

1. Part No. Expression:

PIC1005H100MF - □

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

(a) Series Code

(b) Dimension Code

(c) Type Code

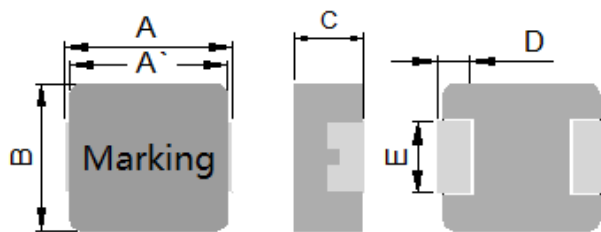
(d) Inductance Code

(e) Tolerance Code

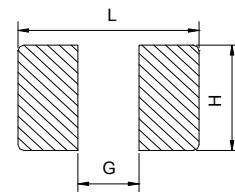
(f) RoHS Compliant

(g) Internal Control Number

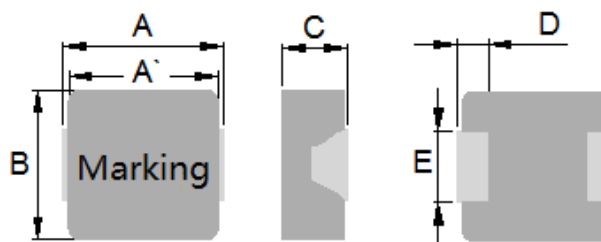
2. Configuration & Dimensions :



Lead Frame



Recommended PC Board Pattern



Non-Lead Frame

Note:

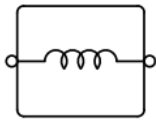
1. The above PCB layout is for reference only.
2. Solder paste thickness of 0.15mm and above is recommended.
3. Marking : Top row – Inductance code, Bottom row – Year/World week

Unit: mm

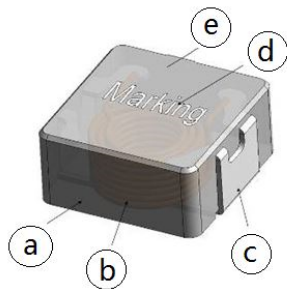
Series	Type	A	A'	B	C	D	E	L	G	H
PIC1005	Lead Frame	11.0±0.5	10.0±0.3	10.0±0.3	4.8±0.2	2.3±0.3	3.0±0.3	13.6	5.4	3.5
	Non-Lead Frame									

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

3. Schematic

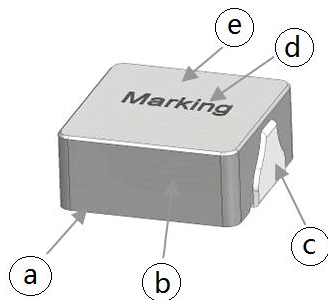


4. Material List



Lead Frame

- a) Core
- b) Wire
- c) Clip
- d) Ink
- e) Paint



Non- Lead Frame

- a) Core
- b) Wire
- c) Solder
- d) Ink
- e) Paint

5. General Specification

- a) Test Freq. : L:100KHz/1.0V
- b) Operating Temperature: - 40°C to +125°C
- c) Storage Temperature: - 40°C to +125°C
- d) Humidity Range: 85 ± 2% RH
- e) Heat Rated Current (Irms) will cause the coil temperature rise approximately Δt of 40°C (keep 1min.)
- f) Saturation Current (Isat) will cause L0 to drop approximately 30%
- g) Part temperature (Ambient + Temp. Rise): Should not exceed 125°C under worst case operating conditions
- h) Storage Condition (component in its packaging)
 - i) Temperature: - 10°C to 40°C
 - ii) Humidity: 50 - 60% RH

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6. Electrical Characteristics

Part Number	Inductance L0 (uH) @ 0 A	I rms (A) Typ.	I sat (A) Typ.	DCR(mΩ) Typ. @25°C	DCR(mΩ) Max. @25°C	Type
PIC1005HR30MF	0.30	38	65	0.57	0.61	Non- Lead Frame
PIC1005HR36MF	0.36	30	60	0.8	0.88	Non- Lead Frame
PIC1005HR47MF	0.47	28	50	1.15	1.38	Non- Lead Frame
PIC1005HR56MF	0.56	26.5	43	1.3	1.5	Non- Lead Frame
PIC1005HR68MF	0.68	25	35	1.7	1.9	Non- Lead Frame
PIC1005HR90MF	0.90	25	32	2.2	3.0	Non- Lead Frame
PIC1005H1R0MF	1.00	22	30	2.8	3.5	Non- Lead Frame
PIC1005H1R2MF	1.20	20	28	2.9	3.5	Non- Lead Frame
PIC1005H1R3MF	1.30	20	28	3.2	3.7	Non- Lead Frame
PIC1005H1R5MF	1.50	19	27	3.5	4.1	Non- Lead Frame
PIC1005H1R8MF	1.80	17.5	25.5	3.7	4.7	Non- Lead Frame
PIC1005H2R2MF	2.20	16	24	5.4	6.0	Lead Frame
PIC1005H3R3MF	3.30	14	22	9.0	10.4	Lead Frame
PIC1005H4R7MF	4.70	13	19	10	12.5	Lead Frame
PIC1005H5R0MF	5.00	12	18	12.2	15	Lead Frame
PIC1005H5R6MF	5.60	10	16	14	16.8	Lead Frame
PIC1005H8R2MF	8.20	9	14.5	18.5	24	Lead Frame
PIC1005H100MF	10.0	8	13.5	25	29	Lead Frame
PIC1005H120MF	12.0	6	10	30	35	Lead Frame
PIC1005H330MF	33.0	4.3	7.5	80	92	Lead Frame
PIC1005H470MF	47.0	3.8	6.5	125	145	Lead Frame
PIC1005H680MF	68.0	2.5	4.0	176	205	Lead Frame

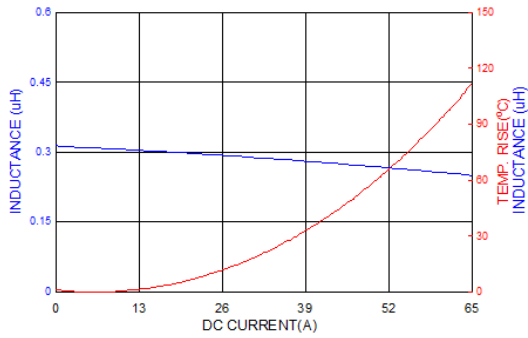
Tolerance: M = ± 20%

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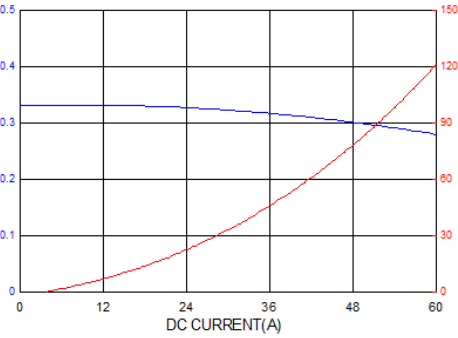


7. Characteristics Curves

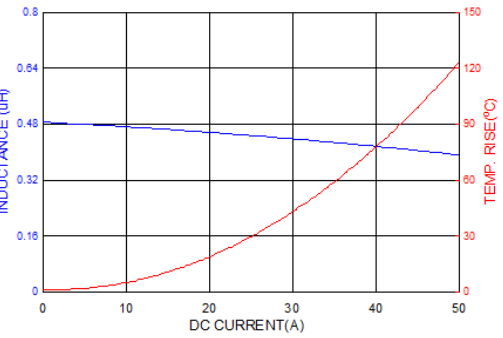
PIC1005HR30MF



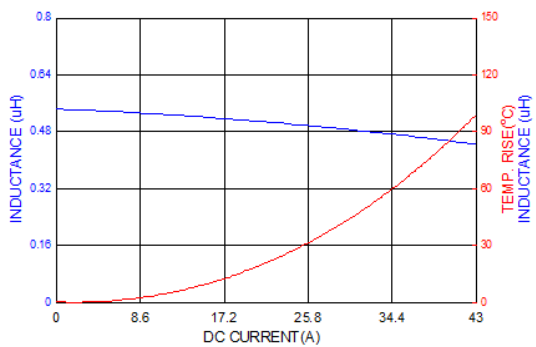
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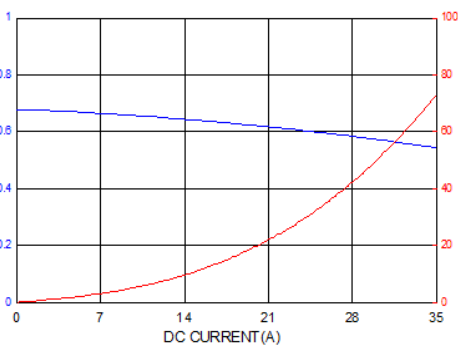
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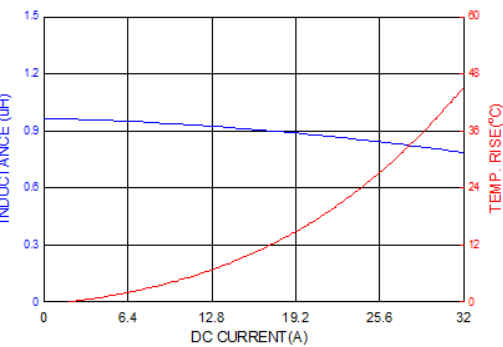
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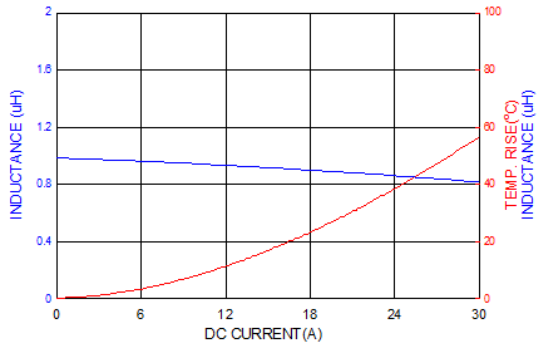
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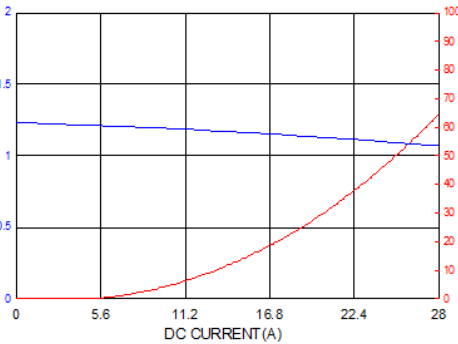
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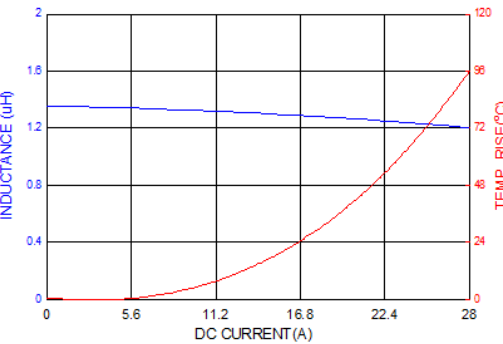
PIC1005H1R0MF



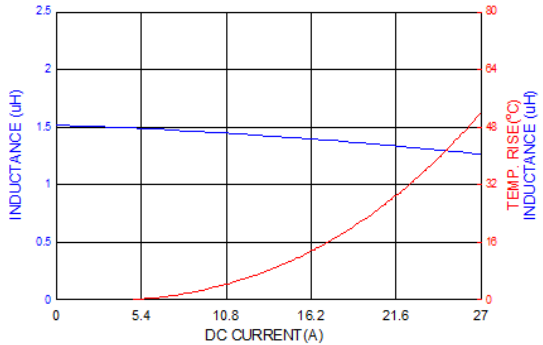
PIC1005H1R2MF



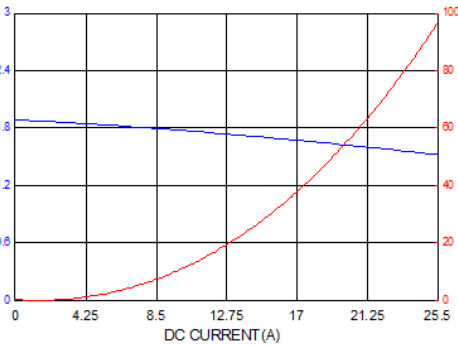
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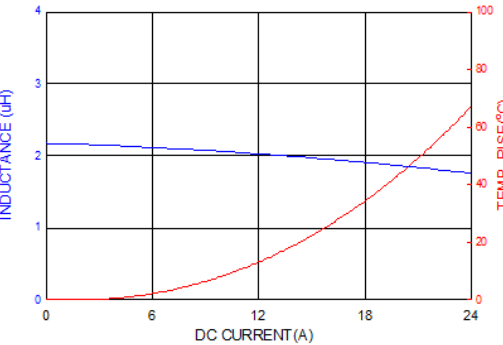
PIC1005H1R5MF



PIC1005H1R8MF



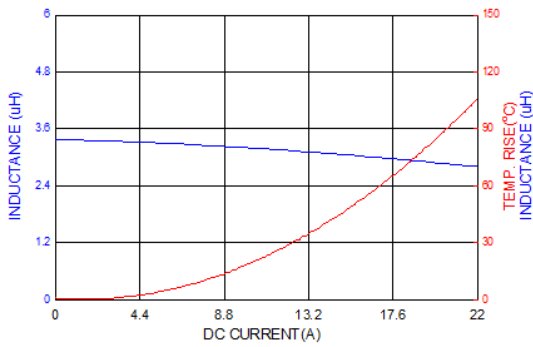
PIC1005H2R2MF



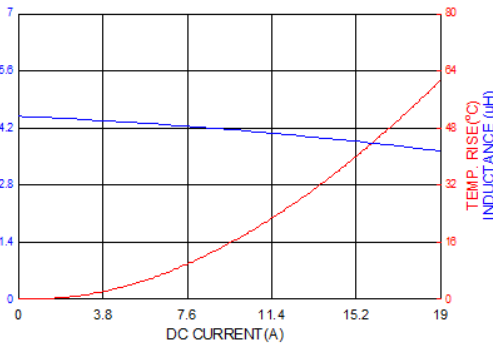
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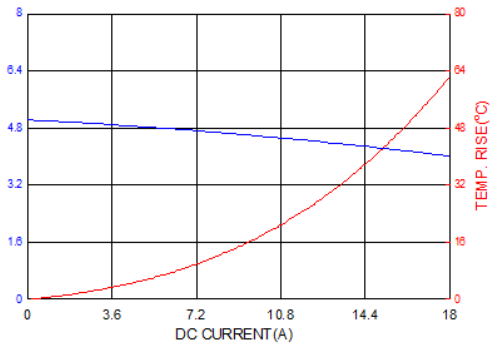
PIC1005H3R3MF



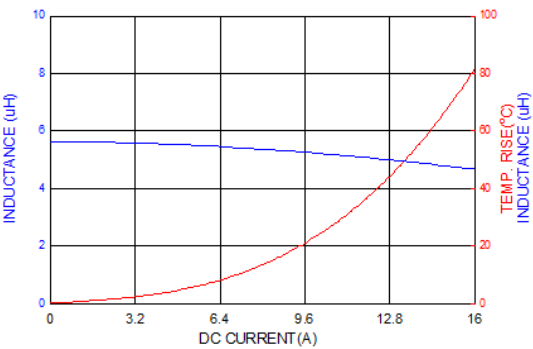
PIC1005H4R7MF



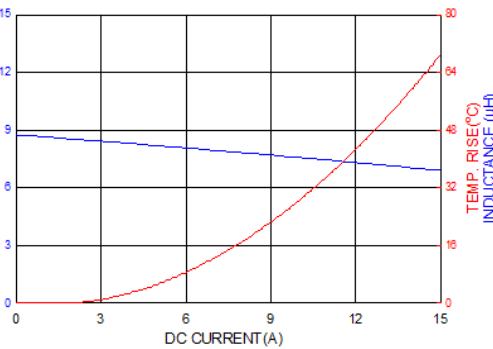
PIC1005H5R0MF



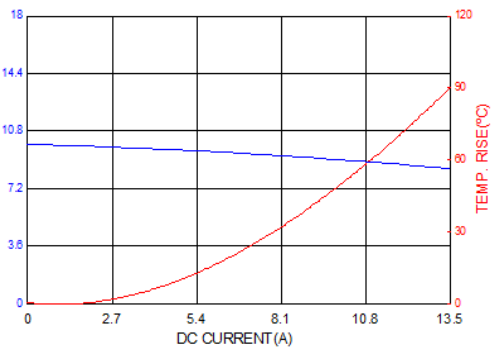
PIC1005H5R6MF



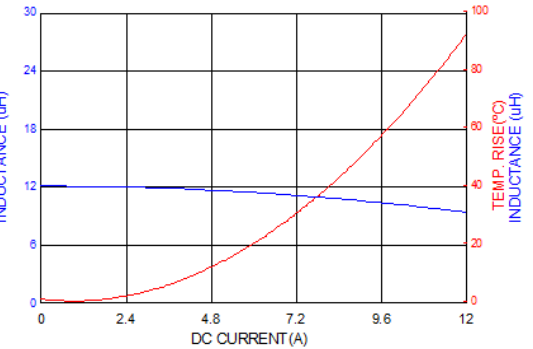
PIC1005H8R2MF



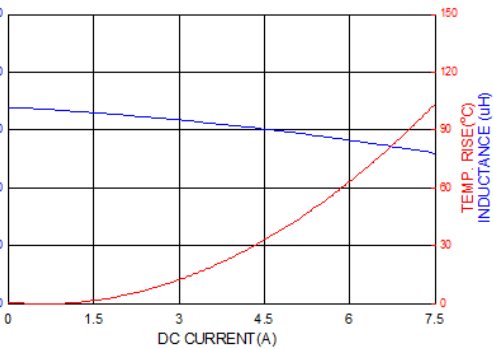
PIC1005H100MF



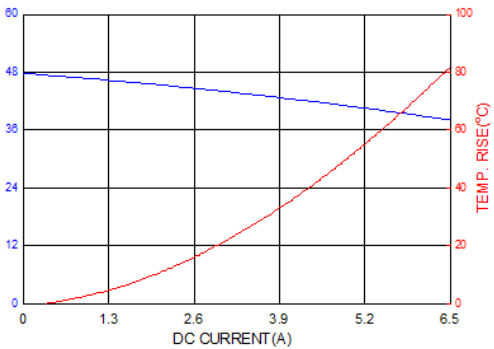
PIC1005H120MF



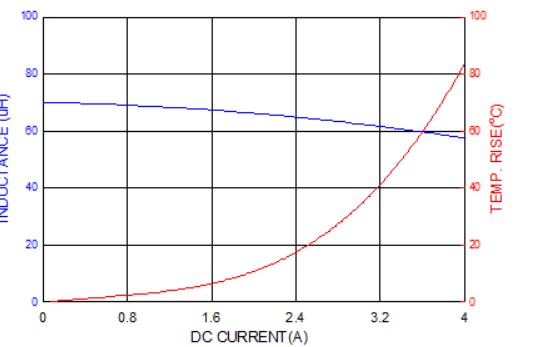
PIC1005H330MF



PIC1005H470MF



PIC1005H680MF



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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:

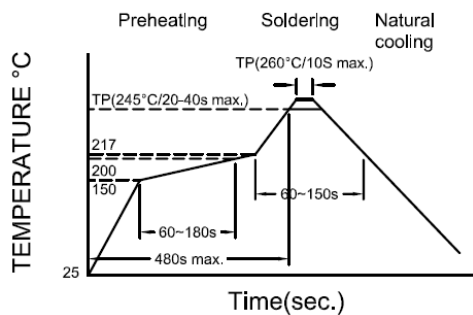
Recommended temperature profiles for re-flow soldering in Figure 1.

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.

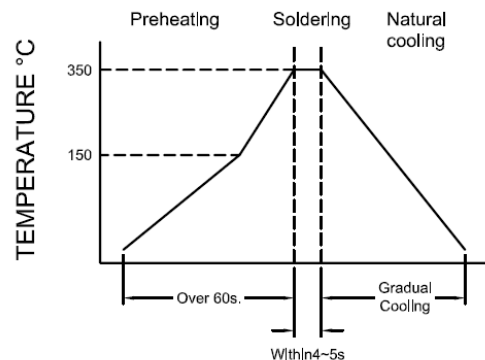
Notes:

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



Reflow times: 3 times max

Fig.1



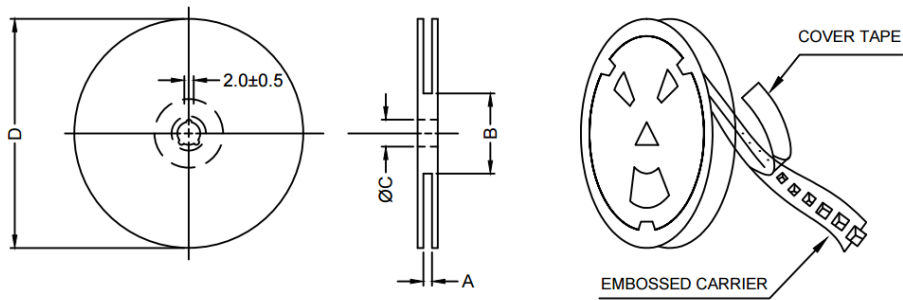
Iron Soldering times: 1 times max

Fig.2

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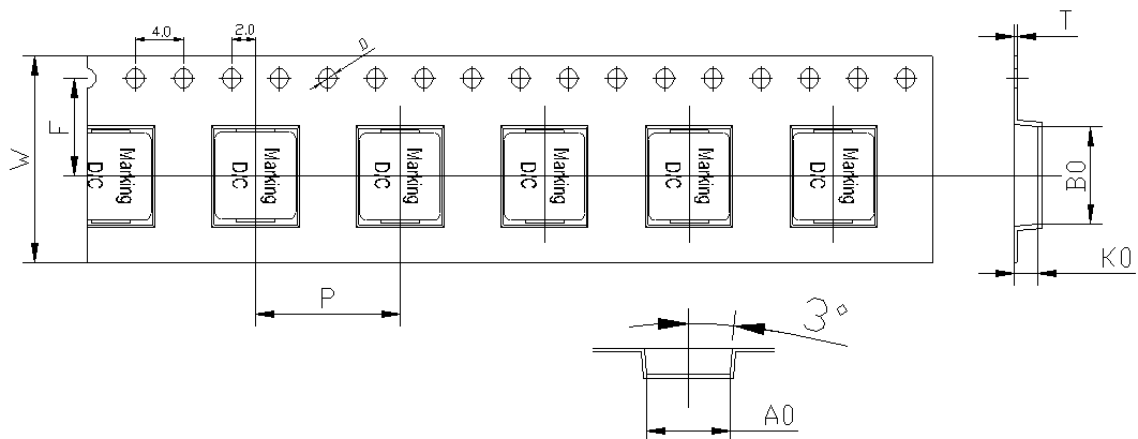
9. Packaging Information:

9-1 Reel Dimension:



Type	A(mm)	B(mm)	C(mm)	D(mm)
13"x24mm	24.4+2/-0	100±2	13+0.5/-0.2	330

9-2 Tape Dimension:

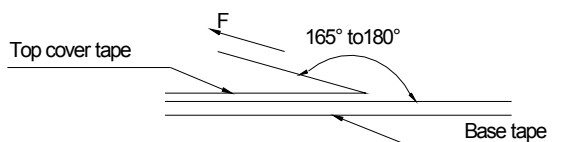


Series	Size	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	W(mm)	F(mm)	T(mm)	D(mm)
PIC	1005	11.6±0.1	10.4±0.1	5.3±0.1	16.0±0.1	24±0.3	11.5±0.1	0.35±0.05	1.5±0.1

9-3 Packaging Quantity:

PIC	1005
Chip / Reel	500
Inner box	1000
Carton	4000

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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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