Molded Choke Coil – *PIC1205HP Series*

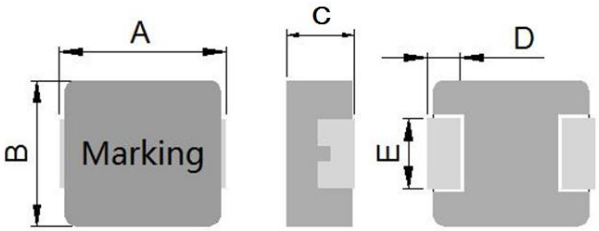
1. Part No. Expression:

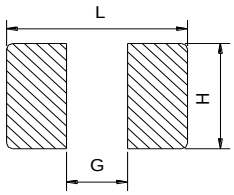
P I C 1 2 0 5 H P 1 R 0 M F

(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:





Recommended PC Board Pattern

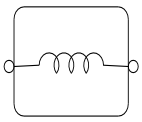
Note:

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.

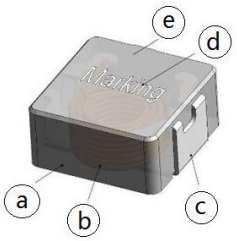
Unit: mm

A	B	C	D	E	L	G	H
13.5±0.5	12.5±0.3	4.8±0.2	2.3±0.3	4.7±0.3	14.2 Ref.	8.0 Ref.	5.0 Ref.

3. Schematic:



4. Material List:



a) Core
b) Wire
c) Clip
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) Heat Rated Current (Irms) will cause the coil temperature rise approximately △t of 40°C.

(d) Saturation Current (Isat) will cause L0 to drop approximately 30%.

(e) Part Temperature (Ambient+Temp. Rise). : Should not exceed 125°C under worst case operating conditions.

(f) Humidity Range. : 85 ± 2% RH.

(g) Storage Condition (Component in its packaging).

i) Temperature: Less than 40°C.

ii) Humidity: 60% RH.

6. Electrical Characteristics:

Part Number	Inductance L0 (uH) @ 0 A	Test Frequency (Hz)	I rms (A) Typ.	I sat (A) Typ.	DCR (mΩ) Typ.	DCR (mΩ) Max.
PIC1205HPR20MF	0.20	1.0V/100KHz	52.0	110	0.45	0.55
PIC1205HPR22MF	0.22	1.0V/100KHz	52.0	110	0.5	0.7
PIC1205HPR33MF	0.33	1.0V/100KHz	42.0	80.0	0.7	0.9
PIC1205HPR36MF	0.36	1.0V/100KHz	42.0	75.0	0.75	0.95
PIC1205HPR39MF	0.39	1.0V/100KHz	42.0	70.0	0.78	0.95
PIC1205HPR47MF	0.47	1.0V/100KHz	38.0	65.0	0.86	1.1
PIC1205HPR50MF	0.50	1.0V/100KHz	37.0	60.0	0.9	1.3
PIC1205HPR56MF	0.56	1.0V/100KHz	36.0	55.0	1.0	1.5
PIC1205HPR68MF	0.68	1.0V/100KHz	34.0	54.0	1.4	1.7
PIC1205HPR82MF	0.82	1.0V/100KHz	31.0	52.0	1.7	2.1
PIC1205HP1R0MF	1.00	1.0V/100KHz	29.0	50.0	1.85	2.5
PIC1205HP1R2MF	1.20	1.0V/100KHz	28.0	49.0	2.5	3.0
PIC1205HP1R5MF	1.50	1.0V/100KHz	27.0	48.0	2.8	3.3
PIC1205HP1R8MF	1.80	1.0V/100KHz	21.0	40.0	4.0	4.9
PIC1205HP2R2MF	2.20	1.0V/100KHz	20.0	32.0	4.2	5.5
PIC1205HP3R3MF	3.30	1.0V/100KHz	15.0	32.0	6.8	9.2
PIC1205HP4R7MF	4.70	1.0V/100KHz	12.0	27.0	11.4	15.0
PIC1205HP5R6MF	5.60	1.0V/100KHz	11.5	22.0	12.3	16.5
PIC1205HP6R0MF	6.00	1.0V/100KHz	11.5	21.5	13.0	16.5
PIC1205HP6R8MF	6.80	1.0V/100KHz	11.0	21.0	14.5	18.5
PIC1205HP8R2MF	8.20	1.0V/100KHz	9.5	18.0	16.8	22.5
PIC1205HP100MF	10.0	1.0V/100KHz	9.0	16.0	21.4	25.5
PIC1205HP150MF	15.0	1.0V/100KHz	8.2	13.0	32.0	38.0
PIC1205HP180MF	18.0	1.0V/100KHz	7.5	11.0	40.0	45.0
PIC1205HP220MF	22.0	1.0V/100KHz	6.5	10.0	50.0	58.0

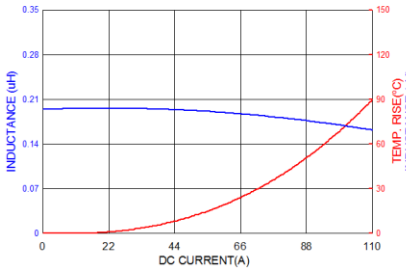
*Tolerance code : M = ±20%

Note:

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

7. Characteristics Curves:

PIC1205HPR20MF



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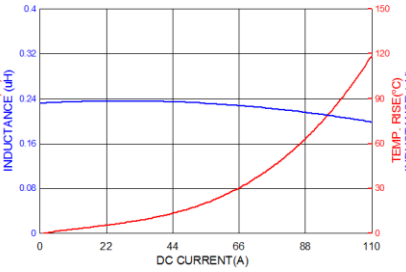
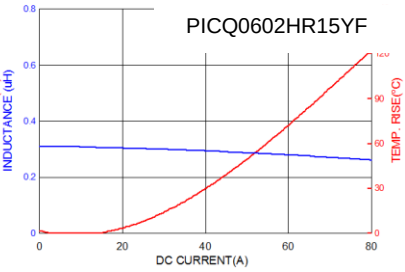


PIC1205HPR33MF

PICQ0602HR15YF



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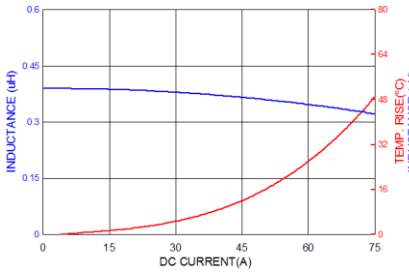

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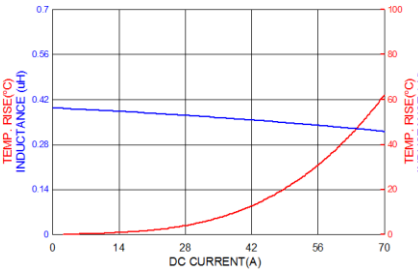

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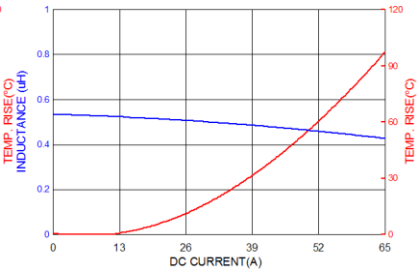
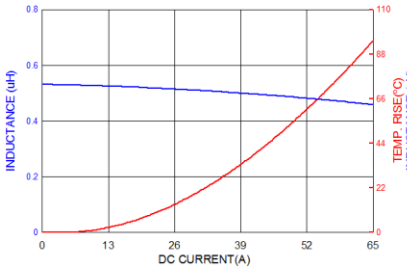


PIC1205HPR50MF



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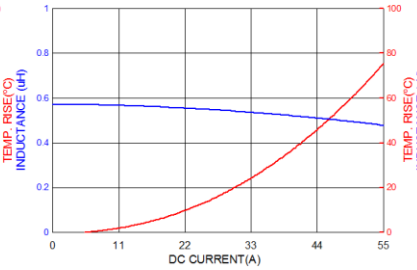

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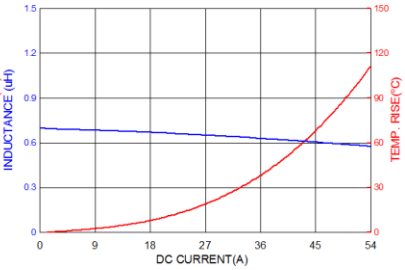

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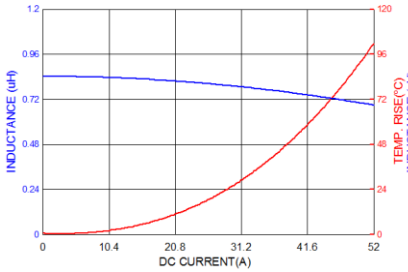

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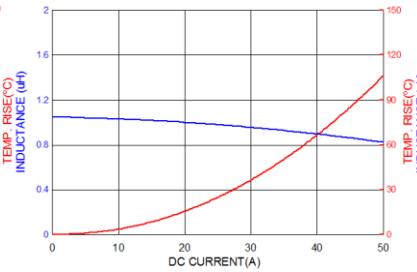

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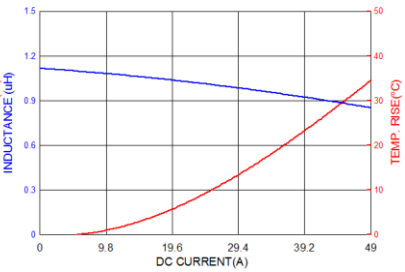

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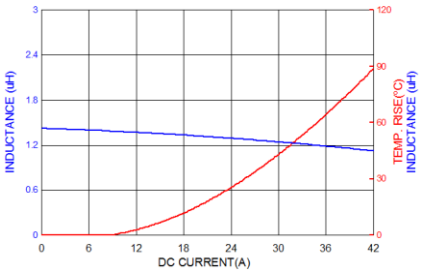
Molded Choke Coil – *PIC1205HP Series*

PIC1205HP1R5MF



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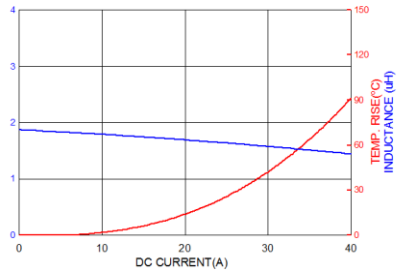

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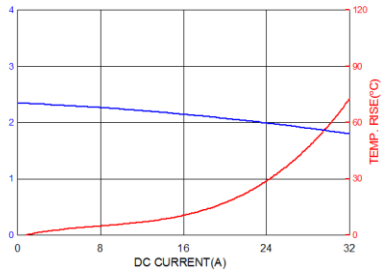

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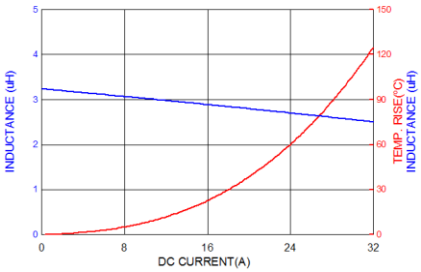

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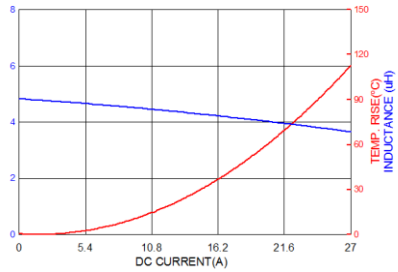

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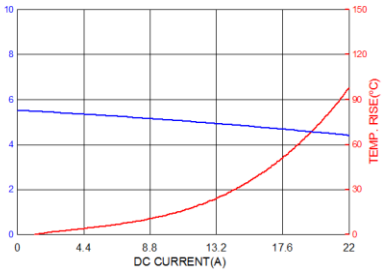

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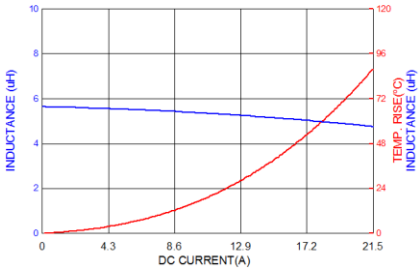

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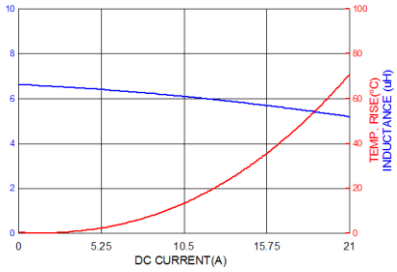

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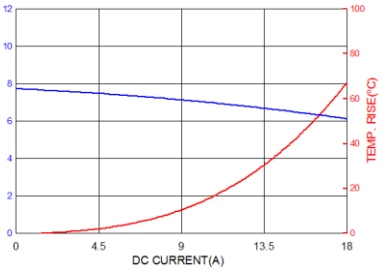

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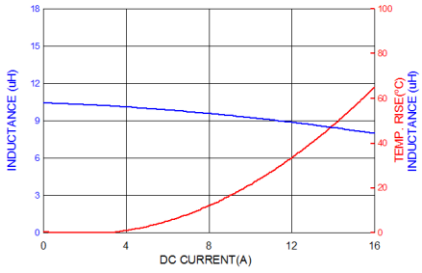

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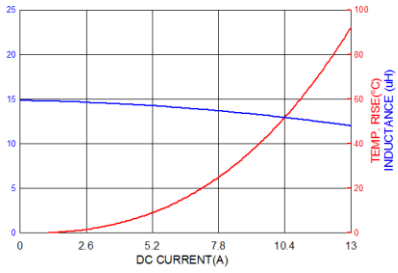
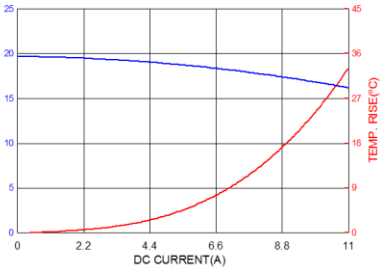


PIC1205HP180MF



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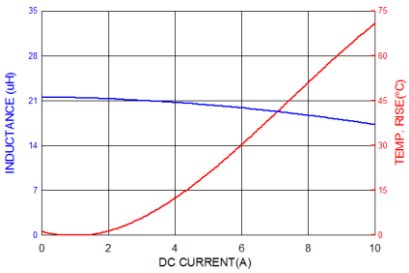


NOTE: Specifications subject to change without notice. Please check our website for latest information.

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.

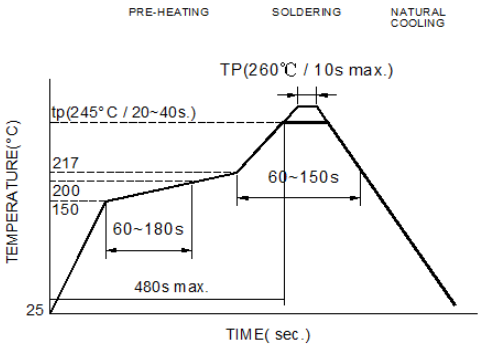
b) 355°C tip temperature (Max.)

c) Never contact the ceramic with the iron tip

d) 1.0mm tip diameter (Max.)

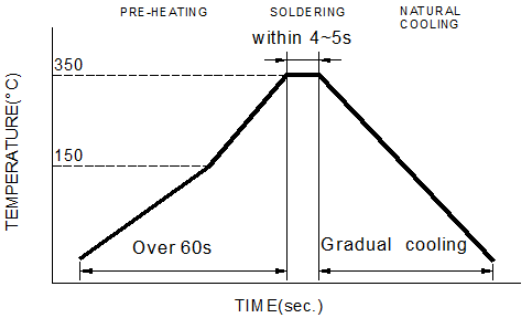
e) Use a 20 watt soldering iron with tip diameter of 1.0mm

f) Limit soldering time to 4~5 secs.



Reflow times: 3 times max.

Fig.1

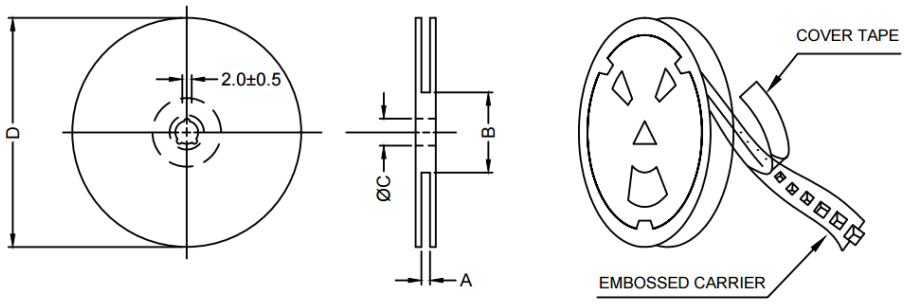


Iron Soldering times: 1 times max.

Fig.2

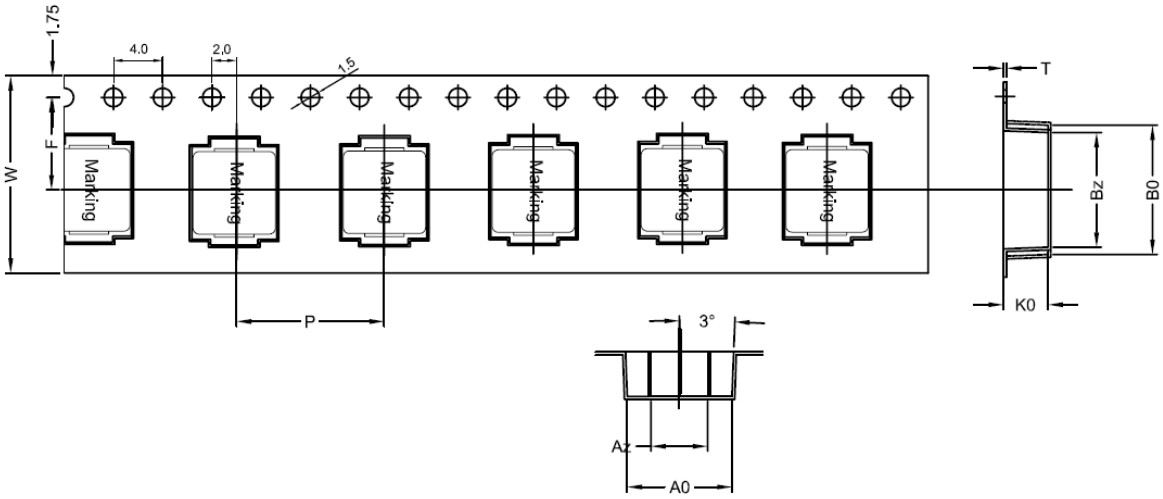
9. Packaging Information:

9-1 Reel Dimension



Type	A(mm)	B(mm)	C(mm)	D(mm)
13”x24mm	24.4+2/-0	100±2	13.0+0.5/-0.2	330

9-2 Tape Dimension



Series	Size	Bo(mm)	Bz(mm)	Ao(mm)	Az(mm)	Ko(mm)	P(mm)	W(mm)	F(mm)	T(mm)
PIC	1205	14.1±0.1	13.0±0.1	12.9±0.1	7.0±0.1	5.5±0.1	16.0±0.1	24±0.3	11.5±0.1	0.35±0.05

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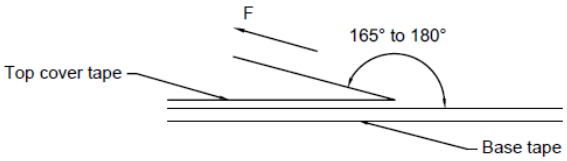
9-3 Packaging Quantity

PIC	1205
Chip / Reel	500
Inner box	1000
Carton	4000

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.