

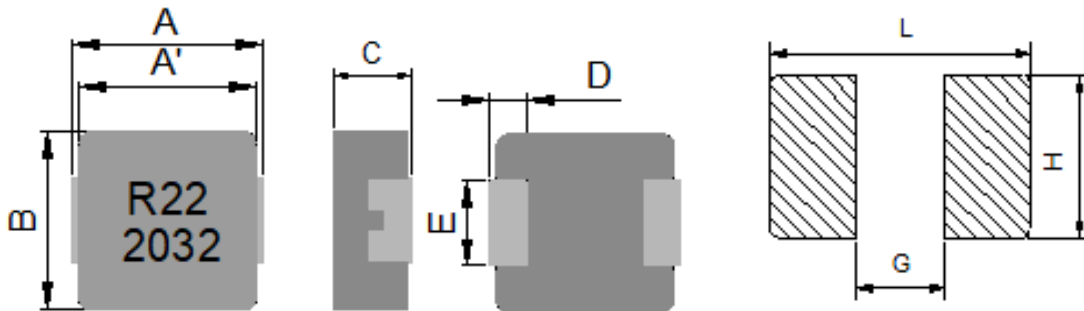
1. Part No. Expression

**PIC8040HPR22MF**

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

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

2. Configuration & Dimensions: (Unit:- mm)



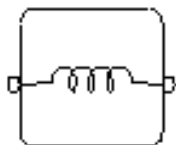
Recommended PCB Layout

Note:

1. The above PCB layout is for reference only.
2. Solder paste thickness at 0.15mm and above is recommended.
3. Marking: Top Row= Inductance Code, Bottom Row= Data Code

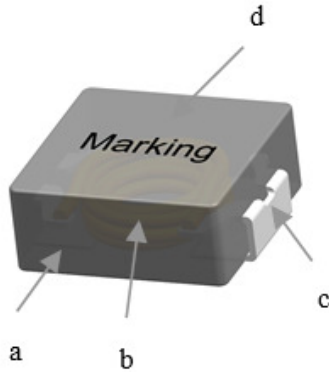
A	A'	B	C	D	E	L	G	H
8.8±0.4	8.1±0.2	8.4±0.3	3.8±0.2	1.6±0.3	5.0±0.3	9.6 Ref	4.5 Ref	5.5 Ref

3. Schematic



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

4. Material List



(a)	Core
(b)	Wire
(c)	Clip
(d)	Ink

5. General Specifications

- (a) Operating Temp.: -40°C to +125°C (including self-temperature rise).
- (b) Storage Temp.: -40°C to +125°C (on board).
- (c) Heat Rated Current (I<sub>rms</sub>) will cause the coil temperature rise approximately ΔT of 40°C.
- (d) Saturation Current (I<sub>sat</sub>) will cause L<sub>0</sub> to drop approximately 30%.
- (e) Part Temperature (Ambient + Temp. Rise): Should not exceed 125°C under worst case operating conditions.
- (f) Storage condition (component in its packaging)
  - i) Temperature: Less than 40°C
  - ii) Humidity: 60% RH

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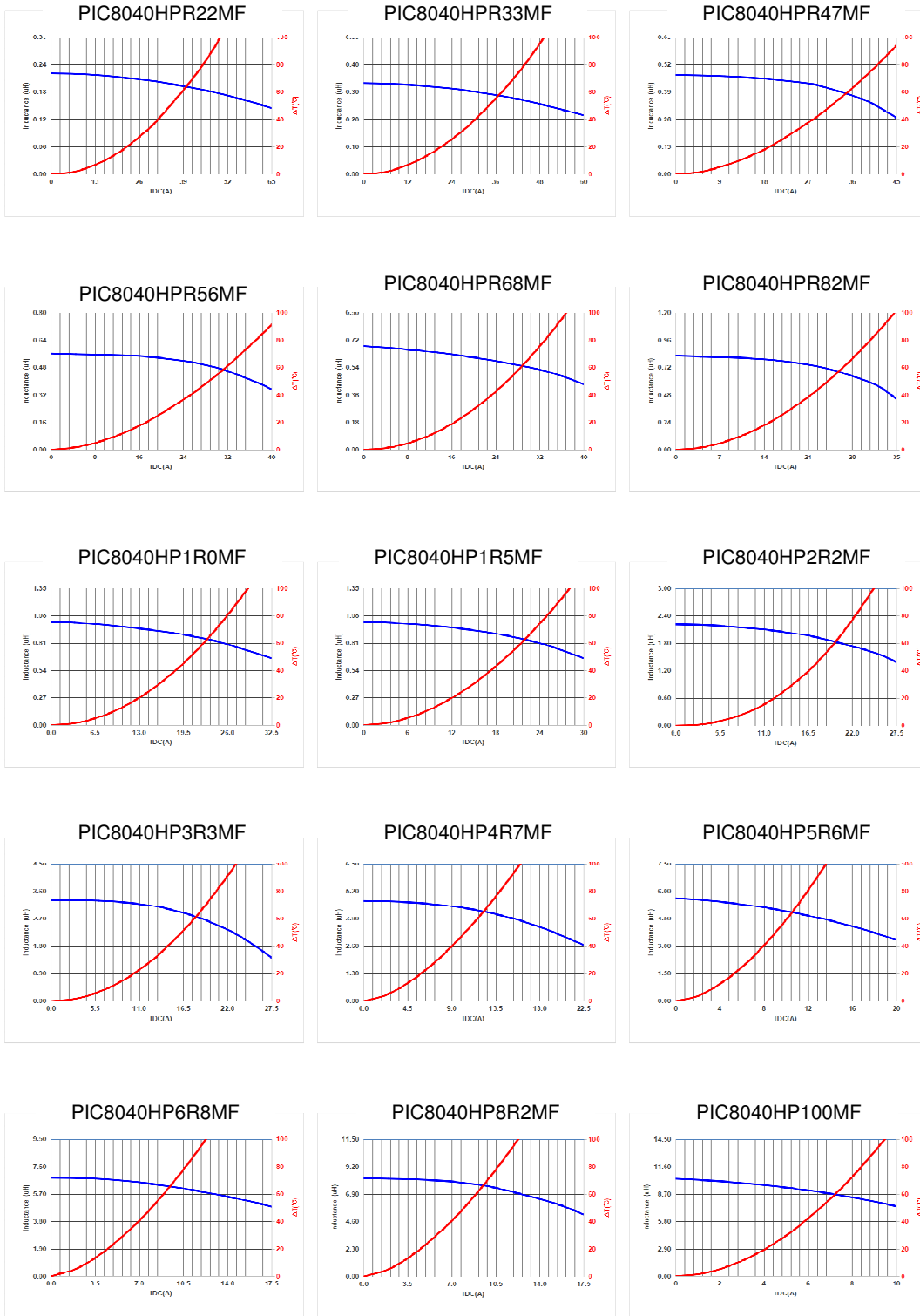
## 6. Electrical Characteristics

Part Number	Inductance L0 (uH) $\pm 20\%$ @1.0V/100KHz	I <sub>rms</sub> (A) Typ	I <sub>sat</sub> (A) Typ	DCR (m $\Omega$ ) Typ	DCR (m $\Omega$ ) Max
PIC8040HPR22MF	0.22	31	60	1.6	1.76
PIC8040HPR33MF	0.33	30	55	2.0	2.20
PIC8040HPR47MF	0.47	28	40	2.6	2.86
PIC8040HPR56MF	0.56	25	38	2.7	2.97
PIC8040HPR68MF	0.68	23	36	3.1	3.41
PIC8040HPR82MF	0.82	21	32	3.7	4.10
PIC8040HP1R0MF	1.0	18	29	4.5	4.95
PIC8040HP1R5MF	1.5	17	27	6.6	7.30
PIC8040HP2R2MF	2.2	16	25	10.8	11.9
PIC8040HP3R3MF	3.3	14	22	15.0	16.5
PIC8040HP4R7MF	4.7	8.5	19	26.8	29.5
PIC8040HP5R6MF	5.6	7.5	17	30	35
PIC8040HP6R8MF	6.8	6.5	16.5	40	46
PIC8040HP8R2MF	8.2	6.0	16	44	51
PIC8040HP100MF	10.0	5.6	10	53	61

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7. Characteristics Curves



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## 8. Soldering and Mounting

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 soldering tools.

### 8-1 Solder Re-flow

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

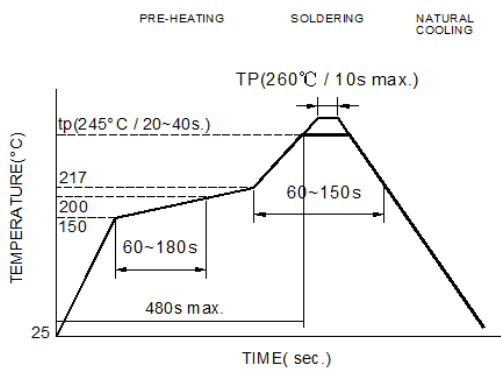
### 8-2 Soldering Iron (Figure 2)

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.

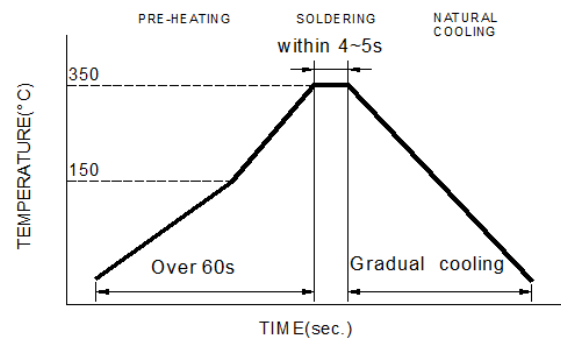
Note:

- 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



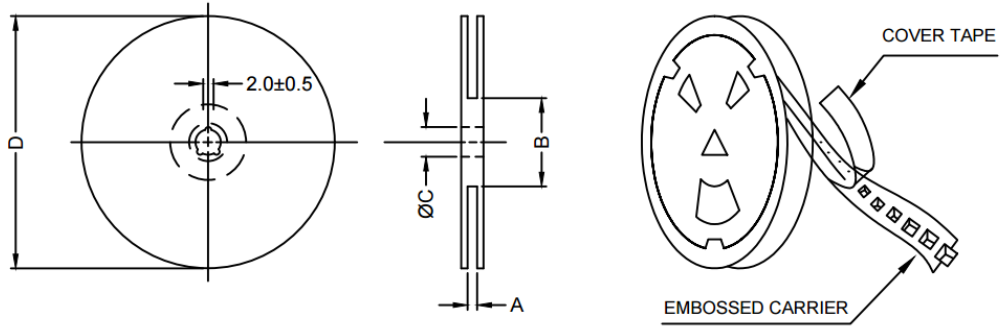
Iron Soldering times: 1 times max.

Fig.2

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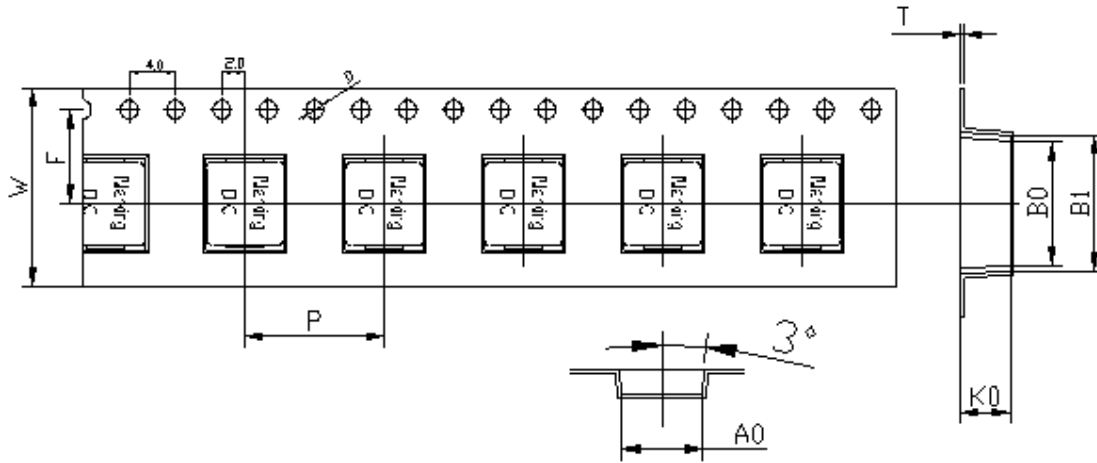
9. Packaging Information

9-1 Reel Dimension



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

9-2 Tape Dimension



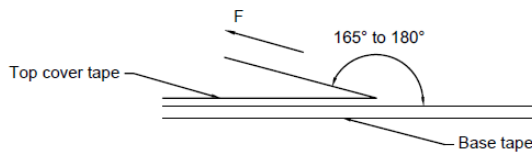
Series	Size	B1(mm)	Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	W(mm)	F(mm)	t(mm)	D(mm)
PIC	8040	10.1±0.1	9.0±0.1	8.9±0.1	4.5±0.1	16.0±0.1	24.0±0.3	11.5±0.1	0.35±0.05	1.5±0.1

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9-3 Packaging Quantity

<b>PIC</b>	<b>8040</b>
Chip / Reel	800
Inner Box	1600
Carton	6400

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. (Referenced ANSI/EIA-481-D-2008 of 4.11 standard).

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 6 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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