

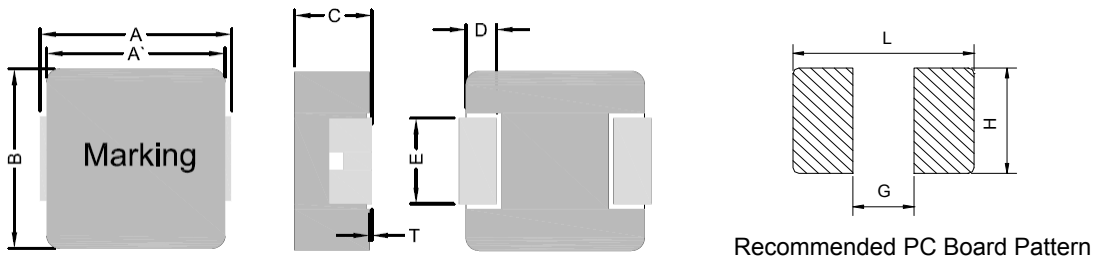
1. Part No. Expression:

PIC1707HP1R0MF

(a) (b) (c) (d) (e)(f)

- a) Series Code
- b) Dimension Code
- c) Type Code
- d) Inductance Code
- e) Tolerance Code
- f) RoHS Compliant

2. Configuration & Dimensions:



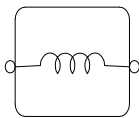
Note:

1. The above PCB layout is for reference only.
2. Solder paste thickness of 0.17mm and above is recommended.
3. Marking : Top row – Inductance code, Bottom row – Year/World week

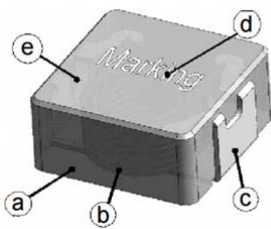
Unit: mm

A	A'	B	C	D	E	T	L	G	H
17.6±0.4	16.9±0.3	16.9±0.3	6.7±0.3	2.1±0.3	11.9±0.3	0~+0.25	18.5 Ref.	12.2 Ref.	12.5 Ref.

3. Schematic:



4. Material List:



- (a) Core
- (b) Wire
- (c) Terminal
- (d) Ink
- (e) Paint

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

5. General Specification:

- (a) Operating Temp. : -40°C to +125°C(including self-temperature rise)
- (b) Storage Temp. : -40°C to +125°C (on board)
- (c) Humidity Range : 85 ± 2% RH
- (d) Heat Rated Current (I_{rms}) will cause the coil temperature rise approximately Δt of 40°C
- (e) Saturation Current (I_{sat}) will cause L₀ to drop approximately 30%.
- (f) Part Temperature (Ambient+Temp. Rise) : Should not exceed 125°C under worst case operating conditions.
- (g) Storage condition (component in its packaging)
 - i) Temperature: Less than 40°C
 - ii) Humidity : 60% RH

6. Electrical Characteristics:

Part Number	Inductance L ₀ (uH) ±20% @ 0 A	Test Frequency, (Hz)	I _{rms} (A) Typ.	I _{sat1} (A) Typ.	I _{sat2} (A) Typ.	DCR (mΩ) Typ. @25°C	DCR (mΩ) Max. @25°C
PIC1707HPR45MF	0.45	1.0V/100K	62.0	85.0	125	0.80	0.96
PIC1707HPR47MF	0.47	1.0V/100K	62.0	80.0	123	0.95	1.03
PIC1707HP1R0MF	1.00	1.0V/100K	52.0	60.0	70.0	1.60	2.00
PIC1707HP1R3MF	1.30	1.0V/100K	49.0	54.0	67.0	1.70	2.30
PIC1707HP1R5MF	1.50	1.0V/100K	47.0	52.0	65.0	2.00	2.50
PIC1707HP1R8MF	1.80	1.0V/100K	45.0	49.0	63.0	2.10	2.50
PIC1707HP2R2MF	2.20	1.0V/100K	43.5	47.0	62.0	2.40	2.70
PIC1707HP3R3MF	3.30	1.0V/100K	28.0	45.0	54.0	3.50	3.90
PIC1707HP4R7MF	4.70	1.0V/100K	25.0	41.0	50.0	4.80	5.50
PIC1707HP5R6MF	5.60	1.0V/100K	21.0	40.0	45.0	5.80	7.05
PIC1707HP6R8MF	6.80	1.0V/100K	19.0	32.0	39.0	8.40	9.20
PIC1707HP7R4MF	7.40	1.0V/100K	18.5	27.0	34.0	8.80	9.70
PIC1707HP8R2MF	8.20	1.0V/100K	18.0	25.0	31.0	9.60	10.8
PIC1707HP100MF	10.0	1.0V/100K	16.5	24.0	29.0	11.8	13.0
PIC1707HP150MF	15.0	1.0V/100K	12.5	23.0	27.0	17.8	20.5
PIC1707HP220MF	22.0	1.0V/100K	12.0	18.0	23.0	25.1	26.5

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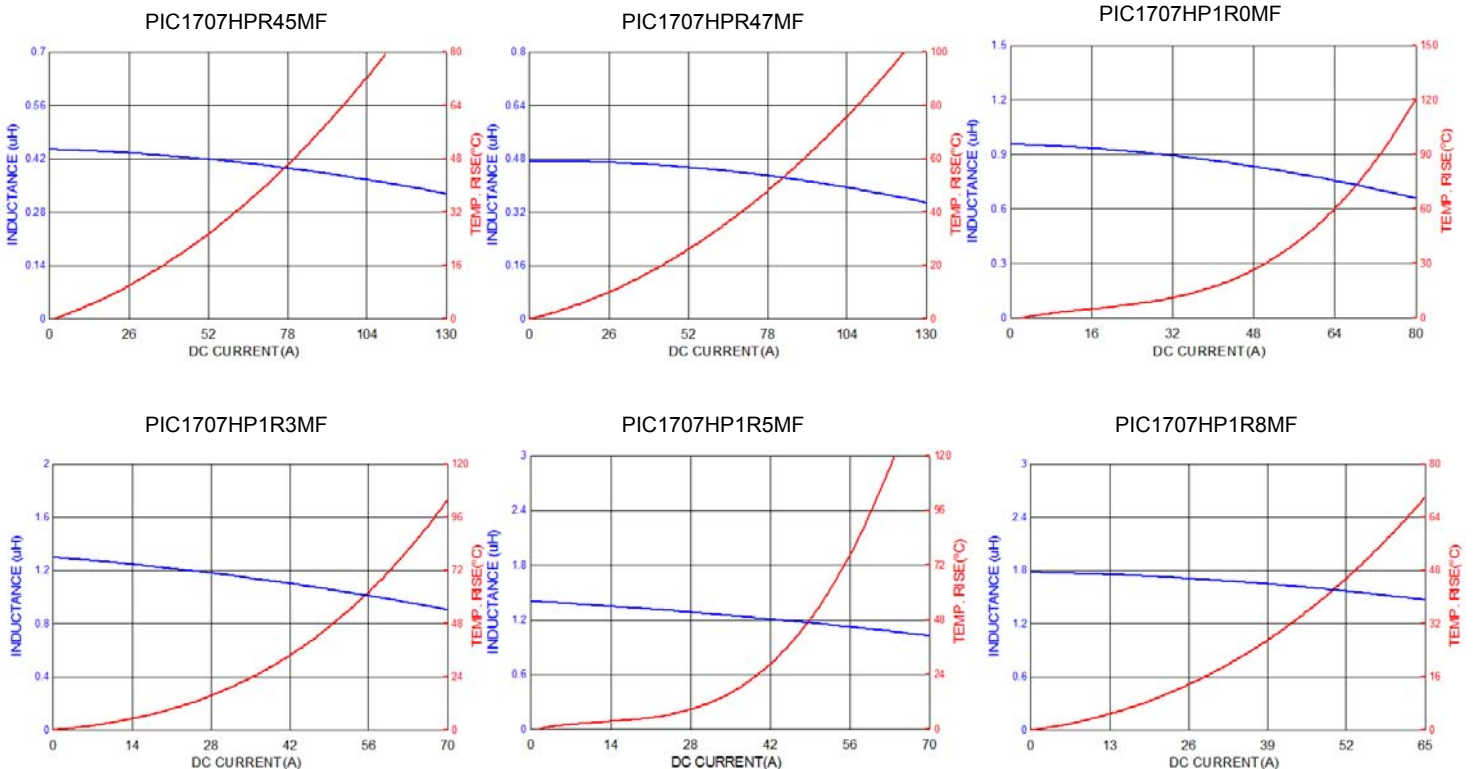


Part Number	Inductance LO (uH) ±20% @ 0 A	Test Frequency, (Hz)	I rms (A) Typ.	I sat1 (A) Typ.	I sat2 (A) Typ.	DCR (mΩ) Typ. @25°C	DCR (mΩ) Max. @25°C
PIC1707HP330MF	33.0	1.0V/100K	10.7	15.0	20.0	38.0	44.0
PIC1707HP390MF	39.0	1.0V/100K	9.20	11.0	18.0	40.0	48.0
PIC1707HP470MF	47.0	1.0V/100K	8.70	9.50	16.0	48.0	55.0
PIC1707HP560MF	56.0	1.0V/100K	7.80	9.00	15.0	54.0	62.0
PIC1707HP680MF	68.0	1.0V/100K	7.00	8.00	13.0	68.0	80.0
PIC1707HP820MF	82.0	1.0V/100K	5.70	7.00	12.0	87.0	100
PIC1707HP101MF	100	1.0V/100K	5.30	6.50	12.0	102	118

Note:

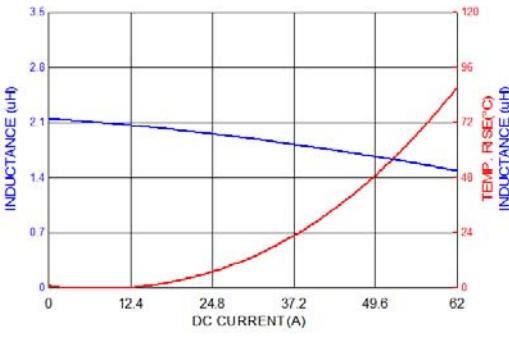
1) Isat Typ. and I rms Typ. value is derived based from accounting the upper limit tolerance into the inductance value.

7. Characteristics Curves:

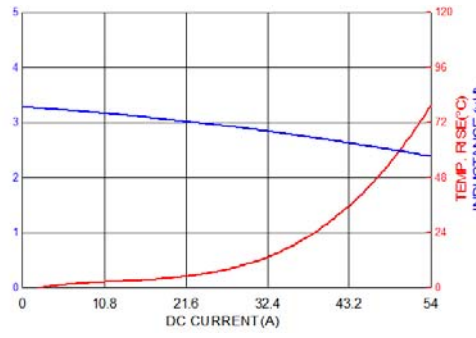


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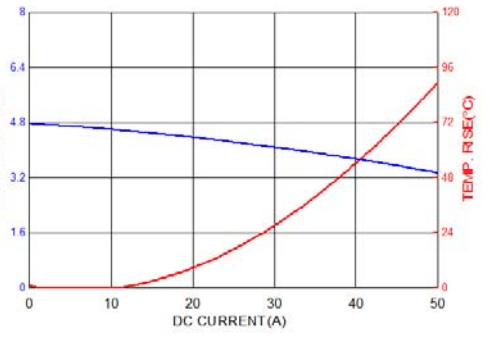
PIC1707HP2R2MF



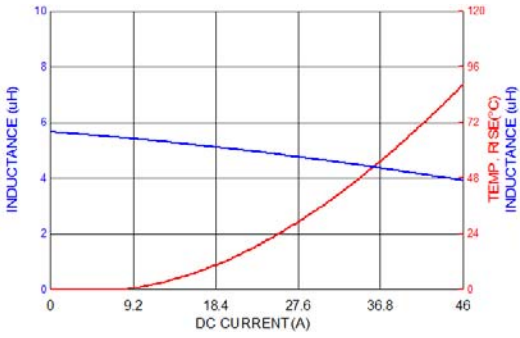
PIC1707HP3R3MF



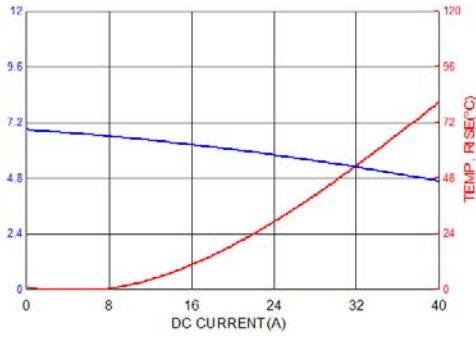
PIC1707HP4R7MF



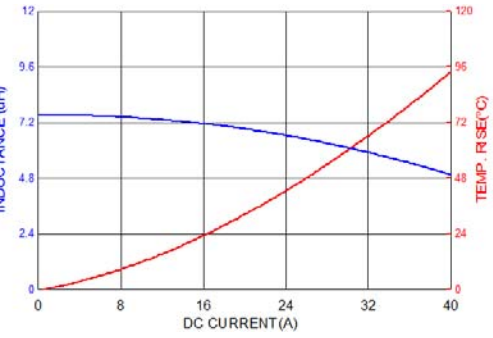
PIC1707HP5R6MF



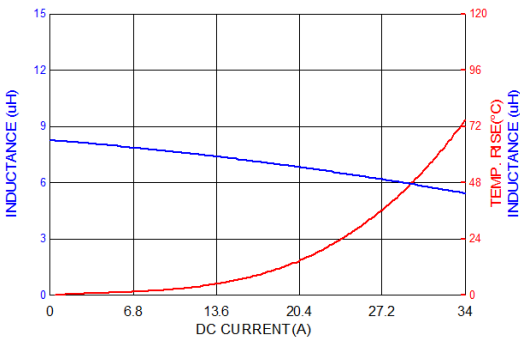
PIC1707HP6R8MF



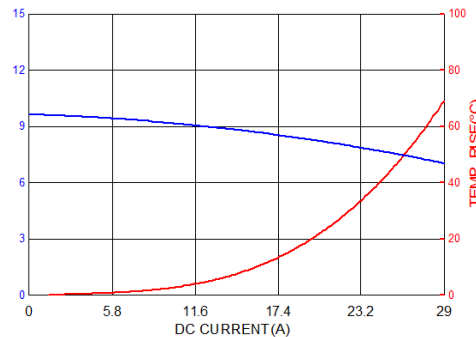
PIC1707HP7R4MF



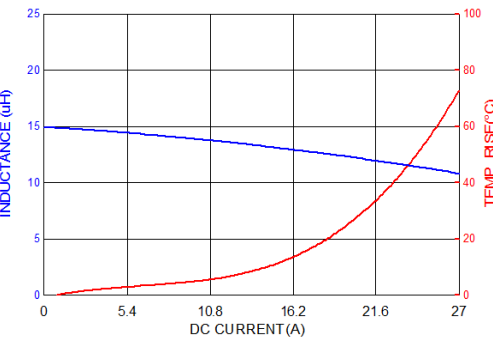
PIC1707HP8R2MF



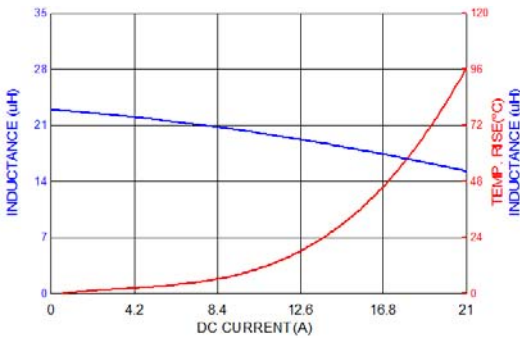
PIC1707HP100MF



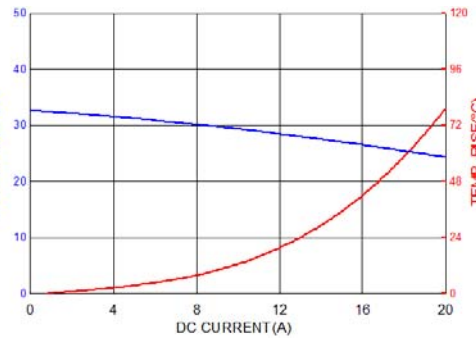
PIC1707HP150MF



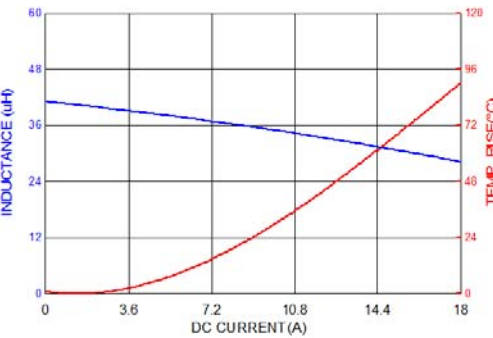
PIC1707HP220MF



PIC1707HP330MF



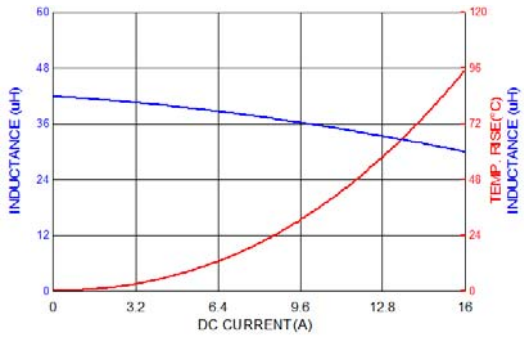
PIC1707HP390MF



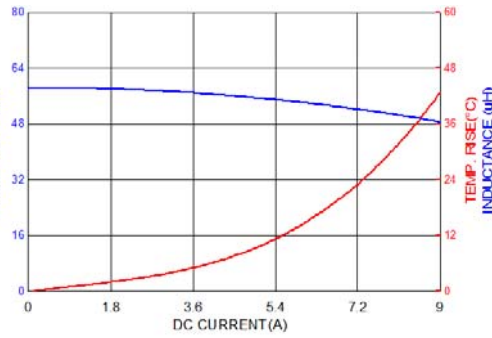
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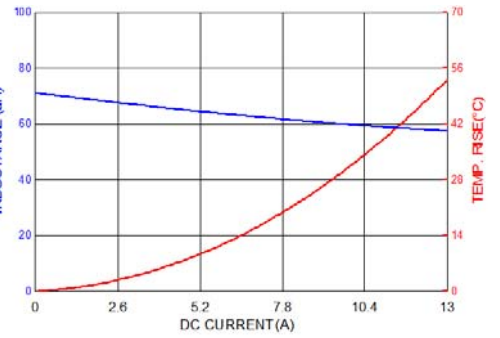
PIC1707HP470MF



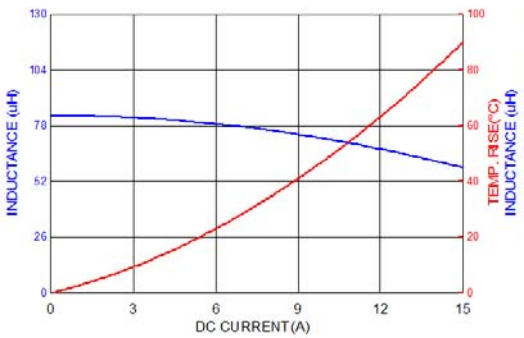
PIC1707HP560MF



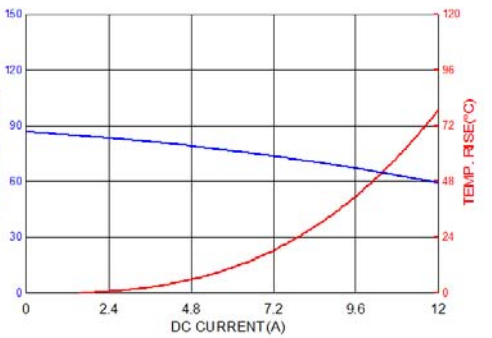
PIC1707HP680MF



PIC1707HP820MF



PIC1707HP101MF



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8. Soldering:

Mildly activated rosin fluxes are preferred. The minimum amount of solder can lead to damage from the stresses caused by the difference in coefficients of expansion between solder, chip and substrate. Our terminations are suitable for all re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air.

8-1 Solder Re-flow:

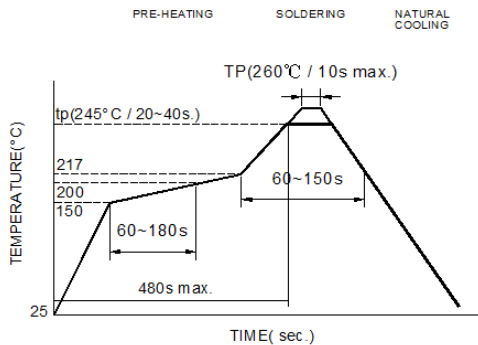
Recommended temperature profiles for re-flow soldering in Figure 1.

8-2 Soldering Iron (Figure 2):

Products attachment with soldering iron is discouraged due to the inherent process control limitations. In the event that a soldering iron must be employed the following precautions are recommended.

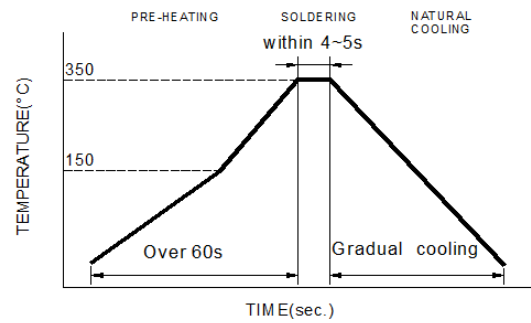
Note :

- a) Preheat circuit and products to 150°C.
- b) 355°C tip temperature (Max.)
- c) Never contact the ceramic with the iron tip
- d) 1.0mm tip diameter (Max.)
- e) Use a 20 watt soldering iron with tip diameter of 1.0mm
- f) Limit soldering time to 4~5 secs.



Reflow times: 3 times max.

Fig.1



Iron Soldering times: 1 times max.

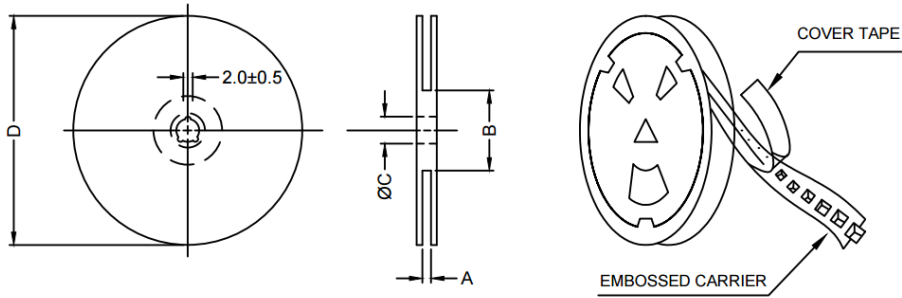
Fig.2

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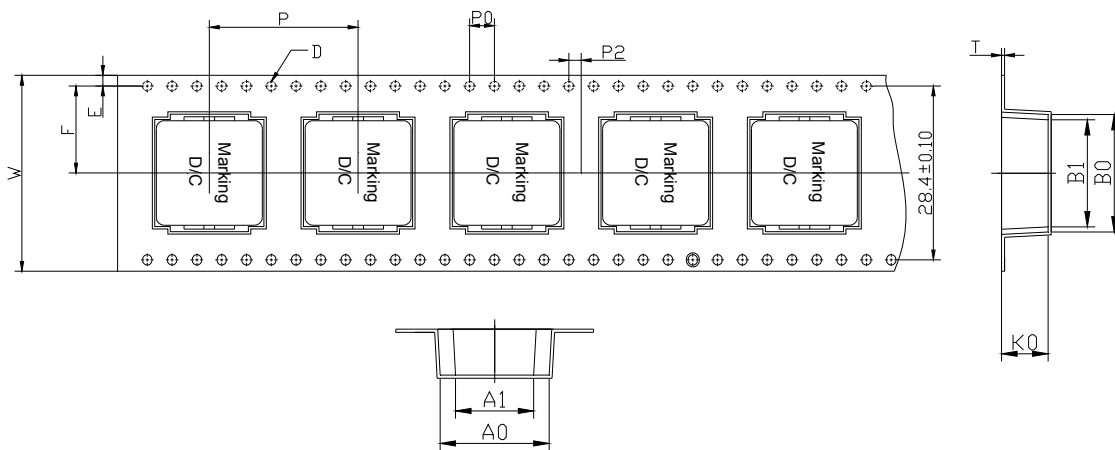
9. Packaging Information:

9-1 Reel Dimension



Type	A(mm)	B(mm)	C(mm)	D(mm)
13"x32mm	32.4+2/-0	100±2	13.0+0.5/-0.2	330

9-2 Tape Dimension



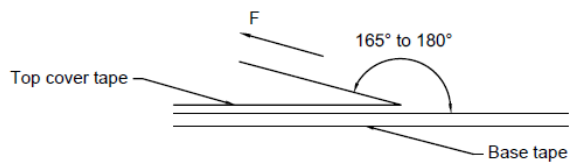
Series	Size	Bo(mm)	B1(mm)	Ao(mm)	A1(mm)	Ko(mm)	P(mm)	P0(mm)	P2(mm)	W(mm)	E(mm)	F(mm)	t(mm)	D(mm)
PIC	1707	18.5±0.1	17.5±0.1	17.5±0.1	12.6±0.1	7.5±0.1	24±0.1	4.0±0.1	2.0±0.05	32±0.3	1.75±0.1	14.2±0.1	0.5±0.05	1.5±0.1

9-3 Packaging Quantity

PIC	1707
Chip / Reel	200
Inner box	200
Carton	800

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9-4 Tearing Off Force



The force for tearing off cover tape is 10 to 130 grams in the arrow direction under the following conditions

Room Temp. (°C)	Room Humidity (%)	Room atm (hPa)	Tearing Speed mm/min
5~35	45~85	860~1060	300

Application Notice:

1. Storage Conditions:

To maintain the solderability of terminal electrodes:

- a) Recommended products should be used within 12 months from the time of delivery.
- b) The packaging material should be kept where no chlorine or sulfur exists in the air.

2. Transportation:

- a) Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
- b) Vacuum pick up is strongly recommended for individual components.
- c) Bulk handling should ensure that abrasion and mechanical shock are minimized.

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