SERIES: F1C2-0404 | DESCRIPTION: HIGH POWER SHIELDED SMD INDUCTORS

FEATURES

- Magnetically shielded construction
- Unique metal dust core providing improved Isat
- Low DCR resulting in lower power losses

MODEL	Inductance (L0)	Tolerance	DC Resistance (DCR)	Saturation Current (Isat)		Temperature Rise Current (Irms)	
			max	max	typ	max	typ
	[µH]	[± %]	[mΩ]	[A]	[A]	[A]	[A]
F1C2-040402W-R10M	0.10	20	2.42	33.0	38.0	13.5	18.0
F1C2-040402W-R22M	0.22	20	4.60	18.8	19.5	13.0	16.8
F1C2-040402W-R36M	0.36	20	6.30	15.0	17.0	11.0	14.5
F1C2-040402W-R40M	0.40	20	7.73	13.5	15.5	10.0	14.0
F1C2-040402W-R47M	0.47	20	8.58	13.0	14.5	9.0	12.5
F1C2-040402W-R56M	0.56	20	9.30	12.6	14.0	8.5	12.0
F1C2-040402W-R60M	0.60	20	9.52	12.3	13.7	8.0	11.7
F1C2-040402W-R72M	0.72	20	11.6	10.6	12.0	7.6	10.5
F1C2-040402W-1R0M	1.00	20	14.6	8.8	9.6	6.8	9.6
F1C2-040402W-1R2M	1.20	20	17.9	7.8	9.0	6.6	9.0
F1C2-040402W-1R5M	1.50	20	23.5	7.4	8.0	5.8	7.6
F1C2-040402W-1R8M	1.80	20	28.0	7.0	7.5	5.2	7.0
F1C2-040402W-2R2M	2.20	20	38.7	6.0	6.5	4.6	5.6
F1C2-040403W-R47M	0.47	20	7.26	13.5	16.0	10.0	14.0
F1C2-040403W-R90M	0.90	20	10.1	9.2	10.0	8.2	11.2
F1C2-040403W-1R0M	1.00	20	10.1	9.2	9.8	8.0	11.0
F1C2-040403W-1R2M	1.20	20	11.5	8.7	9.2	7.8	9.8
F1C2-040403W-1R5M	1.50	20	13.2	7.0	8.0	7.0	9.0
F1C2-040403W-2R2M	2.20	20	22.6	6.1	7.0	6.0	7.8
F1C2-040403W-3R3M	3.30	20	28.6	5.3	6.2	5.0	6.6
F1C2-040403W-4R7M	4.70	20	44.1	4.0	4.5	3.9	5.1
F1C2-040403W-6R8M	6.80	20	74.1	3.0	3.6	3.0	3.9

Notes:

1. *Referenced ambient temperature 25°C*
2. *Test Condition: 100 kHz, 0.1 Vrms*
3. *Saturation Current - Isat: DC current (A) that will cause L0 to drop approximately 30%*
   Temperature Rise Current - Irms: DC current (A) that will cause an approximate ΔT of 40°C
4. *Operating temperature range includes self-temperature rise*
5. *Operating Temperature: -55°C to 125°C*
6. *The products' temperature (ambient + temp rise) should not exceed 125 °C under the worst case operating condition.*
   Circuit design, component, PCB trace size and thickness, airflow and other cooling provisions all could affect the operating temperature, which should be verified in the end application.

Please read our datasheet & drawing disclaimer here.

PART NUMBER KEY

F1C2 - 040402W - XXX X

Type / Product Series
F1C2 = High Power Shielded SMD Inductors

Form Factor
040402W
040403W

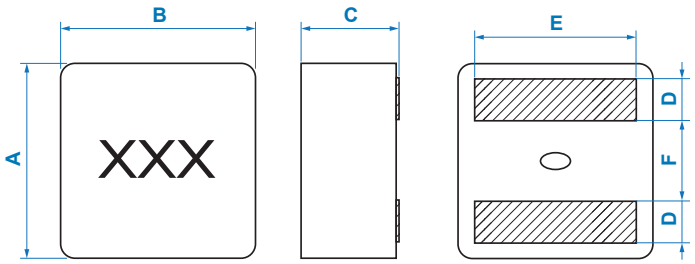
Inductance Tolerance
M = ±20%

Inductance *
R47 = 0.47 µH

** Note: Inductance expressed by three figures. The unit is micro henry (µH). The first and second figures are significant digits, the third figure expresses the number of zeros which follow the two figures. If there is a decimal point, it is expressed by the capital letter "R" (3R8 = 3.8 µH). In that case, all figures are significant digits.*

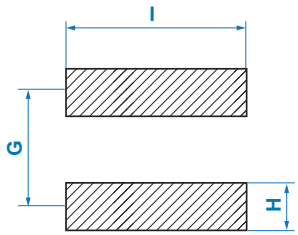
MECHANICAL DRAWING

Units: mm



PAD LAYOUT

Units: mm

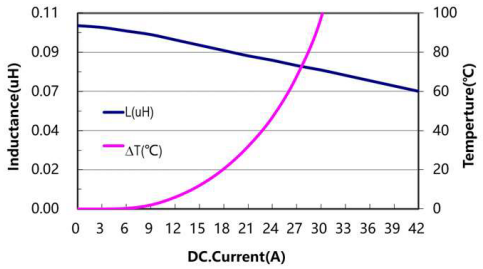


MECHANICAL DIMENSIONS (mm)

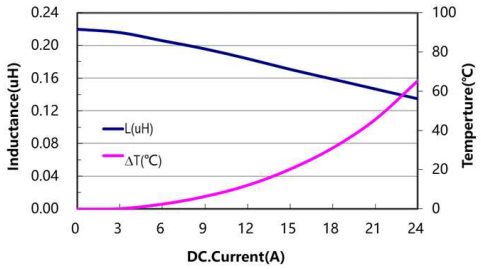
Product Series	A	B	C	D	E	F	G	H	I
F1C2-040402W	4.10 ± 0.20	4.10 ± 0.20	2.10 max	0.88 ± 0.3	3.40 ± 0.3	1.70 ± 0.3	2.40	1.00	3.80
F1C2-040403W	4.10 ± 0.25	4.10 ± 0.25	3.00 max	0.88 ± 0.3	3.40 ± 0.3	1.70 ± 0.3	2.40	1.00	3.80

PERFORMANCE CURVES

F1C2-040402W-R10M



F1C2-040402W-R22M



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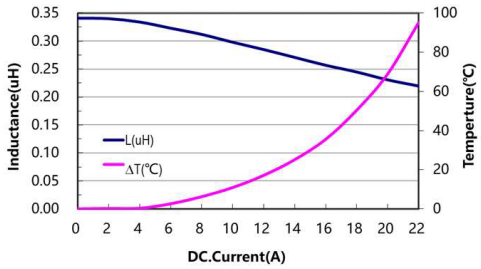
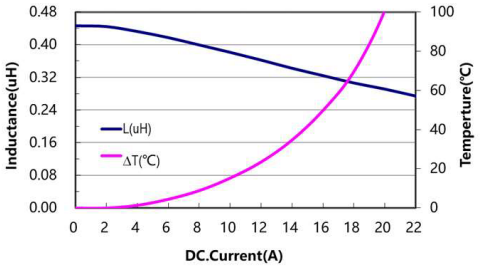
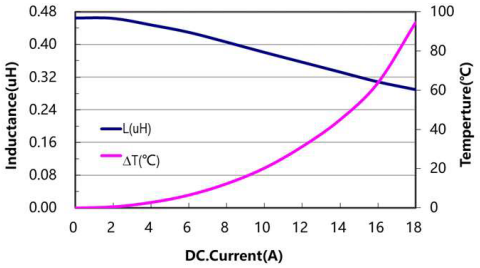


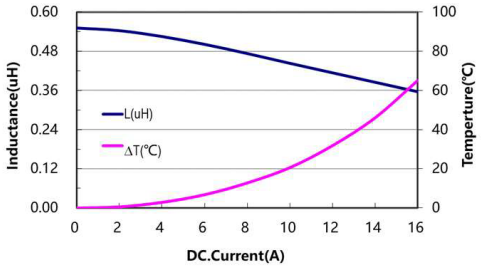
F1C2-040402W-R40M



F1C2-040402W-R47M



F1C2-040402W-R56M



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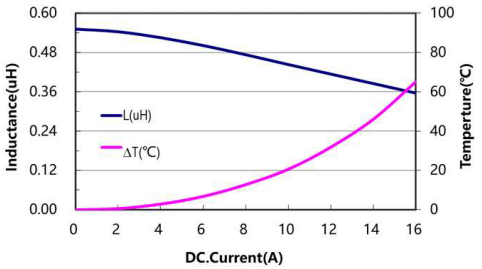

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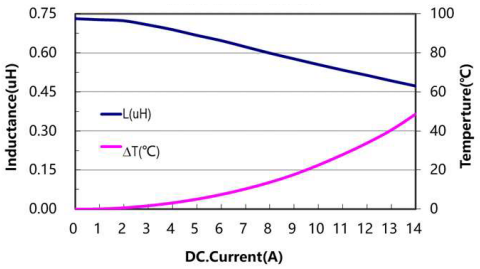

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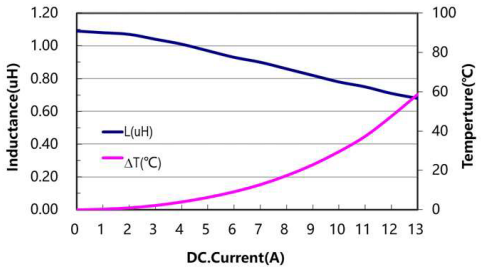

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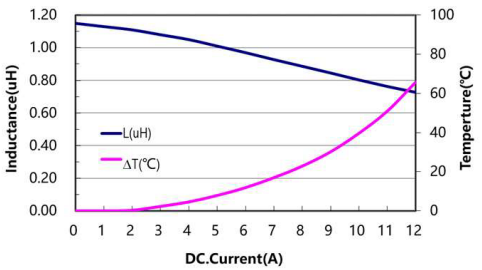

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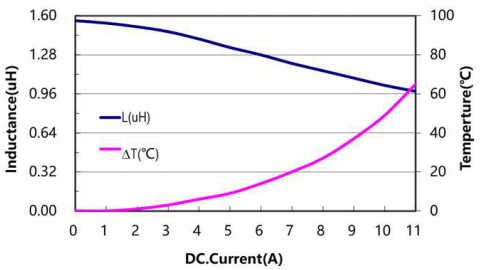

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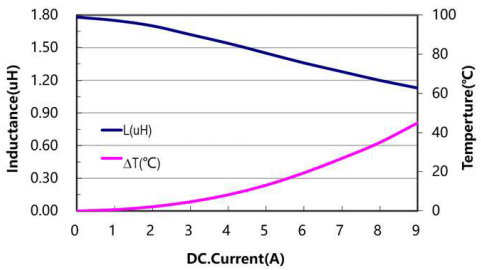
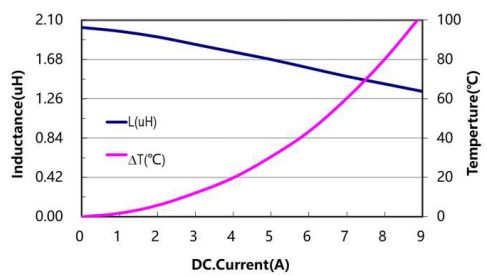
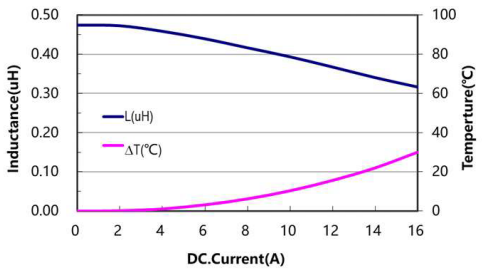


F1C2-040402W-2R2M



PERFORMANCE CURVES

F1C2-040403W-R47M



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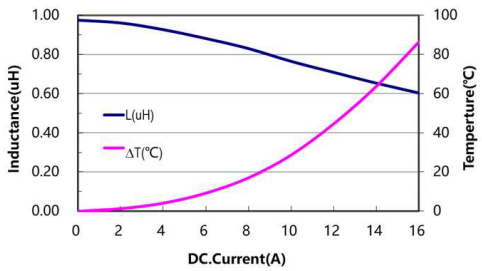

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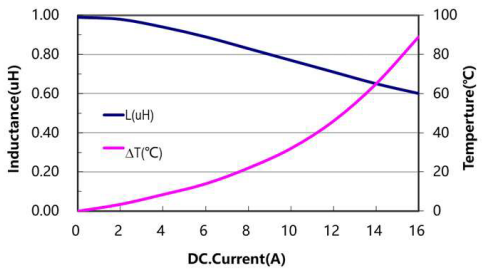

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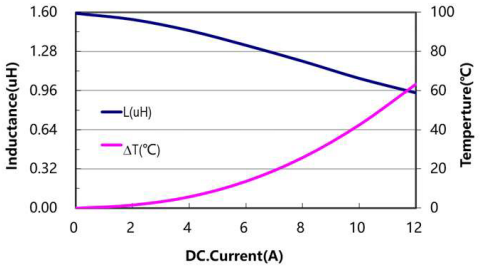

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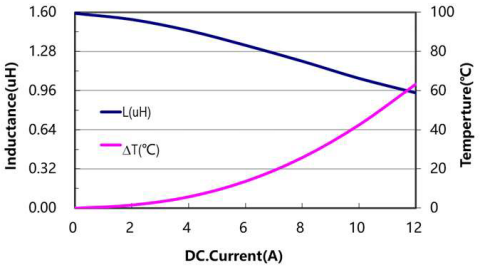
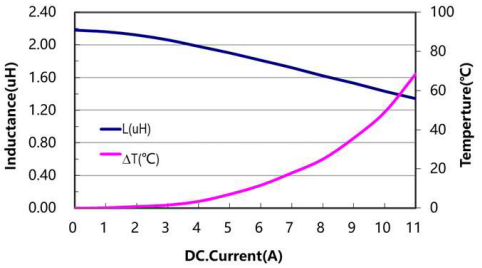


F1C2-040403W-2R2M



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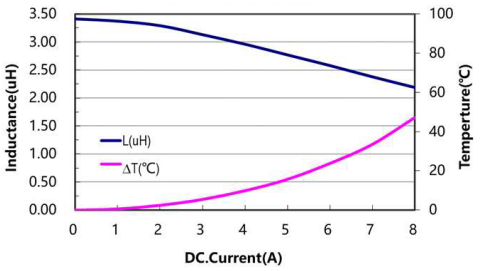

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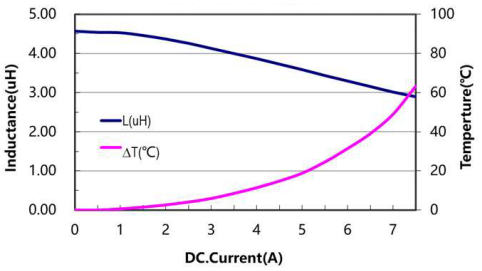
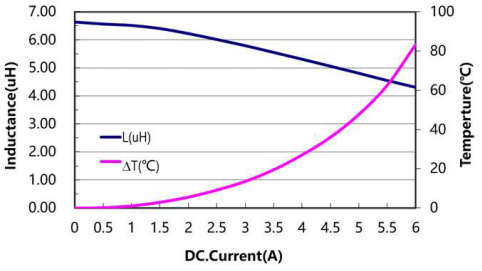
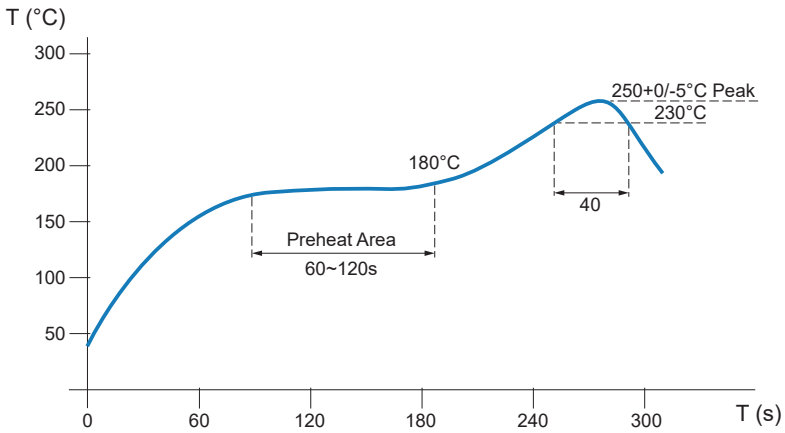


F1C2-040403W-6R8M



REFLOW SOLDERING TEMPERATURE CURVE

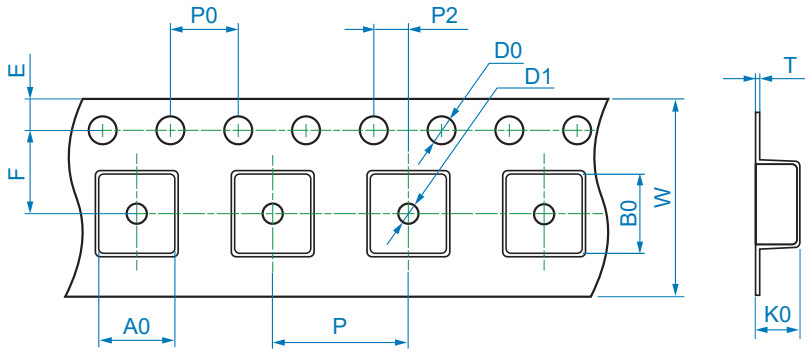


The recommended reflow conditions are set according to the soldering equipment used.
Since various manufactures may have different reflow soldering equipment, products, process conditions, set methods, etc., when setting the reflow contions, please adjust and confirm according to users' environment/equipment.

Please read our datasheet & drawing disclaimer here.

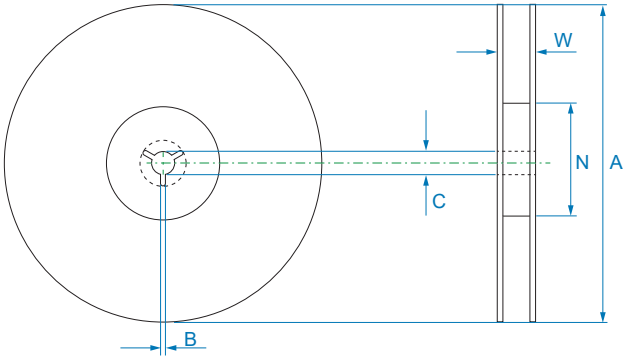
QUANTITY PER REEL & PACKING INFORMATION

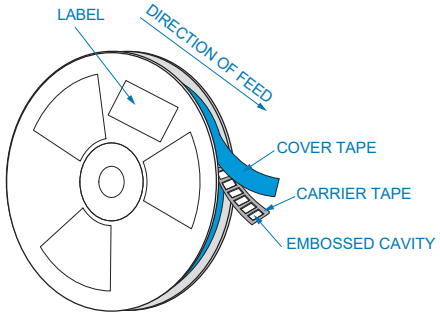
Units: mm



TAPE DIMENSIONS (mm)

Product Series	W	P	P0	P2	D0	D1	T	A0	B0	K0	E	F
F1C2-040402W	12 ± 0.3	8 ± 0.1	4 ± 0.1	2 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	0.35 ± 0.05	4.5 ± 0.1	4.5 ± 0.1	2.3 ± 0.1	1.75 ± 0.1	5.5 ± 0.1
F1C2-040403W	12 ± 0.3	8 ± 0.1	4 ± 0.1	2 ± 0.1	1.5 ± 0.1	1.5 ± 0.1	0.35 ± 0.05	4.5 ± 0.1	4.5 ± 0.1	3.3 ± 0.1	1.75 ± 0.1	5.5 ± 0.1



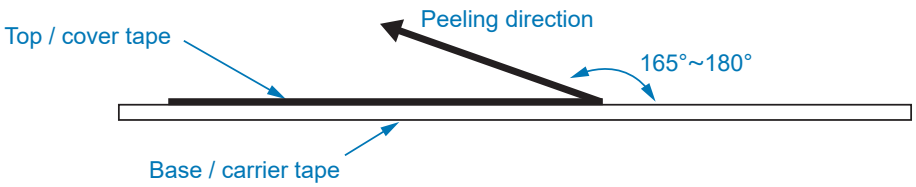


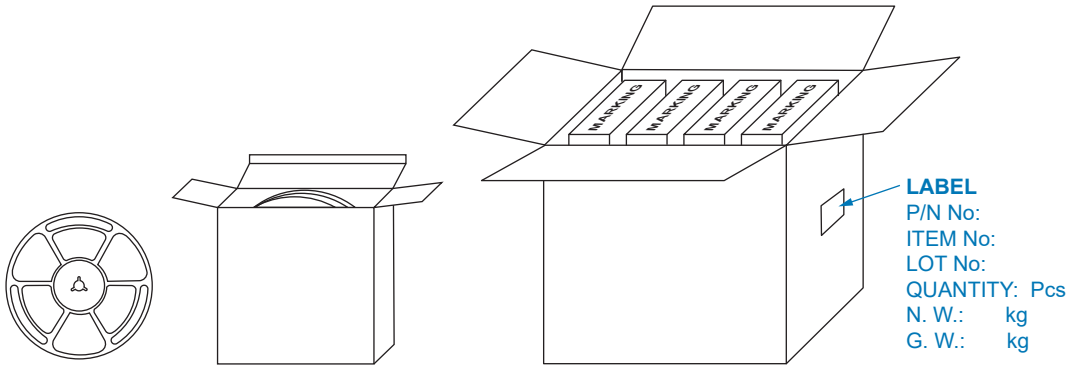
REEL DIMENSIONS (mm)

Product Series	A	W	N	B	C
F1C2-040402W	330 ± 2.0	12.8 ± 0.2	97 ± 0.5	2.2 ± 0.5	13.0 ± 0.2
F1C2-040403W	330 ± 2.0	12.8 ± 0.2	97 ± 0.5	2.2 ± 0.5	13.0 ± 0.2

Peel-off Force

The peel-off speed shall be about 300 mm/min.
The peel-off force of top cover tape shall be between 0.1 to 1.3 N





QUANTITY PER PACKAGE

Product Series	Pcs per Reel	Pcs per Inside Box	Pcs per Outside Carton
F1C2-040402W	3000	12000	48000
F1C2-040403W	2000	8000	32000

Storage Conditions

a) Temperature conditions: <35°C.
b) Humidity conditions between 35% - 65%.
c) Moisture Sensitivity Level (MSL): Level 1.
d) Storage of material to be in a sulfur and chlorine free environment.

REVISION HISTORY

Rev.	Description	Date
1	initial release	May/24/2024
A		

NUCLEAR AND MEDICAL APPLICATIONS - Products are not designed or intended for use as critical components in life support systems, equipment used in hazardous environments, or nuclear control systems.

TECHNICAL REVISIONS - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.

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