

EM 型绕线片式电感器规格书

THE STANDARD STYLE BOOK OF CHIP INDUCTORS

(MODEL EM322522 系列 SERIES)

承认印栏

Signature sheet of acceptor

特性

- 本产品电极引脚表面采用无铅镀层。
Lead-free materials is used for the plating on the terminals.
- 产品使用的金属引脚电极，具有可靠的连接性能。
The product uses metal terminals, which realize excellent connection reliability.
- 具有很高的抗热抗湿性、抗机械振动和挤压，适用于表面贴装。
High resistance to heat, humidity, mechanical shocks and presser. Accurate dimensions for automatically surface mounted.
- 对于无铅化回流焊接条件，具有高度的耐热性。
The product has good heat durability that withstands lead-free compatible reflow soldering conditions.

■ 用途

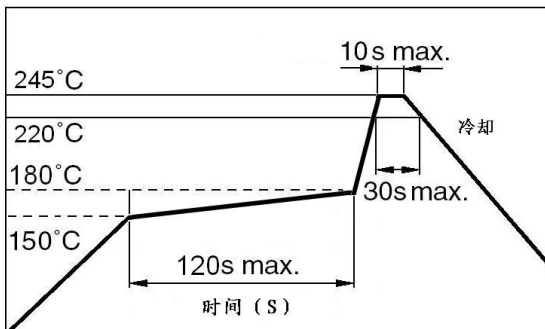
- 可用于计算机、电源、通讯设备、仪器仪表、电视音响等领域的电子电路中。
EM series high reliable wire wound chip inductors for communication, equipment, instrument, video & audio have been developen in response to the trend toward higher density mounting of parts in electric circuits.

■ 使用温度 Operating temperature

温度范围 Range $-25 \sim +85^{\circ}\text{C}$

■ 推荐的回流焊接条件

Recommended soldering conditions reflow soldering



■ 产品的型号及尺寸

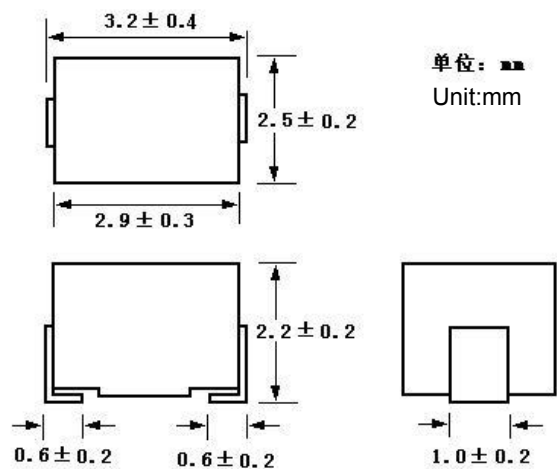
Type Designation & Outer dimensions

(1) 产品系列型号 Type Designation

EM 32 T- 2R2 X
(1) (2) (3) (4) (5)

(2) 外形尺寸 Outer dimensions L×W×T

32 (1210)	公制 Metric	3.2×2.5×2.2 mm
	英制 British	0.125×0.100 inch



(3) 包装类型 Packing style

T 编带 (卷轴) Taping

(4) 电感值 Inductance value

1R0	1μH
220	22μH

(5) 电感允差 Inductance tolerance

J	±5%
K	±10%
M	±20%

■ 包装类型与数量 Packing style and Quantity

包装类型 Packing style	编带 Taping
数量 Quantity	2000 支/盘 pieces/reel

锡膏与清洗 Soldering paste and Cleaning

- 推荐使用松香锡膏。 Recommended soldering paste is blended with colophony.
- 清洗条件：选择环保的清洗剂，应避免使用强酸和强碱，时间不超过2分钟。

Cleaning: Avoid strong acid and alkali, 2 minutes Max.

■ 电气特性 Electrical characteristics

电感值 Inductance (μ H)	电感允差 Inductance tolerance	Q 值 min.	测试频率 Test frequency L,Q (MHz)	自谐频率 Self-resonant frequency (MHz)min.	直流电阻 DC resistance (Ω) max.	额定电流 Rated current. (mA)max.	产品规格型号 Part No.
0.1	$\pm 20, \pm 10\%$	28	100	700	0.44	450	EM322522T-R10X
0.12	$\pm 20, \pm 10\%$	30	25.2	500	0.22	450	EM322522T-R12X
0.15	$\pm 20, \pm 10\%$	30	25.2	450	0.25	450	EM322522T-R15X
0.18	$\pm 20, \pm 10\%$	30	25.2	400	0.28	450	EM322522T-R18X
0.22	$\pm 20, \pm 10\%$	30	25.2	350	0.32	450	EM322522T-R22X
0.27	$\pm 20, \pm 10\%$	30	25.2	320	0.36	450	EM322522T-R27X
0.33	$\pm 20, \pm 10\%$	30	25.2	300	0.4	450	EM322522T-R33X
0.39	$\pm 20, \pm 10\%$	30	25.2	250	0.45	450	EM322522T-R39X
0.47	$\pm 20, \pm 10\%$	30	25.2	220	0.5	450	EM322522T-R47X
0.56	$\pm 20, \pm 10\%$	30	25.2	180	0.55	450	EM322522T-R56X
0.68	$\pm 20, \pm 10\%$	30	25.2	160	0.6	450	EM322522T-R68X
0.82	$\pm 20, \pm 10\%$	30	25.2	140	0.65	450	EM322522T-R82X
1	$\pm 10, \pm 5\%$	30	7.96	120	0.7	400	EM322522T-1R0X
1.2	$\pm 10, \pm 5\%$	30	7.96	100	0.75	390	EM322522T-1R2X
1.5	$\pm 10, \pm 5\%$	30	7.96	85	0.85	370	EM322522T-1R5X
1.8	$\pm 10, \pm 5\%$	30	7.96	80	0.9	350	EM322522T-1R8X
2.2	$\pm 10, \pm 5\%$	30	7.96	75	1	320	EM322522T-2R2X
2.7	$\pm 10, \pm 5\%$	30	7.96	70	1.1	290	EM322522T-2R7X
3.3	$\pm 10, \pm 5\%$	30	7.96	60	1.2	260	EM322522T-3R3X
3.9	$\pm 10, \pm 5\%$	30	7.96	55	1.3	250	EM322522T-3R9X
4.7	$\pm 10, \pm 5\%$	30	7.96	50	1.5	220	EM322522T-4R7X
5.6	$\pm 10, \pm 5\%$	30	7.96	45	1.6	200	EM322522T-5R6X
6.8	$\pm 10, \pm 5\%$	30	7.96	40	1.8	180	EM322522T-6R8X
8.2	$\pm 10, \pm 5\%$	30	7.96	35	2	170	EM322522T-8R2X
10	$\pm 10, \pm 5\%$	30	2.52	30	2.1	150	EM322522T-100X
12	$\pm 10, \pm 5\%$	30	2.52	20	2.5	140	EM322522T-120X
15	$\pm 10, \pm 5\%$	30	2.52	20	2.8	130	EM322522T-150X
18	$\pm 10, \pm 5\%$	30	2.52	20	3.3	120	EM322522T-180X
22	$\pm 10, \pm 5\%$	30	2.52	20	3.7	110	EM322522T-220X
27	$\pm 10, \pm 5\%$	30	2.52	20	5	80	EM322522T-270X
33	$\pm 10, \pm 5\%$	30	2.52	17	5.6	70	EM322522T-330X
39	$\pm 10, \pm 5\%$	30	2.52	16	6.4	65	EM322522T-390X
47	$\pm 10, \pm 5\%$	30	2.52	15	7	60	EM322522T-470X
56	$\pm 10, \pm 5\%$	30	2.52	13	8	55	EM322522T-560X
68	$\pm 10, \pm 5\%$	30	2.52	12	9	50	EM322522T-680X
82	$\pm 10, \pm 5\%$	30	2.52	11	10	45	EM322522T-820X
100	$\pm 10, \pm 5\%$	20	0.796	10	10	40	EM322522T-101X
120	$\pm 10, \pm 5\%$	20	0.796	10	11	70	EM322522T-121X
150	$\pm 10, \pm 5\%$	20	0.796	8	15	65	EM322522T-151X
180	$\pm 10, \pm 5\%$	20	0.796	7	17	60	EM322522T-181X
220	$\pm 10, \pm 5\%$	20	0.796	7	21	50	EM322522T-221X

■ 特性 Features

- 本产品电极引脚表面采用无铅镀层。
Lead-free materials is used for the plating on the terminals.
- 产品使用的金属引脚电极，具有可靠的连接性能。
The product uses metal terminals, which realize excellent connection reliability.
- 具有很高的抗热抗湿性、抗机械振动和挤压，适用于表面贴装。
High resistance to heat, humidity, mechanical shocks and presser. Accurate dimensions for automatically surface mounted.
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The product has good heat durability that withstands lead-free compatible reflow soldering conditions.

■ 用途 Application

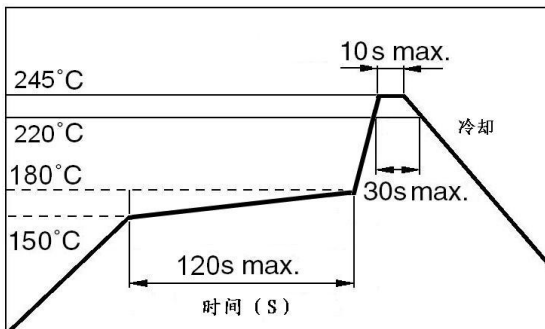
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■ 使用温度 Operating temperature

温度范围 Range $-40\sim+105^{\circ}\text{C}$ [包括自身温度上升]

■ 推荐的回流焊接条件

Recommended soldering conditions reflow soldering



■ 产品的型号及尺寸

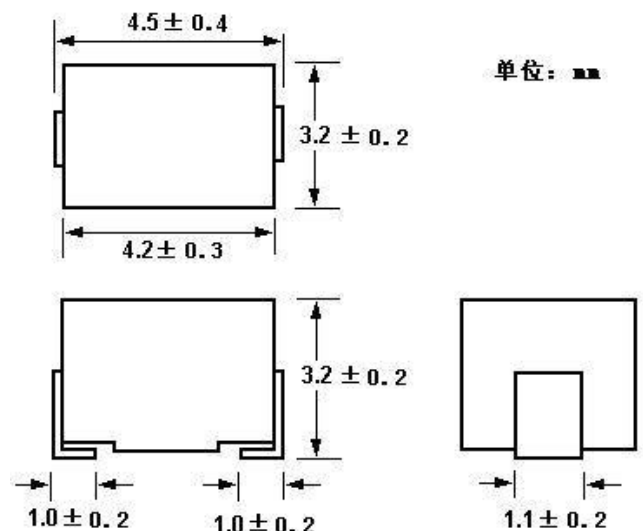
Type Designation & Outer dimensions

(1) 产品系列型号 Type Designation

EM 45 T- 2R2 M
(1) (2) (3) (4) (5)

(2) 外形尺寸 Outer dimensions L×W×T

45	(1812)	公制 4.5×3.2×3.2mm
		英制 0.180×0.125 inch



(3) 包装类型 Packing style

T	编带 (卷轴)
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(4) 电感值 Inductance value

1R0	1μH
330	33μH
331	330μH

(5) 电感允差 Inductance tolerance

K	±10%
M	±20%

■ 包装类型与数量 Packing style and Quantity

包装类型	编带
数量	500 支/盘

■ 锡膏与清洗 Soldering paste and Cleaning

- 推荐使用松香锡膏。 Recommended soldering paste is blended with colophony.
- 清洗条件：选择环保的清洗剂，应避免使用强酸和强碱，时间不超过2分钟。
Cleaning: Avoid strong acid and alkali, 2 minutes Max.

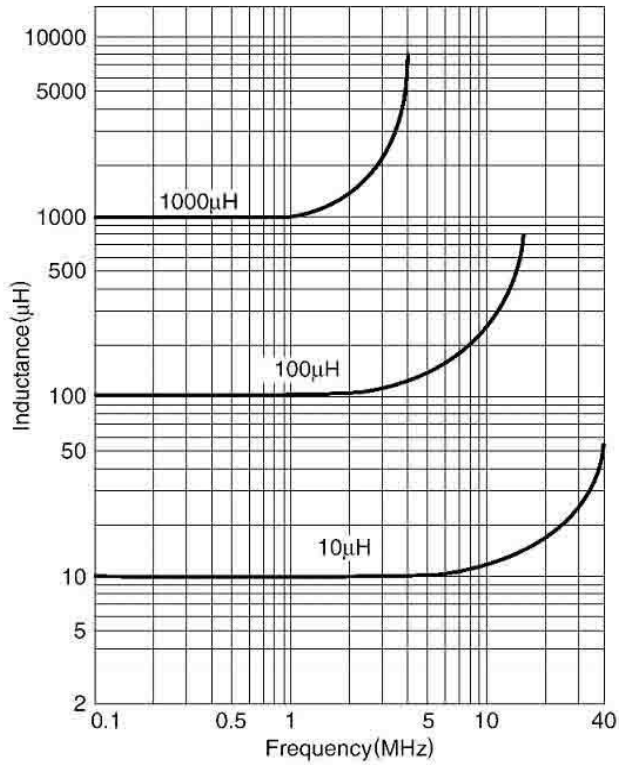
■ 电气特性 Electrical characteristics

电感值 Inductance (μ H)	电感允差 Inductance tolerance	Q 值 min.	测试频率 Test frequency L,Q (MHz)	自谐频率 Self-resonant frequency (MHz)min.	直流电阻 DC resistance (Ω) max.	额定电流 Rated current. (mA)max.	产品规格型号 Part No.
0.10	$\pm 10\%, \pm 20\%$	35	25.2	300	0.18	800	EM453232T-R10X
0.12	$\pm 10\%, \pm 20\%$	35	25.2	280	0.20	770	EM453232T-R12X
0.15	$\pm 10\%, \pm 20\%$	35	25.2	250	0.22	730	EM453232T-R15X
0.18	$\pm 10\%, \pm 20\%$	35	25.2	220	0.24	700	EM453232T-R18X
0.22	$\pm 10\%, \pm 20\%$	40	25.2	200	0.25	665	EM453232T-R22X
0.27	$\pm 10\%, \pm 20\%$	40	25.2	180	0.26	635	EM453232T-R27X
0.33	$\pm 10\%, \pm 20\%$	40	25.2	165	0.28	605	EM453232T-R33X
0.39	$\pm 10\%, \pm 20\%$	40	25.2	150	0.30	575	EM453232T-R39X
0.47	$\pm 10\%, \pm 20\%$	40	25.2	145	0.32	545	EM453232T-R47X
0.56	$\pm 10\%, \pm 20\%$	40	25.2	140	0.36	520	EM453232T-R56X
0.68	$\pm 10\%, \pm 20\%$	40	25.2	135	0.40	500	EM453232T-R68X
0.82	$\pm 10\%, \pm 20\%$	40	25.2	130	0.45	475	EM453232T-R82X
1.0	$\pm 10\%, \pm 20\%$	50	7.96	100	0.5	450	EM453232T-1R0X
1.2	$\pm 10\%, \pm 20\%$	50	7.96	80	0.55	430	EM453232T-1R2X
1.5	$\pm 10\%, \pm 20\%$	50	7.96	70	0.6	410	EM453232T-1R5X
1.8	$\pm 10\%, \pm 20\%$	50	7.96	60	0.65	390	EM453232T-1R8X
2.2	$\pm 10\%, \pm 20\%$	50	7.96	55	0.7	380	EM453232T-2R2X
2.7	$\pm 10\%, \pm 20\%$	50	7.96	50	0.75	370	EM453232T-2R7X
3.3	$\pm 10\%, \pm 20\%$	50	7.96	45	0.8	355	EM453232T-3R3X
3.9	$\pm 10\%, \pm 20\%$	50	7.96	40	0.9	330	EM453232T-3R9X
4.7	$\pm 10\%, \pm 20\%$	50	7.96	35	1	315	EM453232T-4R7X
5.6	$\pm 10\%, \pm 20\%$	50	7.96	33	1.1	300	EM453232T-5R6X
6.8	$\pm 10\%, \pm 20\%$	50	7.96	27	1.2	285	EM453232T-6R8X
8.2	$\pm 5\%, \pm 10\%$	50	7.96	25	1.4	270	EM453232T-8R2X
10	$\pm 5\%, \pm 10\%$	50	2.52	20	1.6	250	EM453232T-100X
12	$\pm 5\%, \pm 10\%$	50	2.52	18	2	225	EM453232T-120X
15	$\pm 5\%, \pm 10\%$	50	2.52	17	2.5	200	EM453232T-150X
18	$\pm 5\%, \pm 10\%$	50	2.52	15	2.8	190	EM453232T-180X
22	$\pm 5\%, \pm 10\%$	50	2.52	13	3.2	180	EM453232T-220X
27	$\pm 5\%, \pm 10\%$	50	2.52	12	3.6	170	EM453232T-270X
33	$\pm 5\%, \pm 10\%$	50	2.52	11	4	160	EM453232T-330X
39	$\pm 5\%, \pm 10\%$	50	2.52	10	4.5	150	EM453232T-390X
47	$\pm 5\%, \pm 10\%$	50	2.52	10	5	140	EM453232T-470X
56	$\pm 5\%, \pm 10\%$	50	2.52	9	5.5	135	EM453232T-560X
68	$\pm 5\%, \pm 10\%$	50	2.52	9	6	130	EM453232T-680X
82	$\pm 5\%, \pm 10\%$	50	2.52	8	7	120	EM453232T-820X
100	$\pm 5\%, \pm 10\%$	40	0.796	8	8	110	EM453232T-101X
120	$\pm 5\%, \pm 10\%$	40	0.796	6	8	110	EM453232T-121X
150	$\pm 5\%, \pm 10\%$	40	0.796	5	9	105	EM453232T-151X
180	$\pm 5\%, \pm 10\%$	40	0.796	5	9.5	102	EM453232T-181X
220	$\pm 5\%, \pm 10\%$	40	0.796	4	10	100	EM453232T-221X
270	$\pm 5\%, \pm 10\%$	40	0.796	4	12	92	EM453232T-271X
330	$\pm 5\%, \pm 10\%$	40	0.796	3.5	14	85	EM453232T-331X
390	$\pm 5\%, \pm 10\%$	40	0.796	3	18	80	EM453232T-391X
470	$\pm 5\%, \pm 10\%$	40	0.796	3	26	62	EM453232T-471X
560	$\pm 5\%, \pm 10\%$	30	0.796	3	30	50	EM453232T-561X
680	$\pm 5\%, \pm 10\%$	30	0.796	3	30	50	EM453232T-681X
820	$\pm 5\%, \pm 10\%$	30	0.796	2.5	35	30	EM453232T-821X
1000	$\pm 5\%, \pm 10\%$	20	0.252	2.5	40	30	EM453232T-102X

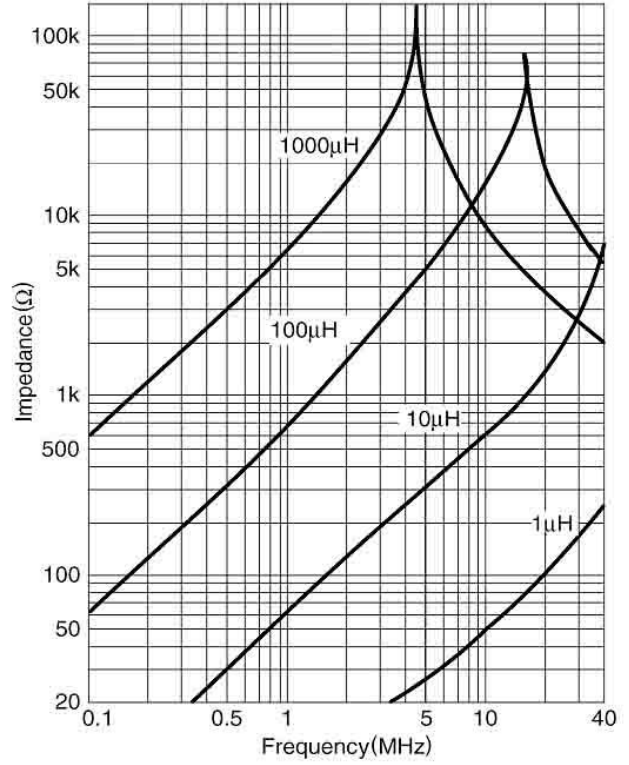
- 额定电流：是指施加此电流使电感值变化率比初值低10%或因自身发热而温度上升20℃时两者中的较小者。
Rated current: Value obtained when current flows and the temperature has risen to 20°C or when DC current flows and the initial value of inductance has fallen by 10%, whichever is smaller
- L, Q 测试设备：HP4285A+16034E, 或 同等设备。 Test equipment L, Q: HP4285A +16034E, or equivalent.
- 自谐频率：HP8753C 网络分析仪。SRF: HP8753C NETWORK ANALYZER, or equivalent.
- 直流电阻：AX-111A 数字毫欧表, 或同等设备。DC resistance: AX-111A DIGITAL MILLIOHM METER, or equivalent.

■ 特性图 Characteristics

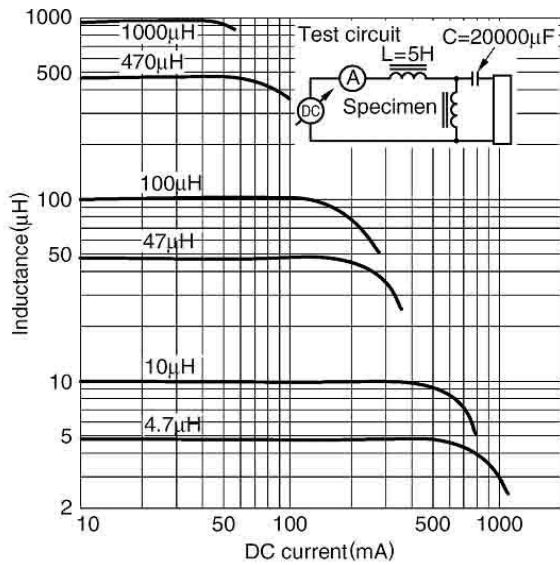
感值频率特性图



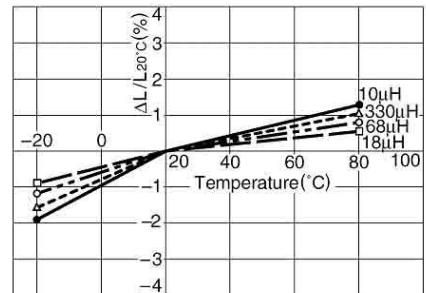
阻抗频率特性图



直流叠加特性图



感值温度特性图



Q 值频率特性图

