20%	0.180	0.216	2.35	3.50

1. Inductance measured @ 1MHz at 20°C temperature.

2. DCR measured @ 20°C.

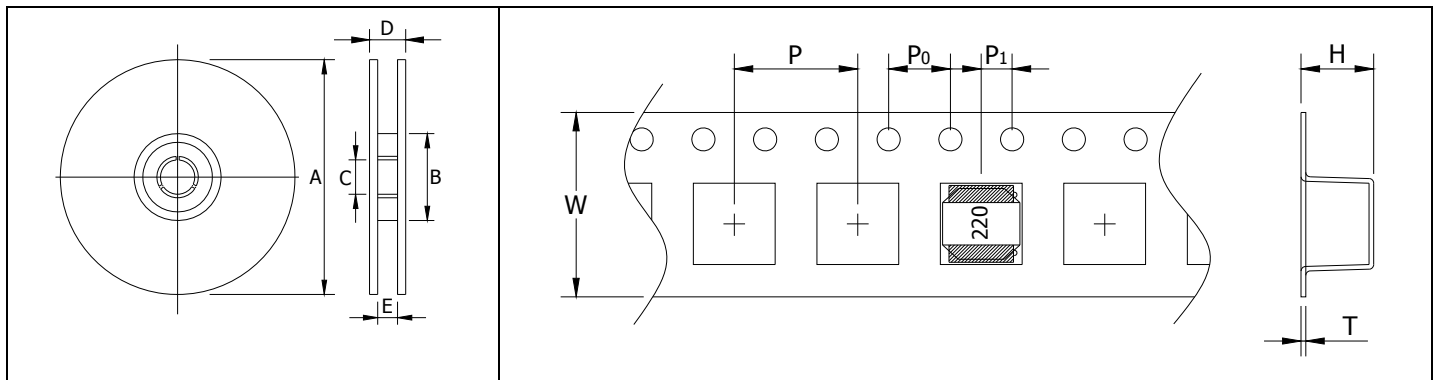
3. Irms for an approximate 40°C rise from 20°C ambient temperature.

4. Isat for approximate 30% roll off at 20°C ambient temperature.

5. For 201610/252010/252012 size, absolute maximum voltage: DC 25V; For 3012/4012/4020 size, absolute maximum voltage: DC 40V.

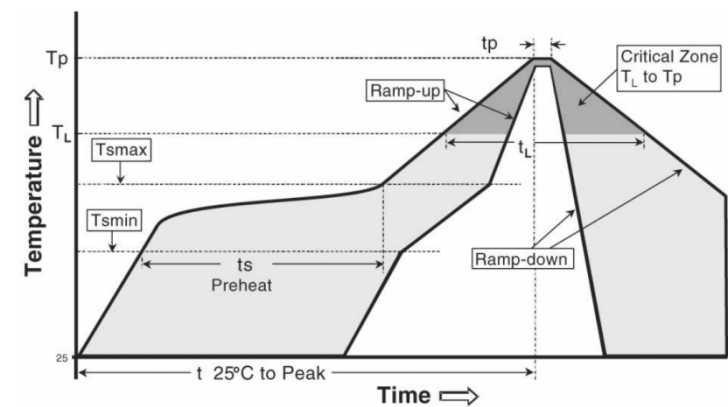
6. Specifications subject to change without notice please check our website for latest information.

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	P ₁	H	T
1ME201610X	2000	178	58	13	13	9.0	8	4	4	2	1.2	0.3
1ME252010X	2000	178	58	13	13	9.0	8	4	4	2	1.2	0.3
1ME252012X	2000	178	58	13	13	9.0	8	4	4	2	1.4	0.3
1ME3012X	2000	178	58	13	13	9.0	8	4	4	2	1.6	0.3
1ME4012X	4500	330	100	13	19	12.4	12	8	4	2	1.6	0.3
1ME4020X	3000	330	100	13	19	12.4	12	8	4	2	2.4	0.3

F RECOMMENDED SOLDER REFLOW PROFILE



Profile Feature	Recommended Conditions
Average ramp-up rate (Tsm _{ax} to T _p)	3°C/second max.
Preheat	
Temperature Min (T _{smin})	100°C
Temperature Max (T _{smax})	150°C
Time (T _{smin} to T _{smax})(t _s)	60-180 seconds
Time maintained above:	
Temperature (T _L)	217°C
Time (t _L)	60-150 seconds
Peak Temperature (T _p)	See Table2
Time within 5°C of actual Peak Temperature (t _p) 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.