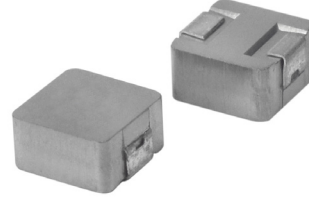


SERIES: F1D1-0503 | DESCRIPTION: HIGH CURRENT SHIELDED POWER INDUCTOR

FEATURES

- Shielded construction
- Lowest height and DCR for a given package footprint
- Attenuates high transient current spikes to avoid saturation
- Composite construction for audible noise reduction



MODEL	Inductance (L0)	DC Resistance (DCR)	Saturation Current (Isat)	Temperature Rise Current (Irms)
	[μ H]	max [m Ω]	typ [A]	typ [A]
F1D1-050503W-R10M	0.10	3.0	30	25
F1D1-050503W-R20M	0.20	3.9	20	14
F1D1-050503W-R33M	0.33	5.5	18	14
F1D1-050503W-R47M	0.47	8.5	15	11
F1D1-050503W-R68M	0.68	12	11.5	9.0
F1D1-050503W-1R0M	1.0	14	10.0	8.5
F1D1-050503W-1R2M	1.2	16	9.5	8.5
F1D1-050503W-1R5M	1.5	25	9.0	8.2
F1D1-050503W-2R2M	2.2	29	7.0	7.0
F1D1-050503W-3R3M	3.3	38	6.0	5.5
F1D1-050503W-4R7M	4.7	60	4.6	4.5
F1D1-050503W-6R8M	6.8	90	3.6	3.5
F1D1-050503W-100M	10.0	125	3.5	3.2

Notes:

1. Referenced ambient temperature 25°C
2. Test Condition: 100 kHz, 0.25 Vrms
3. Saturation Current - Isat (Typ): DC current (A) that will cause L0 to drop approximately 30%
Temperature Rise Current - Irms (Typ): DC current (A) that will cause the temperature increase by ΔT of 40°C
4. Operating temperature range includes self-temperature rise
5. Operating Temperature: -55°C to 125°C

PART NUMBER KEY

F1D1 - 050503W - XXX X

Type / Product Series

F1D1 = High Current Shielded SMD Inductor

Form Factor

050503W

Inductance Tolerance

M = $\pm 20\%$

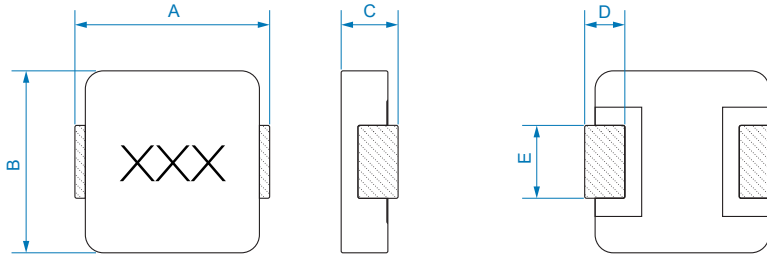
Inductance *

R47 = 0.47 μ H

* Note: Inductance expressed by three figures. The unit is micro henry (μ H). 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 μ H). In that case, all figures are significant digits.

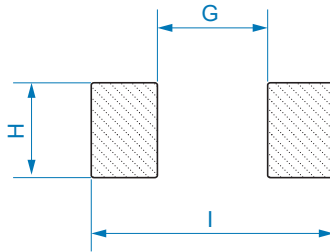
MECHANICAL DRAWING

Units: mm



PAD LAYOUT

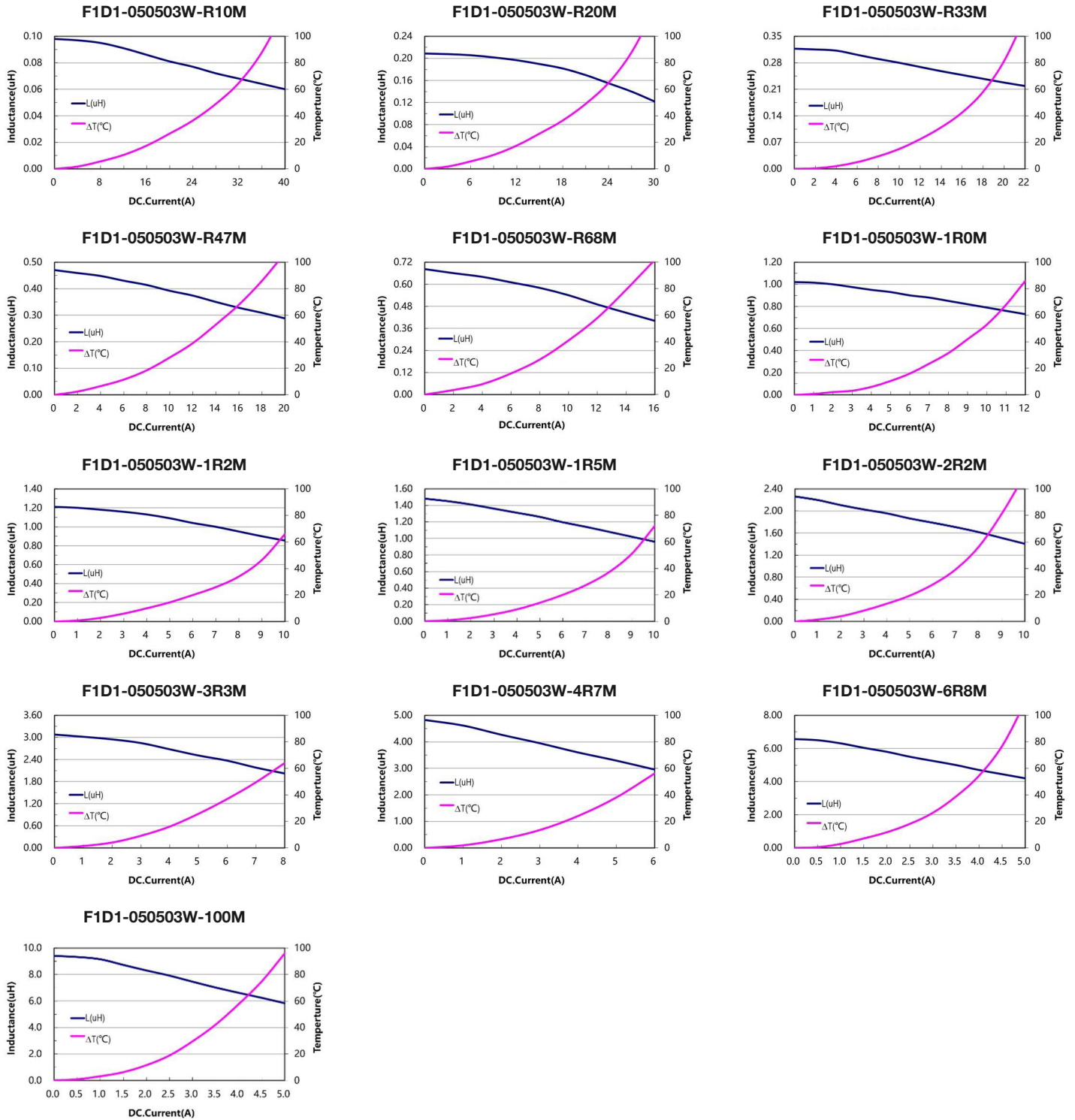
Units: mm



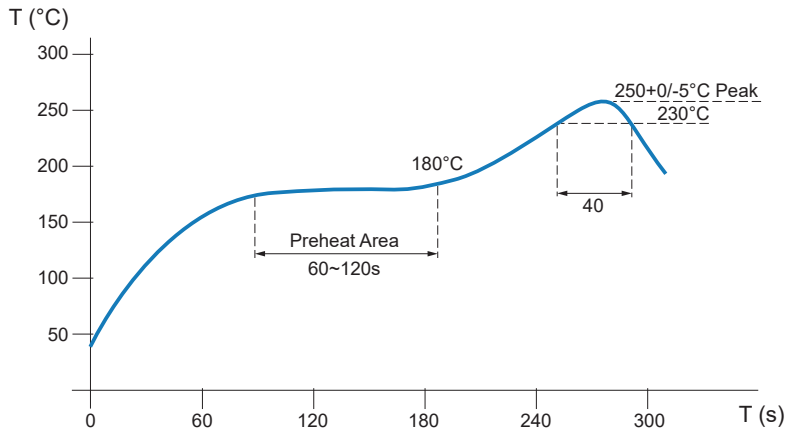
MECHANICAL DIMENSIONS (mm)

Product Series	A	B	C	D	E	G	H	I
F1D1-050503W	5.40 ± 0.35	5.20 ± 0.2	2.80 ± 0.2	1.20 ± 0.2	2.20 ± 0.3	2.20	2.50	6.0

PERFORMANCE CURVES



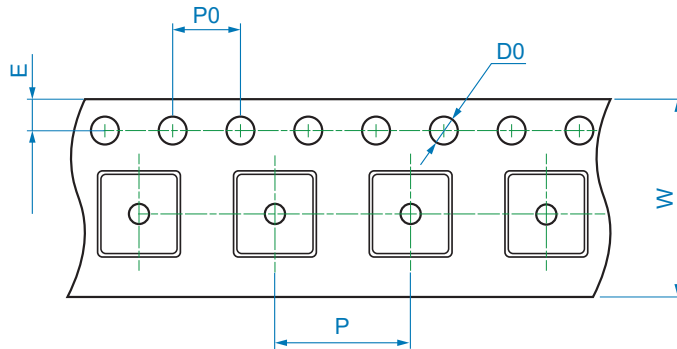
REFLOW SOLDERING TEMPERATURE CURVE



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.

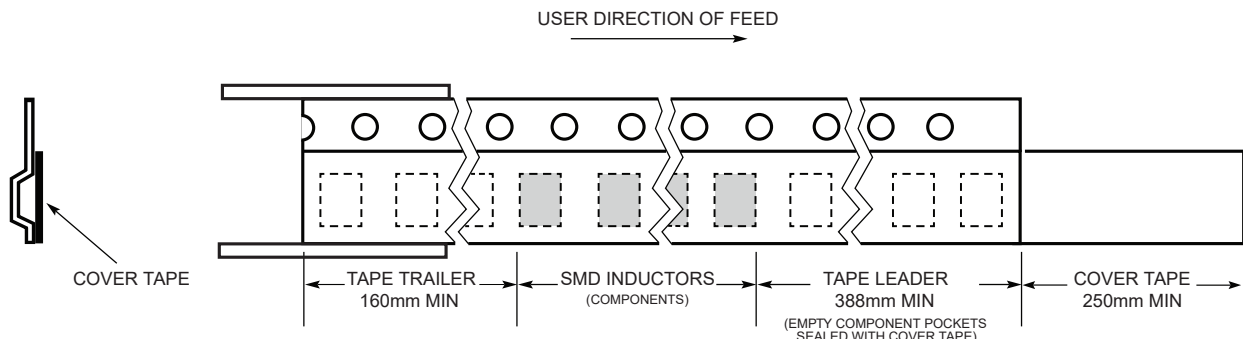
QUANTITY PER REEL & PACKING INFORMATION

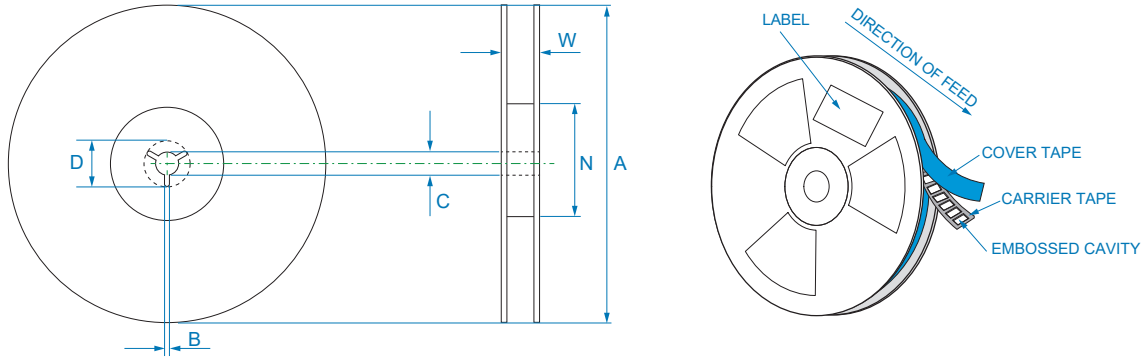
Units: mm



TAPE DIMENSIONS (mm)

Product Series	W	P	P0	D0	E
F1D1-050503W	12.0	8.0	4.0 ± 0.1	1.5 + 0.1/-0.0	1.75 ± 0.1



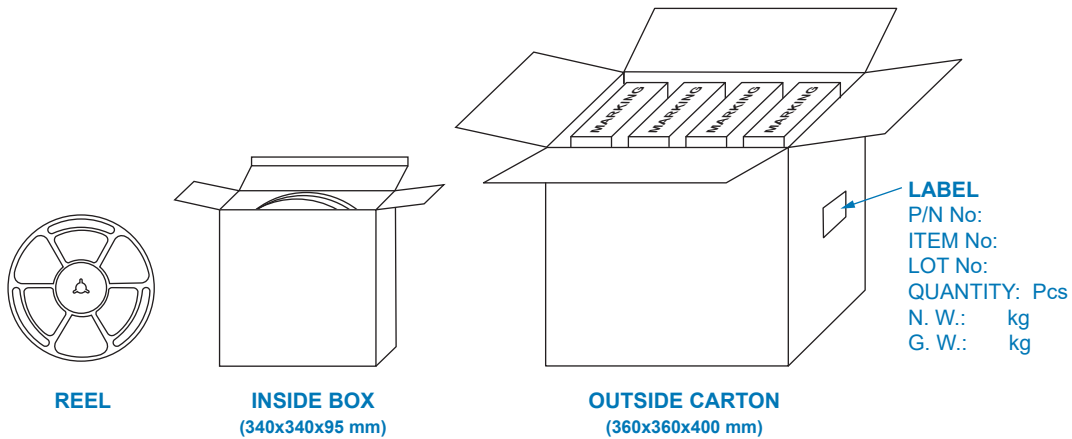
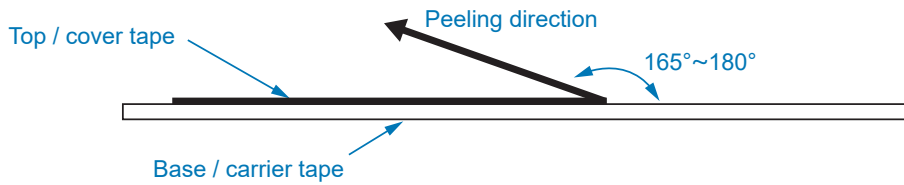


REEL DIMENSIONS (mm)

Product Series	A	W	B	C	D
F1D1-050503W	330	12.0	2.5 ± 0.5	13.0 ± 1.0	23.0 ± 1.0

Peel-off Force

The peel-off force of top cover tape shall be between 10 to 60 grams in the arrow direction.



QUANTITY PER PACKAGE

Product Series	Pcs per Reel	Pcs per Inside Box	Pcs per Outside Carton
F1D1-050503W	2000	4000	16000

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/31/2024
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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