

APPROVAL SPECIFICATION

PRODUCT NAME:

KOOMAG PN: KMKC50 Series

CUSTOMER PN:

CUSTOMER RESPONSE

<input type="checkbox"/> Approval <input type="checkbox"/> Approval with the following changes <input type="checkbox"/> Reject		
APPROVED BY	SIGNATURE	DATE

KOOMAG ENGINEERING SIGNATURE

APPROVED BY	CHECKED BY	ISSUED BY
DATE	DATE	DATE

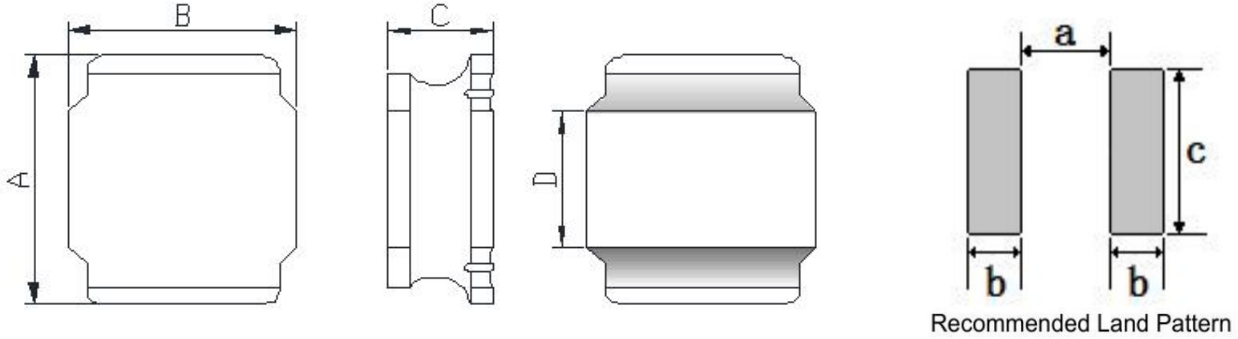
深圳坤磁科技有限公司
 SHENZHEN KOOMAG TECHNOLOGY CO., LTD

Address: B503, Building B, HuaChuangDa Headquarters Building, Bao'an 49 District, Shenzhen

General Description

This specification applies to the KMKC50 Series of wire wound SMD power inductor.

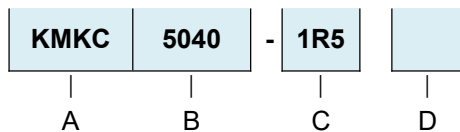
Appearance & Shape



Dimension (Unit:mm)

NO	Series	A	B	C	D	E	F	a Typ.	b Typ.	c Typ.
1	KMKC5020	5.0±0.2	5.0±0.2	2.0 Max.	4.0±0.2	1.25±0.2	2.5±0.2	2.3	1.4	4.3
2	KMKC5040	5.0±0.2	5.0±0.2	4.0 Max.	4.0±0.2	1.25±0.2	2.5±0.2	2.3	1.4	4.3

Part Number



A:Series name (产品品名)

B:Dimensions (产品尺寸)

C:Inductance value (电感值) 1R5: 1.5μH 221: 220μH

D:Tolerance (误差值) K: ±10%; M: ±20%; N: ±30%

Electrical Characteristics

Please refer to Item 5.

- 1). Operating temperature range (individual chip without packing): $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$.
- 2). Storage temperature range (packaging conditions): $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$ and RH 70% (Max.).
- 3). Rating DC current: Temperature rise(ΔT) is 40°C approximately at Irms.
- 4). Saturation DC current: Inductance drop approximately 30% of L0 at Isat.

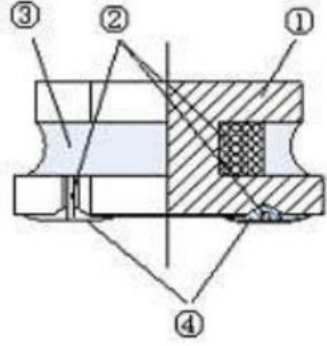
NO	Part Number	Inductance	DC Resistance		I _{sat} (A)		I _{rms} (A)		Marking
		100KHz/1.0V	Max.	Typ.	Max.	Typ.	Max.	Typ.	
	Units	(μH)	Ω	Ω	A	A	A	A	
1	KMKC5020-R47N	0.47 \pm 30%	0.017	0.013	6.15	6.70	4.60	5.00	R47
2	KMKC5020-1R0N	1.00 \pm 30%	0.026	0.019	4.10	5.00	3.80	4.10	1R0
3	KMKC5020-1R5N	1.50 \pm 30%	0.034	0.031	4.10	4.50	3.20	3.50	1R5
4	KMKC5020-2R2M	2.20 \pm 20%	0.042	0.036	3.20	4.00	2.90	3.10	2R2
5	KMKC5020-3R3M	3.30 \pm 20%	0.056	0.045	2.55	3.00	2.50	2.70	3R3
6	KMKC5020-4R7M	4.70 \pm 20%	0.074	0.063	2.50	2.70	2.20	2.40	4R7
7	KMKC5020-5R6M	5.60 \pm 20%	0.083	0.072	2.30	2.50	2.05	2.20	5R6
8	KMKC5020-6R8M	6.80 \pm 20%	0.108	0.080	2.05	2.20	1.80	1.90	6R8
9	KMKC5020-100M	10.0 \pm 20%	0.143	0.118	1.70	1.80	1.55	1.70	100
10	KMKC5020-150M	15.0 \pm 20%	0.215	0.164	1.35	1.40	1.25	1.30	150
11	KMKC5020-220M	22.0 \pm 20%	0.294	0.240	1.15	1.20	1.10	1.20	220
12	KMKC5020-330M	33.0 \pm 20%	0.507	0.490	0.92	1.00	0.90	1.00	330
13	KMKC5020-470M	47.0 \pm 20%	0.680	0.541	0.77	0.84	0.77	0.84	470
14	KMKC5020-680M	68.0 \pm 20%	0.962	0.910	0.65	0.75	0.60	0.70	680
15	KMKC5020-101M	100.0 \pm 20%	1.430	1.240	0.53	0.58	0.53	0.58	101
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※Design as Customer's Requested Specifications. (可按顾客的特殊需求设计)

NO	Part Number	Inductance	DC Resistance		I _{ast} (A)		I _{rms} (A)		Marking
		100KHz/1.0V	Max.	Typ.	Max.	Typ.	Max.	Typ.	
	Units	(μ H)	Ω	Ω	A	A	A	A	
1	KMKC5040-R47N	0.47 \pm 30%	0.013	0.010	10.00	11.50	6.60	7.60	R47
2	KMKC5040-1R0N	1.00 \pm 30%	0.016	0.014	7.35	8.00	4.90	5.00	1R0
3	KMKC5040-1R5N	1.50 \pm 30%	0.020	0.016	6.30	6.80	4.30	4.85	1R5
4	KMKC5040-2R2M	2.20 \pm 20%	0.025	0.021	4.90	5.50	3.80	4.20	2R2
5	KMKC5040-3R3M	3.30 \pm 20%	0.031	0.028	3.95	4.45	3.40	3.90	3R3
6	KMKC5040-4R7M	4.70 \pm 20%	0.039	0.032	3.50	3.80	3.00	3.30	4R7
7	KMKC5040-5R6M	5.60 \pm 20%	0.046	0.040	3.00	3.70	2.80	3.10	5R6
8	KMKC5040-6R8M	6.80 \pm 20%	0.056	0.045	2.90	3.40	2.50	2.80	6R8
9	KMKC5040-8R2M	8.20 \pm 20%	0.062	0.055	2.70	2.90	2.30	2.60	8R2
10	KMKC5040-100M	10.0 \pm 20%	0.083	0.069	2.35	2.70	2.10	2.35	100
11	KMKC5040-150M	15.0 \pm 20%	0.112	0.091	2.00	2.20	2.00	2.05	150
12	KMKC5040-220M	22.0 \pm 20%	0.168	0.146	1.60	1.80	1.50	1.60	220
13	KMKC5040-330M	33.0 \pm 20%	0.244	0.200	1.30	1.45	1.20	1.35	330
14	KMKC5040-470M	47.0 \pm 20%	0.354	0.300	1.10	1.20	1.00	1.15	470
15	KMKC5040-680M	68.0 \pm 20%	0.520	0.420	0.90	1.00	0.80	0.90	680
16	KMKC5040-101M	100.0 \pm 20%	0.728	0.650	0.75	0.85	0.70	0.78	101
17	KMKC5040-151M	150.0 \pm 20%	1.300	0.990	0.65	0.70	0.50	0.55	151
18	KMKC5040-301M	300.0 \pm 20%	2.600	2.200	0.60	0.65	0.50	0.55	301
19									
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※Design as Customer's Requested Specifications. (可按顾客的特殊需求设计)

Structure (The structure of product.)



NO	Components	Material
1	Core	Ni-Zn Ferrite
2	Wire	Polyurethane system enameled copper wire
3	Magnetic Glue	Epoxy resin and magnetic powder
4	Plating	AgNiSn or FeNiCu + Sn Alloy

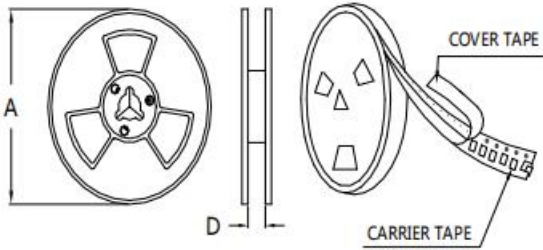
Packaging(unit:mm)

1.Tape Dimensions(Unit:mm)

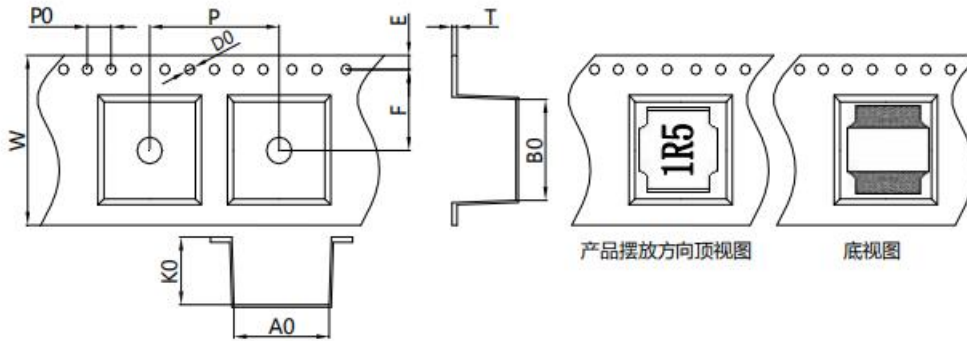
2.Reel

13" 盘

7" 盘



	13" 盘	7" 盘
A	$\Phi 330 \pm 2.0$	$\Phi 178 \pm 2.0$
D	12.5	



Size	Item	W	A0	B0	K0	P	T	E	F	D0	P0
5020	(mm)	12.0 ± 0.3	5.5 ± 0.3	5.5 ± 0.3	2.4 ± 0.2	8.0 ± 0.3	0.4 ± 0.1	1.75 ± 0.1	5.5 ± 0.1	1.5 ± 0.1	4.0 ± 0.2
5040	(mm)	12.0 ± 0.3	5.5 ± 0.3	5.5 ± 0.3	4.4 ± 0.2	8.0 ± 0.3	0.4 ± 0.1	1.75 ± 0.1	5.5 ± 0.1	1.5 ± 0.1	4.0 ± 0.2

Part No.	Tape	MPQ
5020	Embossed Tape	2500PCS
5040	Embossed Tape	1500PCS

Soldering Condition Sproduct

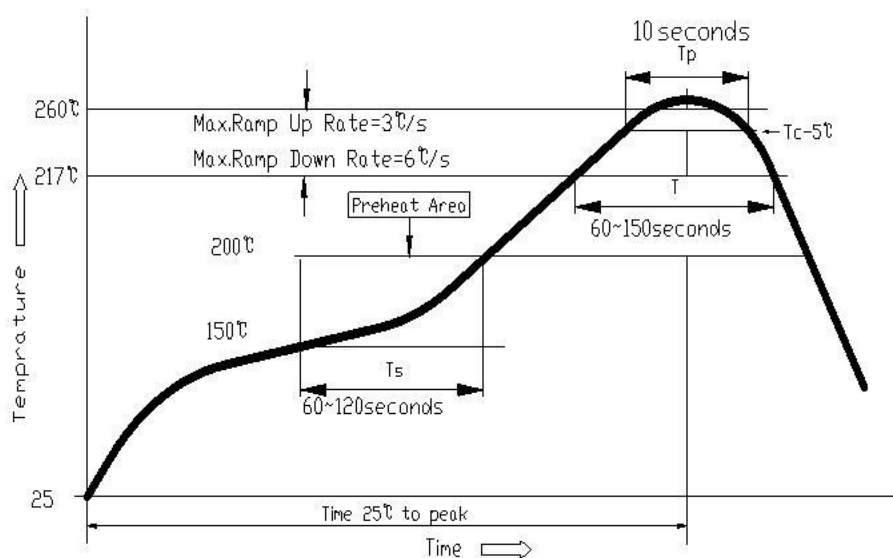
Applicable soldering process to the products is refl.

1.Soldering Materials

(1)Solder:Sn-3.0Ag-0.5Cu

(2)Flux:Use rosin-based flux,but not strongly acidic flux (with xhlorine exceeding 0.2wt%).Do not use water-soluble flux.

2.Reflow Soldering Profile



3.Solderin glron

Reworking with electric soldering iron must preheating at 150°C for 1 minute is required,and do not directly touch the core with the tip of the soldering iron.The reworking soldering conditions are as follows.

- ①Temperature of soldering iron tip:350°C ;
- ② Soldering iron power output:≤30W;
- ③ Diameter of soldering iron end:≤1.0mm;
- ④Soldering time:< 3s.

