

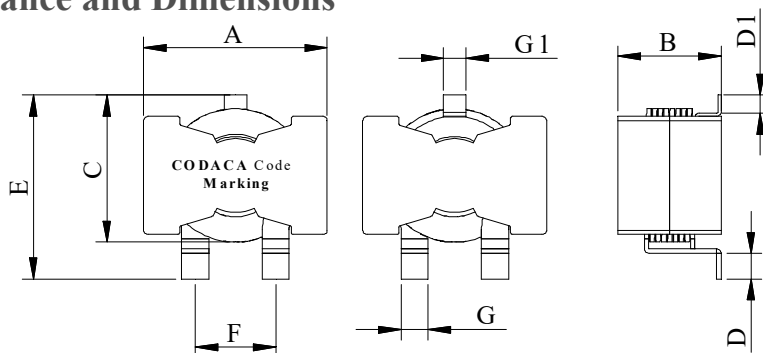
Features

- * Flat wire winding, achieving very low DC resistance.
- * The inductance value and DC bias characteristic are little affected by temperature.
- * Magnetically shielded structure, excellent resistance to electromagnetic interference.
- * Compact design saves PCB mounting area.
- * Operating temperature: $-55^{\circ}\text{C} \sim +155^{\circ}\text{C}$ (Including coil's temperature rise)

Applications

- * Automotive electronics,
- * high-end smartphones,
- * tablets, 5G modules,servers,
- * base stations,
- * DDR5, and various DC-DC conversion power modules.

Appearance and Dimensions



Dimensions(mm)									
Series	A	B	C	D	D1	E	F	G	G1
EPQFS-2014S-1R4M	21.8max	14.5max	14.0 $\pm$ 0.5	3.0 $\pm$ 0.5	2.0	22.5max	9 $\pm$ 0.50	3.0 $\pm$ 0.2	2.5max
EPQFS-2014S-2R2M	21.8max	14.5max	14.0 $\pm$ 0.5	3.0 $\pm$ 0.5	2.0	22.5max	9 $\pm$ 0.50	3.0 $\pm$ 0.2	2.5max
EPQFS-2014S-3R1M	21.8max	14.5max	14.0 $\pm$ 0.5	3.0 $\pm$ 0.5	2.0	22.5max	9 $\pm$ 0.50	3.0 $\pm$ 0.2	2.5max
EPQFS-2014S-4R2M	21.8max	14.5max	14.0 $\pm$ 0.5	3.0 $\pm$ 0.5	2.0	22.5max	9 $\pm$ 0.50	3.0 $\pm$ 0.2	2.5max
EPQFS-2014S-5R5M	21.8max	14.5max	14.0 $\pm$ 0.5	3.0 $\pm$ 0.5	2.0	22.5max	9 $\pm$ 0.50	3.0 $\pm$ 0.2	2.5max
EPQFS-2014S-7R0M	21.8max	14.5max	14.0 $\pm$ 0.5	3.0 $\pm$ 0.5	2.0	22.5max	9 $\pm$ 0.50	3.0 $\pm$ 0.2	2.5max
EPQFS-2014S-8R6M	21.8max	14.5max	14.0 $\pm$ 0.5	3.0 $\pm$ 0.5	2.0	22.5max	9 $\pm$ 0.50	3.0 $\pm$ 0.2	2.5max
EPQFS-2014S-100M	21.8max	14.5max	14.0 $\pm$ 0.5	3.0 $\pm$ 0.5	2.0	22.5max	9 $\pm$ 0.50	3.0 $\pm$ 0.2	2.5max
EPQFS-2014S-150M	21.8max	14.5max	14.0 $\pm$ 0.5	3.0 $\pm$ 0.5	2.0	22.5max	9 $\pm$ 0.50	3.0 $\pm$ 0.2	2.5max
EPQFS-2014S-220M	21.8max	14.5max	14.0 $\pm$ 0.5	3.0 $\pm$ 0.5	2.0	22.5max	9 $\pm$ 0.50	3.0 $\pm$ 0.2	2.5max
EPQFS-2014S-330M	21.8max	14.5max	14.0 $\pm$ 0.5	3.0 $\pm$ 0.5	2.0	22.5max	9 $\pm$ 0.50	3.0 $\pm$ 0.2	2.5max
EPQFS-2014S-470M	21.8max	14.5max	14.0 $\pm$ 0.5	3.0 $\pm$ 0.5	2.0	22.5max	9 $\pm$ 0.50	3.0 $\pm$ 0.2	2.5max

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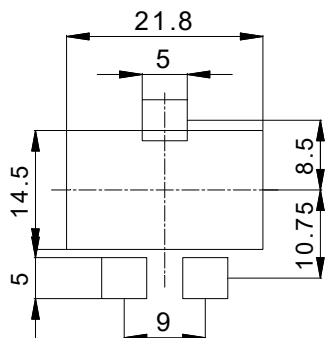
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Land Pattern Dimensions



Circuit Diagram



Product Identification

EEQFD-2014 S- 470 M

① ② ③ ④ ⑤

- ① Product Symbol
- ② Dimensions
- ③ Current Code (S:Standard ; S:Special)
- ④ Inductance Value (4R7:4.7μH;470:47.0μH)
- ⑤ Inductance Tolerance (K:10%;M:20%;N:30%)

Electrical Characteristics

Part No.	Inductance @100KHz/0.1V	Tolerance	DC Resistance		Saturation Current max.	Heat Rating max.
			max.	Typ		
Unit	μH	%	mΩ		A	A
Symbol	L	Tol.	R _{DC}		I _{SAT}	I _{RMS}
EPQFS-2014S-1R4M	1.4	±20	1.02	0.86	60.0	31.5
EPQFS-2014S-2R2M	2.2	±20	1.58	1.32	52.0	30.5
EPQFS-2014S-3R1M	3.1	±20	2.30	1.92	45.0	26.0
EPQFS-2014S-4R2M	4.2	±20	3.04	2.54	38.0	24.0
EPQFS-2014S-5R5M	5.5	±20	3.96	3.30	33.0	22.0
EPQFS-2014S-7R0M	7.0	±20	5.10	4.25	30.0	21.0
EPQFS-2014S-8R6M	8.6	±20	7.08	5.90	25.0	17.0
EPQFS-2014S-100M	10	±20	7.80	6.50	23.0	16.0
EPQFS-2014S-150M	15	±20	8.50	7.10	21.0	14.0
EPQFS-2014S-220M	22	±20	10.30	8.60	15.0	12.5
EPQFS-2014S-330M	33	±20	11.10	9.28	11.0	12.0
EPQFS-2014S-470M	47	±20	12.00	10.00	8.5	11.5

Remark:

※1: All test data is referenced to 20°C ambient.

※2: R_{DC}: DC resistance at 20°C.

※3: Rated current: I_{SAT} or I_{RMS}, whichever is smaller.

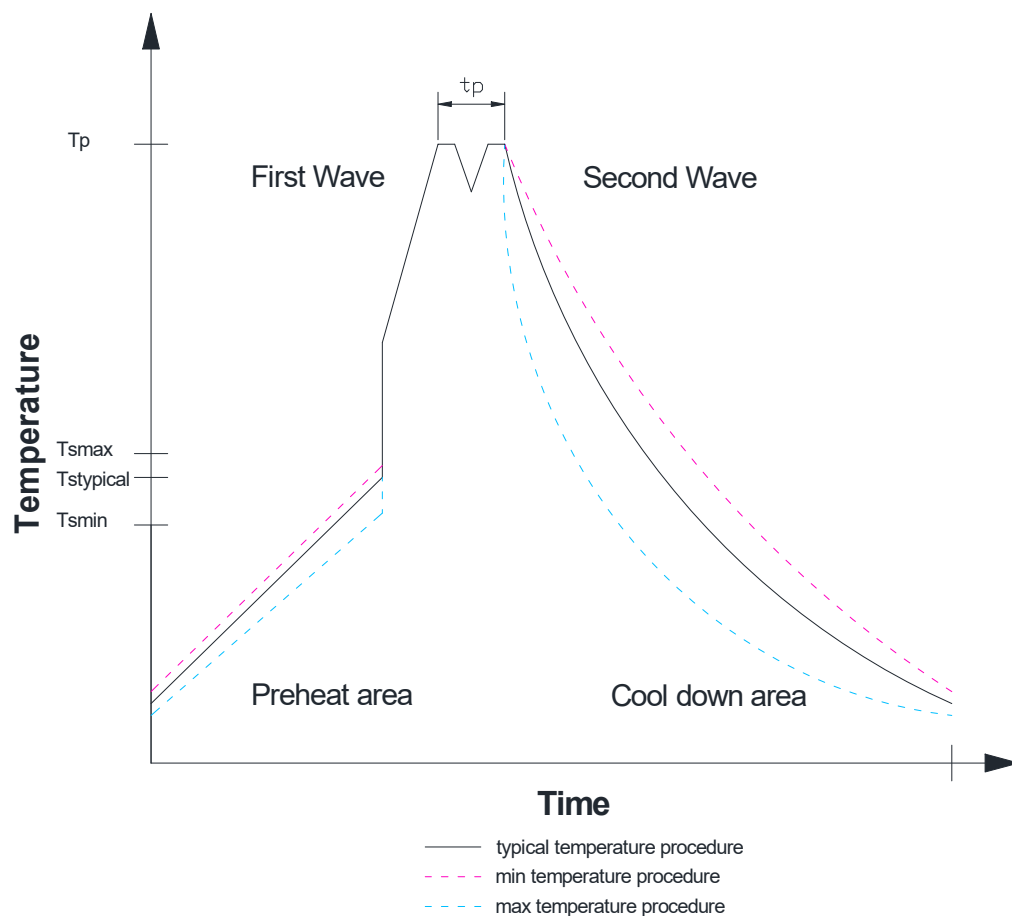
※4: Saturation Current: max. Value, DC current at which the inductance drops less than 30% from its value without current;
typ. Value, DC current at which the inductance drops 30% from its value without current.

※5: Heat Rating Current: DC current that causes the temperature rise (ΔT) from 20°C ambient,
For max. Value, ΔT < 40°C; for typ. Value, ΔT is approximate 40°C.

※6: Specifications subject to change without notice. Please check our website for latest information.

Recommended Soldering Conditions

Classification Wave Soldering Profile:



Profile Feature		Lead-Free Assembly
Preheat Temperature Min	T_{smin}	100 °C
Preheat Temperature Typical	$T_{s typical}$	120 °C
Preheat Temperature Max	$T_{s max}$	130 °C
Preheat Time t_s from $T_{s min}$ to $T_{s max}$	t_s	70 seconds
Ramp-up Rate	ΔT	150 °C max.
Peak Temperature	T_p	250 °C - 260 °C
Time of actual peak temperature	t_p	max. 10 seconds max. 5 seconds each wave
Ramp-down Rate, Min		~ 2 K/ second
Ramp-down Rate, Typical		~ 3.5 K/ second
Ramp-down Rate, Max		~ 5K/ second
Time 25 °C to 25 °C		4 minutes

Refer to EN61760-1:2006

Products Storage

(1) Storage period

Products which inspected in LYEC over 12 months ago should be examined and used, which can be confirmed with inspection No. marked on the container. Solderability should be checked if this period is exceeded.

(2) Storage conditions

Products should be storage in the warehouse on the following conditions:

Temperature: Less than 40°C

Humidity : Less than 75% relative and humidity

No rapid change on temperature and humidity

- (3) Don't keep products in corrosive gases such as sulfur, chlorine gas or acid, or it may cause oxidization of electrode, resulting in poor solderability.
- (4) Products should be storage on the palette for the prevention of the influence from humidity, dust and so on.
- (5) Products should be storage in the warehouse without heat shock, vibration, direct sunlight and so on.
- (6) Products should be storage under the airtight packaged condition.