



SERIES: F1D1-0603 | 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)
		typ [mΩ]	max [mΩ]		
	[μH]			typ [A]	typ [A]
F1D1-060603-1R0M	1.0	7.0	8.0	9.5	12.5
F1D1-060603-1R5M	1.5	10.2	12.0	8.5	10.5
F1D1-060603-2R2M	2.2	14.7	16.5	7.0	9.0
F1D1-060603-3R3M	3.3	23.5	26.0	6.5	7.0
F1D1-060603-4R7M	4.7	29.5	33.4	4.0	6.0
F1D1-060603-6R8M	6.8	41.0	46.8	4.0	5.5
F1D1-060603-8R2M	8.2	52.5	54.9	4.0	5.0
F1D1-060603-100M	10.0	64.5	71.2	3.5	4.0
F1D1-060603-150M	15.0	108.0	118.0	4.0	3.0
F1D1-060603-220M	22.0	126.0	135.0	2.5	2.9
F1D1-060603W-R22M	0.22	2.5	3.0	34.0	24.0
F1D1-060603W-R33M	0.33	3.0	3.5	25.0	21.0
F1D1-060603W-R47M	0.47	3.5	4.1	20.0	18.0
F1D1-060603W-R56M	0.56	3.8	4.5	18.0	16.5
F1D1-060603W-R68M	0.68	4.5	5.3	17.0	16.0
F1D1-060603W-R82M	0.82	5.1	6.0	16.0	14.0
F1D1-060603W-1R0M	1.0	6.4	7.4	15.0	12.0
F1D1-060603W-1R5M	1.5	10.1	12.1	12.0	12.0
F1D1-060603W-2R2M	2.2	13.2	15.0	10.0	9.5
F1D1-060603W-3R3M	3.3	19.1	22.0	9.5	8.5
F1D1-060603W-4R7M	4.7	29.4	33.0	9.0	6.0
F1D1-060603W-5R6M	5.6	36.8	42.0	6.5	5.5
F1D1-060603W-6R8M	6.8	44.0	48.0	6.0	5.0
F1D1-060603W-8R2M	8.2	56.0	60.0	5.5	5.0
F1D1-060603W-100M	10.0	60.0	68.0	5.5	4.5
F1D1-060603W-150M	15.0	100	113	4.0	3.0
F1D1-060603W-220M	22.0	138	170	3.0	2.5
F1D1-060603W-330M	33.0	183	270	2.5	2.0
F1D1-060603W-470M	47.0	354	385	2.0	1.5

- 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 L_o 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 - 060603W - XXX X

Type / Product Series

F1D1 = High Current Shielded SMD Inductor

Form Factor

060603

060603W

Inductance Tolerance

M = ±20%

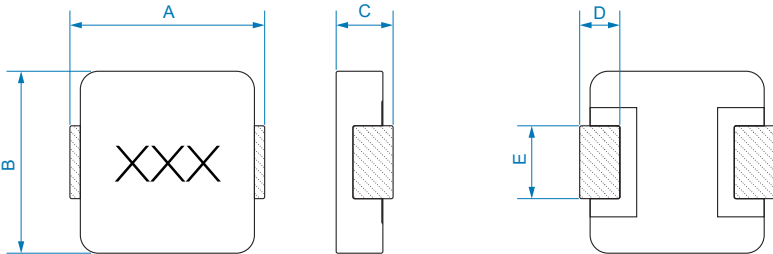
Inductance *

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.

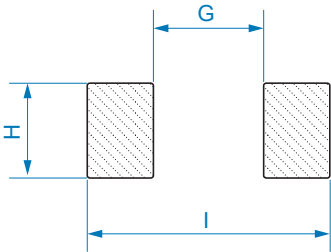
MECHANICAL DRAWING

Units: mm



PAD LAYOUT

Units: mm

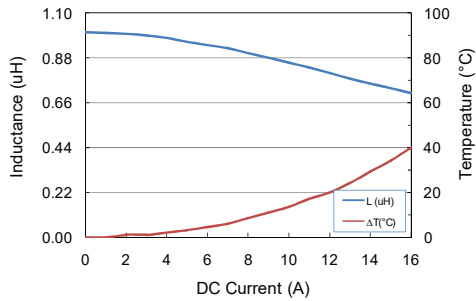


MECHANICAL DIMENSIONS (mm)

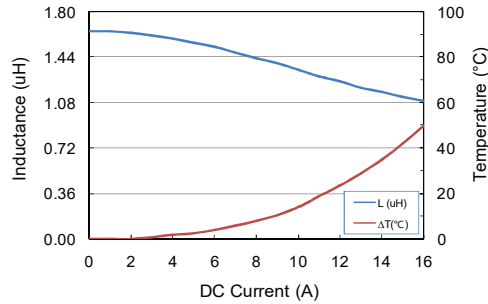
Product Series	A max	B max	C max	D	E	G	H	I
F1D1-060603	7.1 ± 0.3	6.6 ± 0.2	2.8 ± 0.2	1.6 ± 0.3	3.0 ± 0.5	3.7	3.5	8.0
F1D1-060603W	7.0 ± 0.3	6.6 ± 0.2	2.8 ± 0.2	1.6 ± 0.3	3.0 ± 0.3	3.7	3.5	8.4

PERFORMANCE CURVES

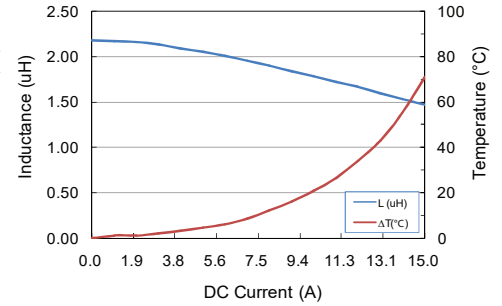
F1D1-060603-1R0M



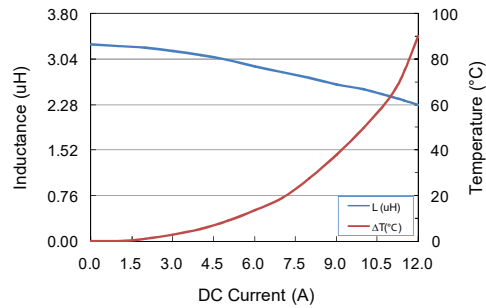
F1D1-060603-1R5M



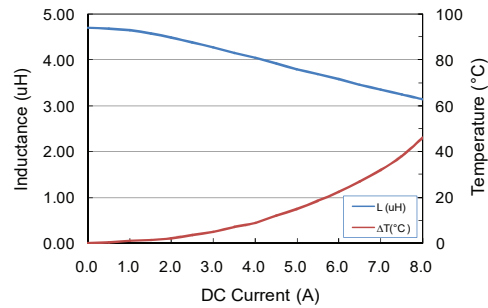
F1D1-060603-2R2M



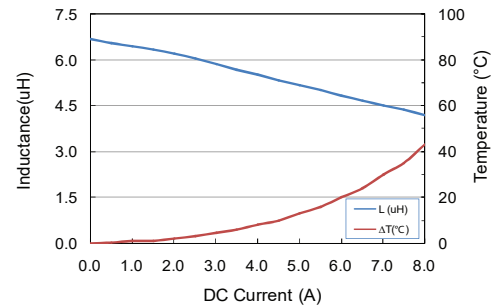
F1D1-060603-3R3M



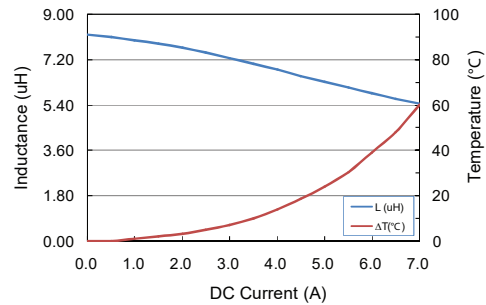
F1D1-060603-4R7M



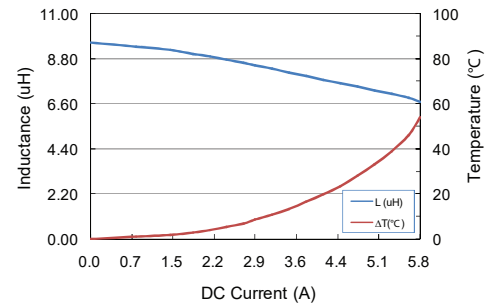
F1D1-060603-6R8M



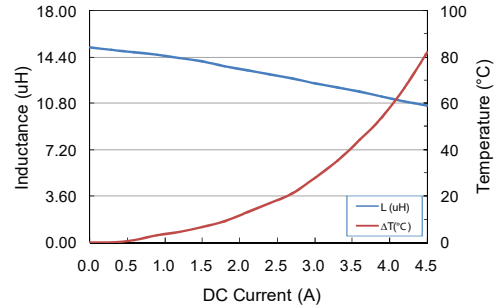
F1D1-060603-8R2M



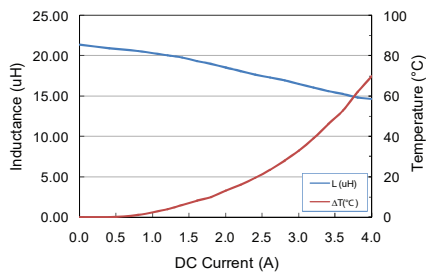
F1D1-060603-100M



F1D1-060603-150M

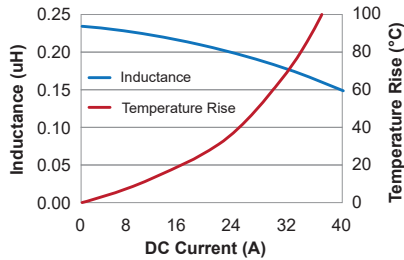


F1D1-060603-220M

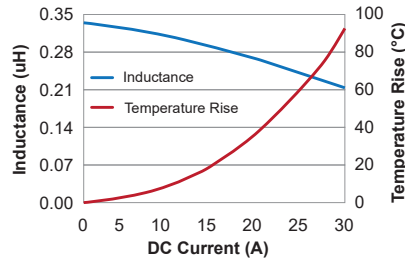


PERFORMANCE CURVES

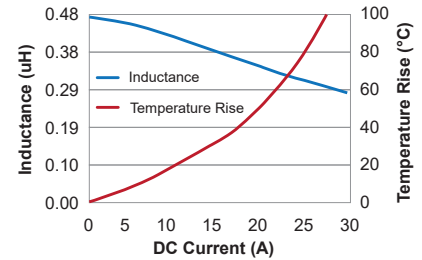
F1D1-060603W-R22M



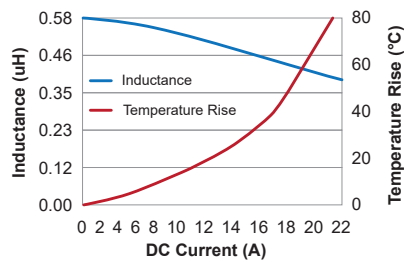
F1D1-060603W-R33M



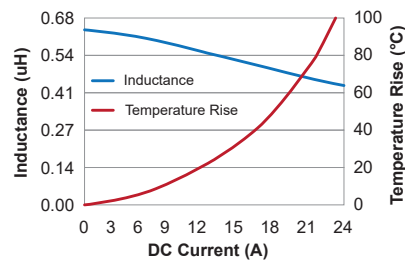
F1D1-060603W-R47M



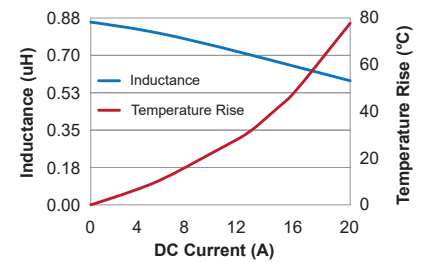
F1D1-060603W-R56M



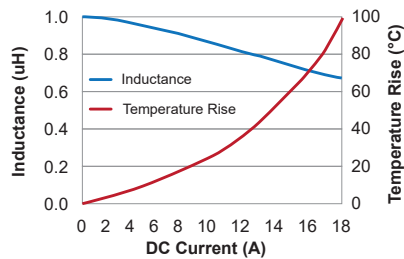
F1D1-060603W-R68M



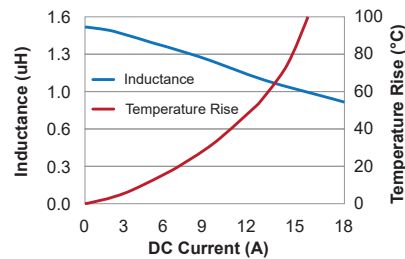
F1D1-060603W-R82M



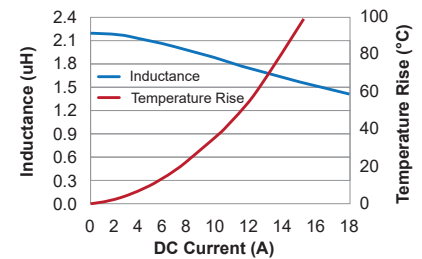
F1D1-060603W-1R0M



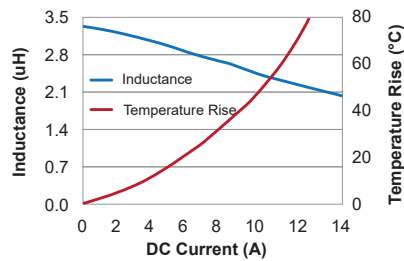
F1D1-060603W-1R5M



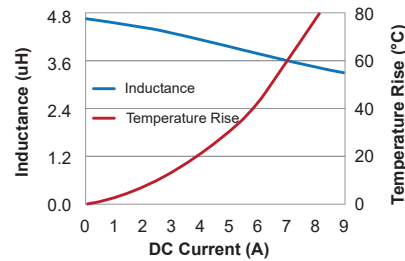
F1D1-060603W-2R2M



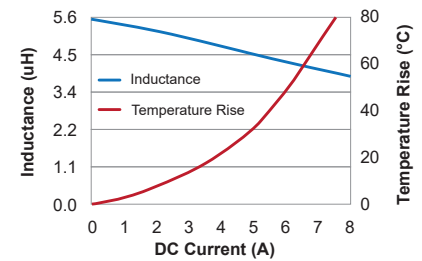
F1D1-060603W-3R3M



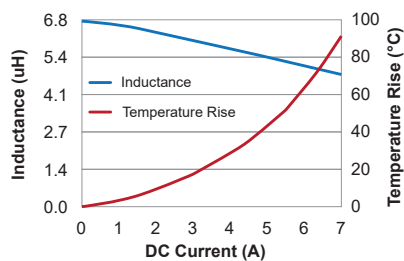
F1D1-060603W-4R7M



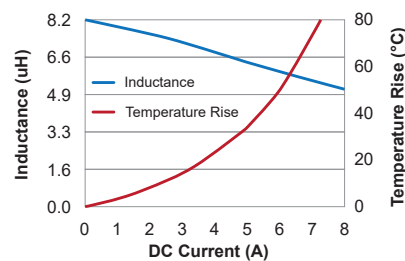
F1D1-060603W-5R6M



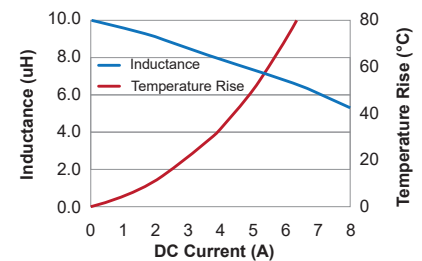
F1D1-060603W-6R8M



F1D1-060603W-8R2M

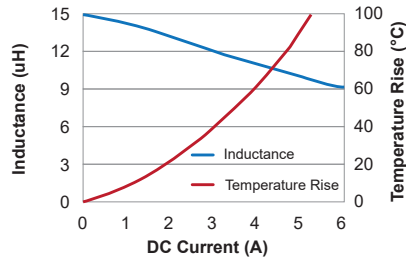


F1D1-060603W-100M

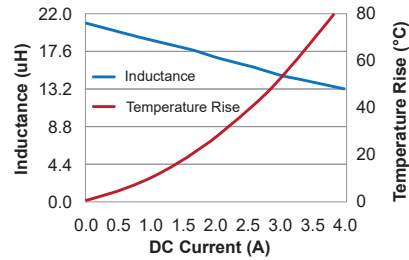


PERFORMANCE CURVES

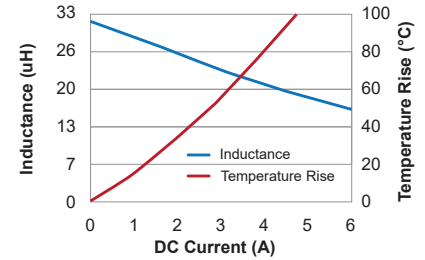
F1D1-060603W-150M



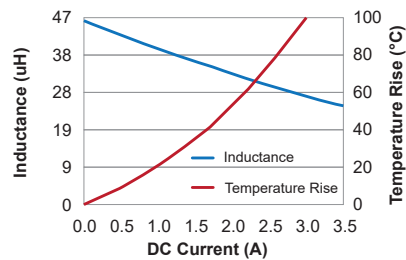
F1D1-060603W-220M



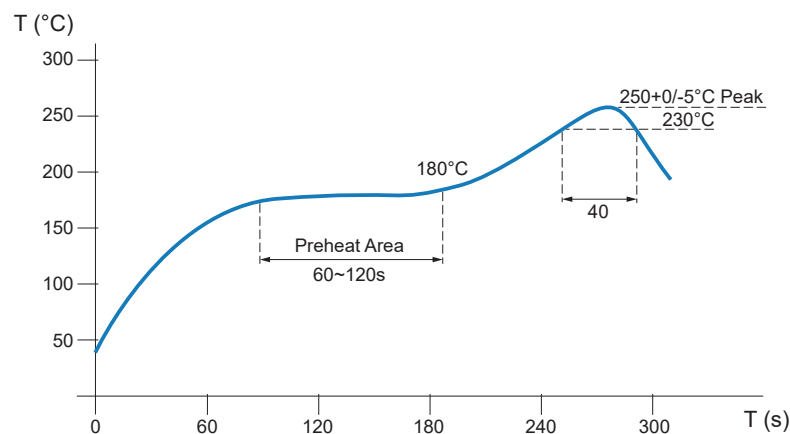
F1D1-060603W-330M



F1D1-060603W-470M



REFLOW SOLDERING TEMPERATURE CURVE

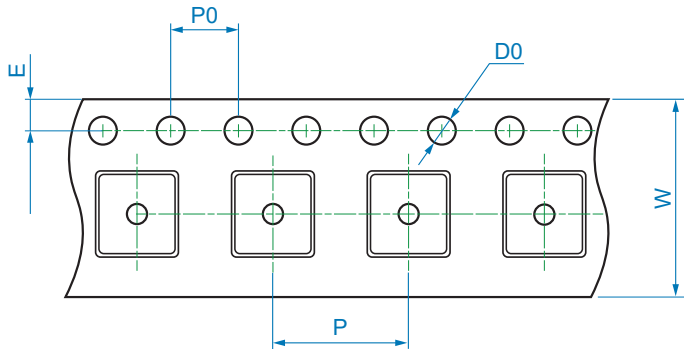


The recommended reflow conditions are set according to the soldering equipment used.

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

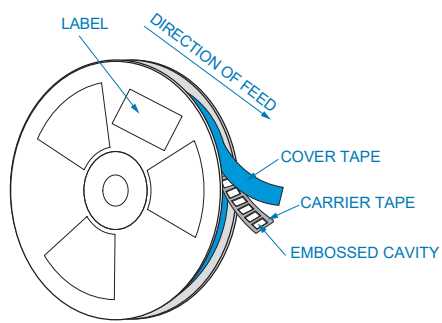
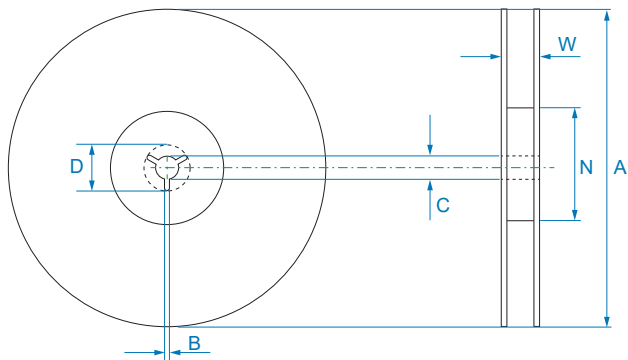
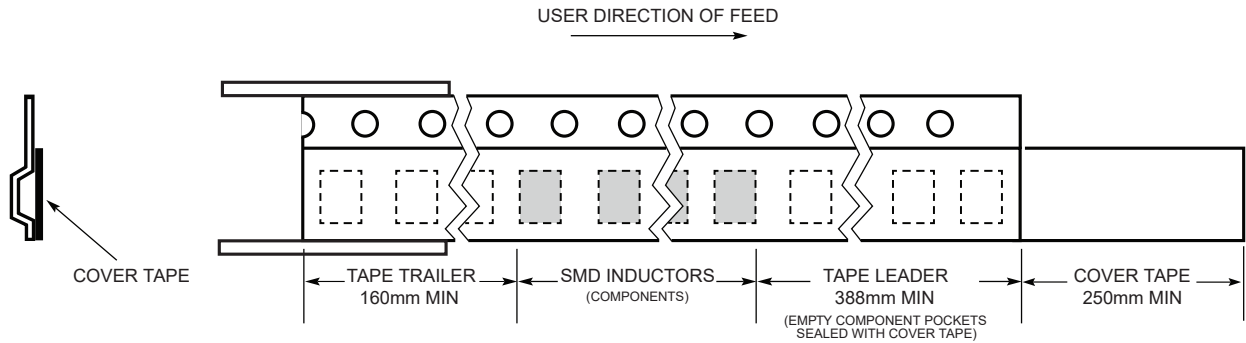
QUANTITY PER REEL & PACKING INFORMATION

Units: mm



TAPE DIMENSIONS (mm)

Product Series	W	P	P0	D0	E
F1D1-060603 / F1D1-060603W	16.0	12.0	4.0 ± 0.1	1.5 + 0.1/-0.0	1.75 ± 0.1

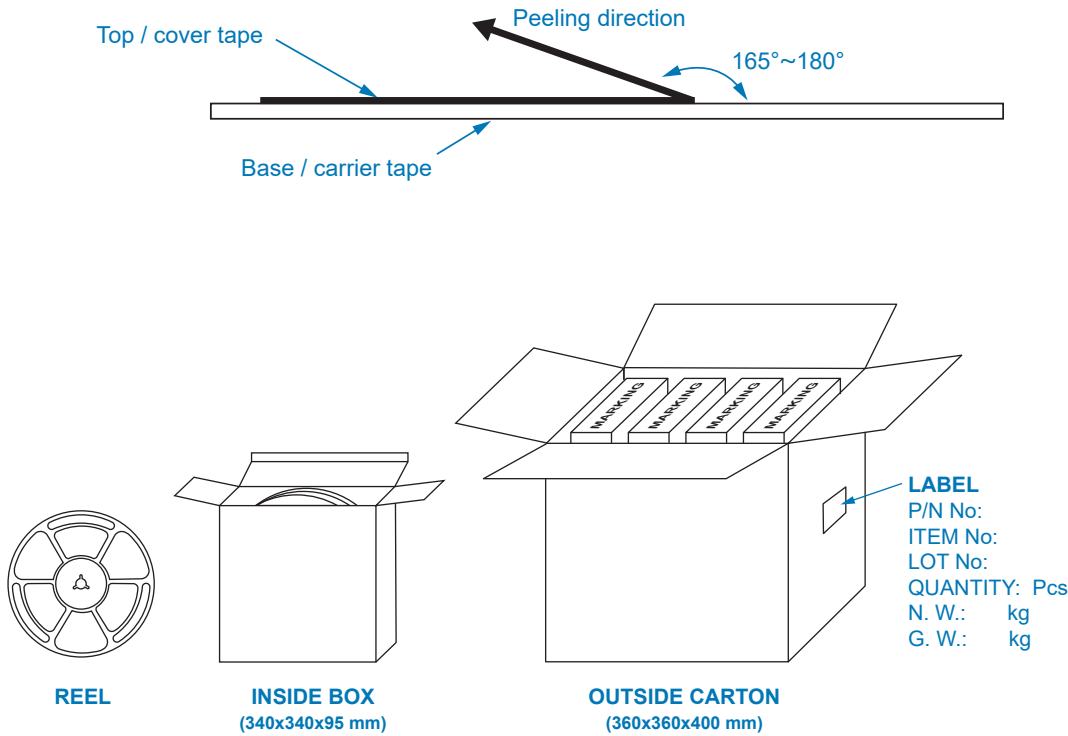


REEL DIMENSIONS (mm)

Product Series	A	W	B	C	D
F1D1-060603 / F1D1-060603W	330	16.0	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
F1D1-060603 / F1D1-060603W	1500	3000	12000

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	Jun/20/2024
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.



Bel Fuse Inc.
300 Executive Drive, Suite 300
West Orange, NJ 07052
United States

© 2024 Bel Fuse Inc.

Toll Free 866-239-5777
Tel 516-239-5777 | Fax 516-239-7208
sales@signaltransformer.com
techhelp@signaltransformer.com

belfuse.com