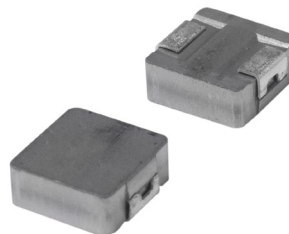


SERIES: F1F1-0603 | DESCRIPTION: SHIELDED SMT INDUCTORS

FEATURES

- Automotive reliability is qualified to AEC-Q200 grade 1
- Complies with MSL1
- High performance (I_{sat}) realized by metal dust core
- Low loss realized with low DCR
- Operating temperature -55°C to 155°C



MODEL	Inductance (L ₀)	Tolerance	DC Resistance (DCR)	Saturation Current (I _{sat})		Temperature Rise Current (I _{rms})	
	[μH]	[± %]	max [mΩ]	min [A]	typ [A]	min [A]	typ [A]
F1F1-0603-R47M	0.47	20	4.20	21.0	24.0	15.0	16.0
F1F1-0603-1R0M	1.00	20	8.00	17.0	20.0	12.0	15.0
F1F1-0603-2R2M	2.20	20	16.5	11.0	13.0	9.00	10.0
F1F1-0603-3R3M	3.30	20	26.0	10.0	12.0	7.00	8.00
F1F1-0603-4R7M	4.70	20	40.0	9.00	11.0	5.50	6.50
F1F1-0603-6R8M	6.80	20	48.0	6.00	7.00	4.50	5.50
F1F1-0603-100M	10.0	20	80.0	5.00	6.00	4.00	5.00
F1F1-0603-150M	15.0	20	118.0	3.80	4.50	3.30	3.50
F1F1-0603-220M	22.0	20	145.0	3.50	4.00	3.00	3.30

Notes:

- Referenced ambient temperature 25°C
- Test Condition: 100 kHz, 0.25 V_{rms}
- Saturation Current - I_{sat} (typ): DC current (A) that will cause L₀ to drop approximately 30%
I_{sat} (min): DC current (A) that will cause L₀ to drop 30% max
Temperature Rise Current - I_{rms} (typ): DC current (A) that will cause an approximate ΔT of 40°C
I_{rms} (min): DC current (A) that will cause an approximate ΔT of 40°C max
- Operating temperature range includes self-temperature rise
- The rated current as listed is either the saturation current or the heating current depending on which value is lower.

PART NUMBER KEY

F1F1 - 0603 - XXX X

Type / Product Series

F1F1-0603 = High Performance Shielded SMD Inductors

Inductance Tolerance

M = ±20%

Inductance *

1R0 = 1.0 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.

SAFETY AND COMPLIANCE

Parameter	Compliant
Safety approvals	Automotive reliability is qualified to AEC-Q200 grade 1
RoHS	Compliance with ROHS and Halogen Free

ENVIRONMENTAL

Parameter	Conditions	Min	Typ	Max	Units
Operating temperature	Including coils self-temperature rise	-55		155	°C

MECHANICAL

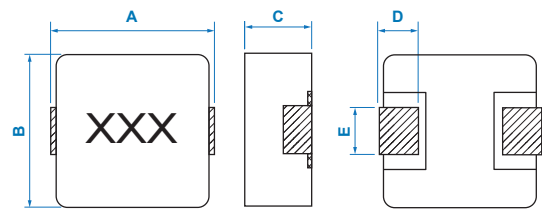
Parameter	Conditions	Min	Typ	Max	Units
Core material	Metal Powder				
Base material	Cu + Ni + Sn plating				
Wire material	Copper wire, EIW Class				
Dimensions	7.10 x 6.60 x 2.80				mm

MECHANICAL DIMENSIONS (mm)

Product Series	A	B	C	D	E	G	H	L
F1F1-0603	7.10 ± 0.20	6.60 ± 0.20	2.80 ± 0.20	1.60 ± 0.30	3.0 ± 0.50	3.70	3.50	8.00

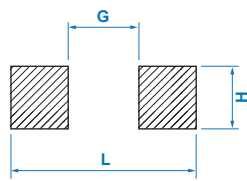
MECHANICAL DRAWING

Units: mm

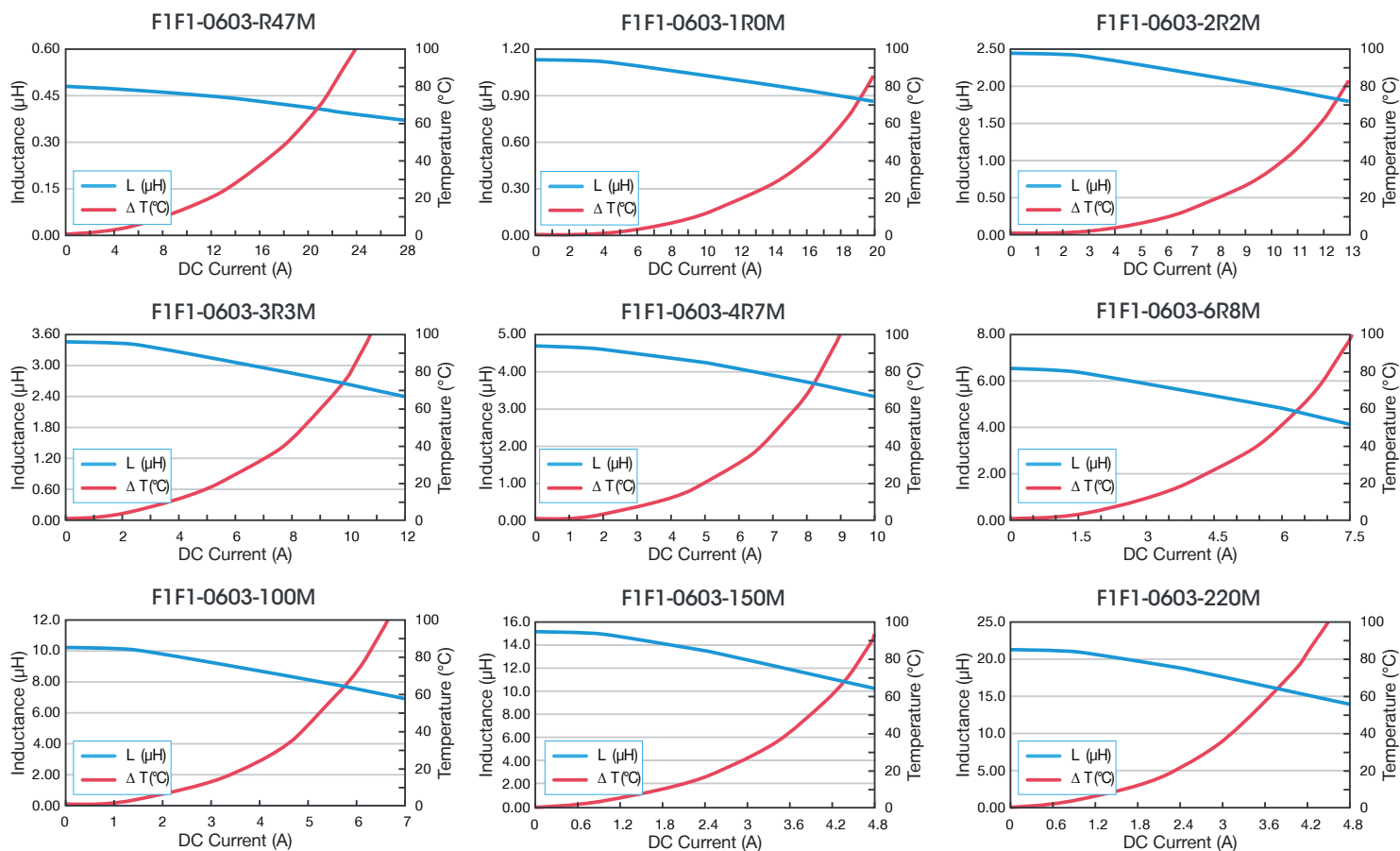


PAD LAYOUT

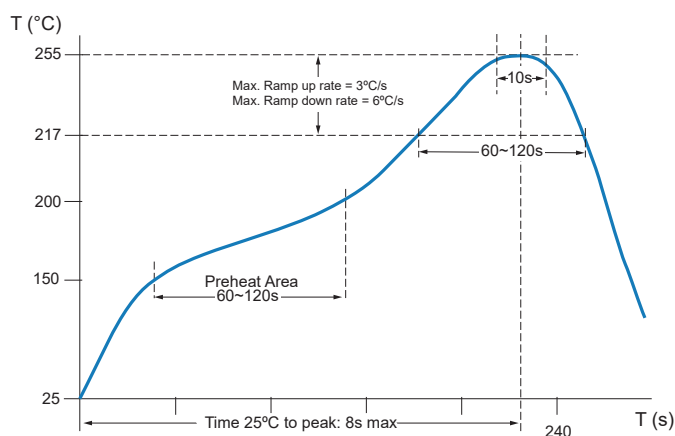
Units: mm



PERFORMANCE CURVES



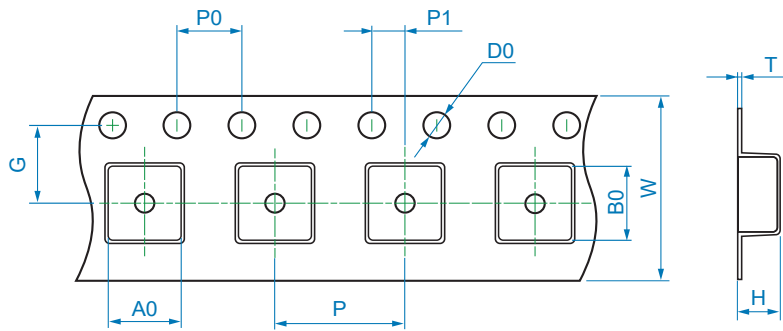
REFLOW SOLDERING TEMPERATURE CURVE



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 conditions, please adjust and confirm according to users' environment/equipment.

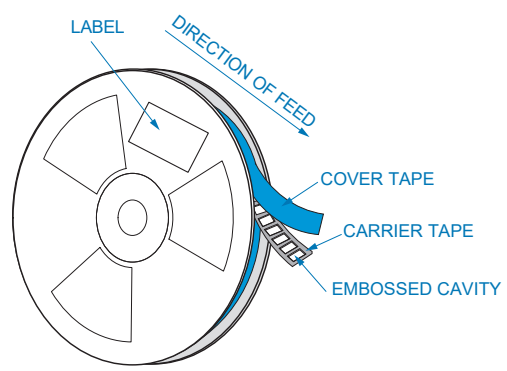
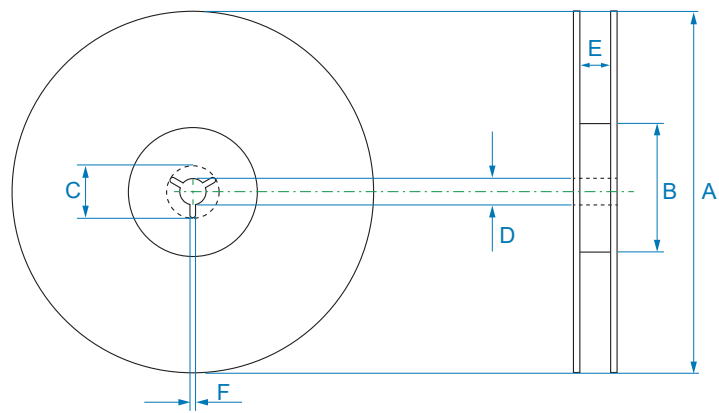
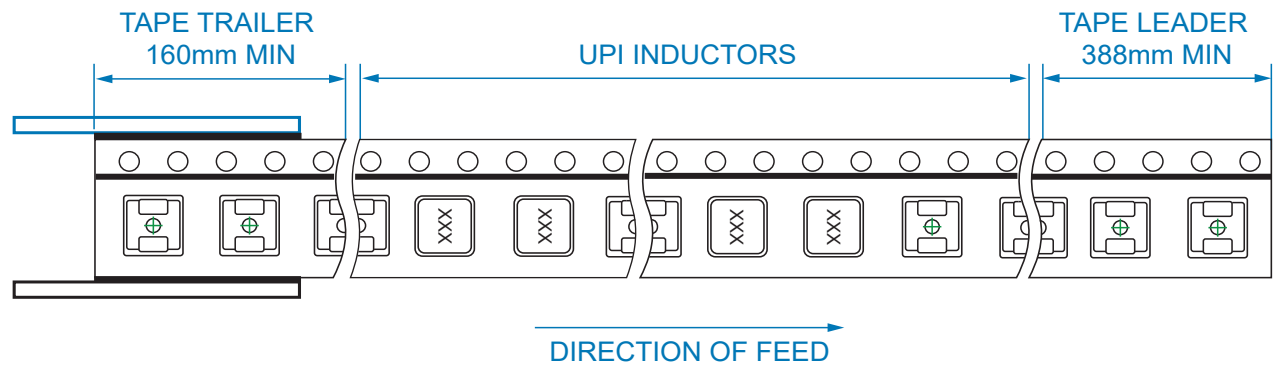
QUANTITY PER REEL & PACKING INFORMATION

Units: mm



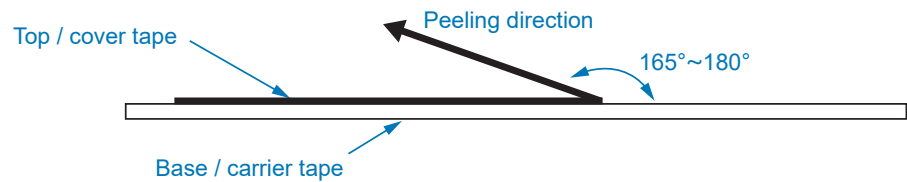
TAPE DIMENSIONS (mm)

Product Series	G	W	P	P0	P1	D0	T	A0	B0	H
F1F1-0603	7.5 ± 0.1	16 ± 0.3	12 ± 0.1	4 ± 0.1	2 ± 0.1	1.5 +0.1/-0.0	0.30 ± 0.05	6.9 ± 0.1	6.9 ± 0.1	3.4 ± 0.1



REEL DIMENSIONS (mm)

Product Series	A	B	C	D	E	F
F1F1-0603	330 ± 1.0	100 ± 0.5	20.2 min	13.0 +0.5/-0.2	16.4 +2.0/-0.0	2.5 ± 0.5



Peel-off Force

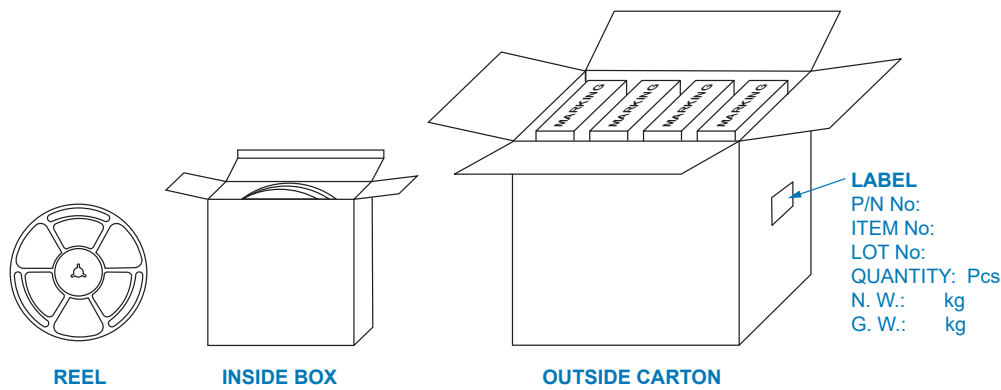
The peel-off speed shall be about 300 mm/min.

The peel-off force of top cover tape shall be between 10g to 120g.

Ensure no damage is done to the base/carrier tape when removing the top/cover tape.

QUANTITY PER PACKAGE

Product Series	Pcs per Reel	Pcs per Inside Box	Pcs per Outside Carton
F1F1-0603	1500	3000	12000



Storage Conditions

a) Temperature conditions: <35°C.

b) Humidity conditions between 35% - 65%.

c) Storage of material to be in a sulfur and chlorine free environment.

REVISION HISTORY

Rev.	Description	Date
1	Initial release	Dec/02/2024
A	Nuclear and medical disclaimers removed	Jul/17/2026

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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