

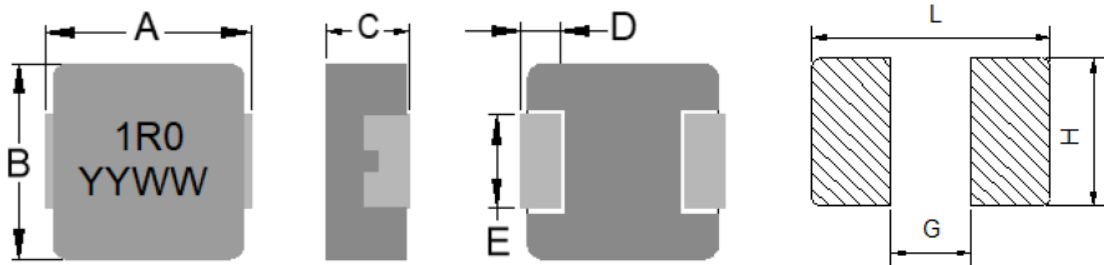
1. Part No. Expression

PIC1235HP1R0MF

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

- (a) Series Code
- (b) Dimension Code
- (c) Material Code
- (d) Inductance Code
- (e) Tolerance Code
- (f) Packaging Code

2. Configuration & Dimensions (Unit: mm)



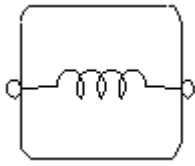
Recommended PCB Layout

- Note:
1. The above PCB layout reference only.
 2. Recommend solder paste thickness at 0.15 mm and above.
 3. Marking: Top= Inductance Code, Bottom=YYWW (Year/World week), Black

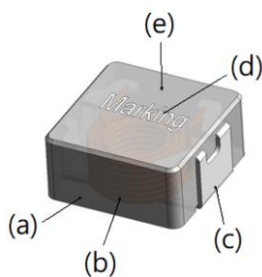
A	B	C	D	E	L	G	H
13.5±0.5	12.5±0.3	3.3±0.2	2.3±0.3	4.7±0.3	14.2 Ref.	8.0 Ref.	5.0 Ref.

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

3. Schematic



4. Material List



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

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) All test data referenced to 25°C ambient.
- (d) Heat Rated Current (I_{rms}) will cause the coil temperature rise approximately ΔT of 40°C.
- (e) Saturation Current (I_{sat}) will cause inductance L_0 to drop approximately 30%.
- (f) Rated Current: The lower value of I_{sat} and I_{rms} .
- (g) Part Temperature (Ambient + Temp. Rise): Should not exceed 125°C under worst case operating conditions.
- (h) Maximum Operating Voltage: 80V
- (i) Storage Condition (Component in its packaging)
 - i) Temperature: Less than 40°C
 - ii) Humidity: Less than 60% RH

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6. Electrical Characteristics

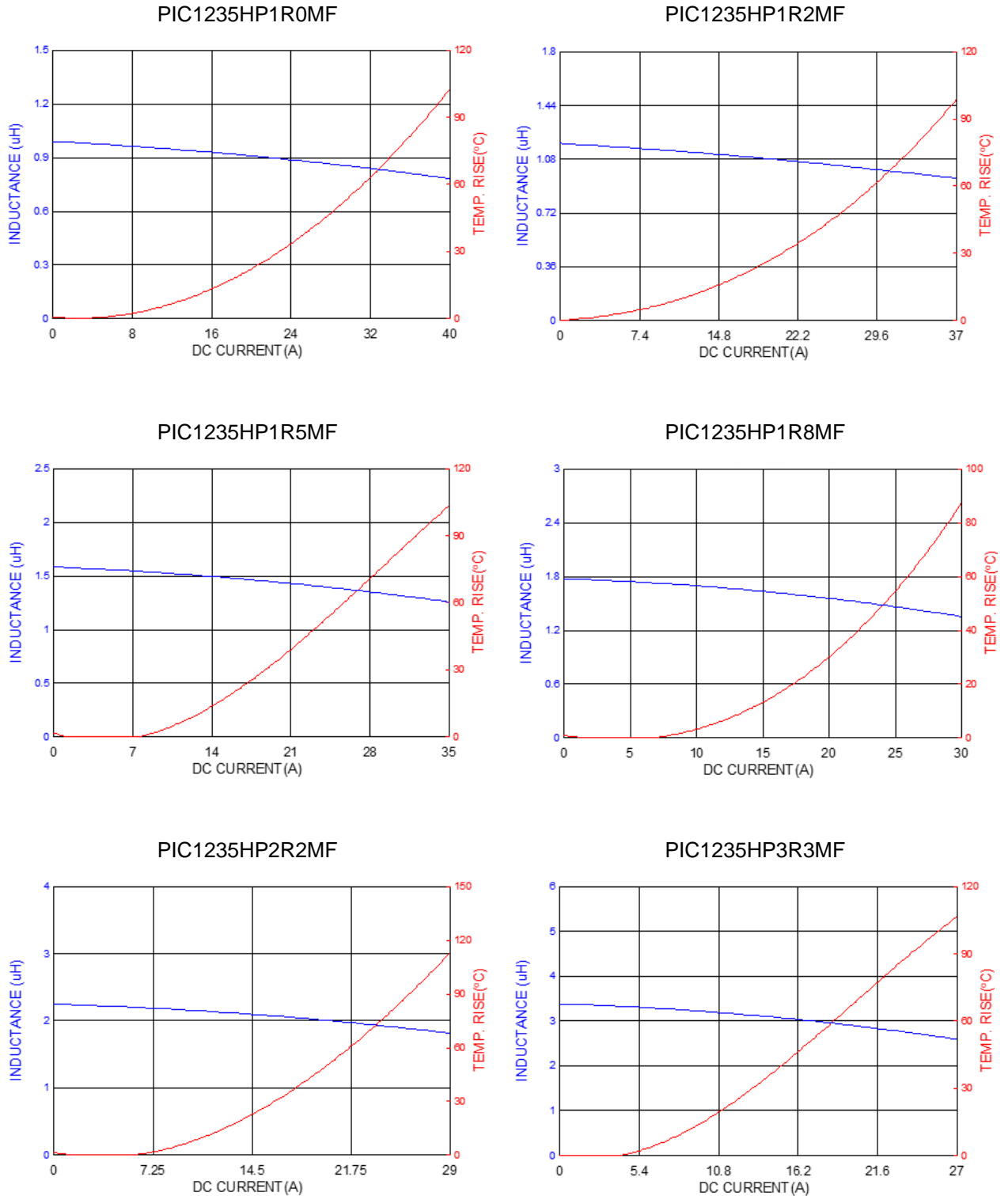
Part Number	Inductance (uH) @ 0A ±20%	Test Frequency	I rms (A) Typ	I sat (A) Typ	DCR (mΩ)	
					Typ	Max
PIC1235HP1R0MF	1.00	1.0V/100KHz	24	40	2.70	3.50
PIC1235HP1R2MF	1.20	1.0V/100KHz	21	37	4.00	5.00
PIC1235HP1R5MF	1.50	1.0V/100KHz	19	35	4.80	5.50
PIC1235HP1R8MF	1.80	1.0V/100KHz	17	30	5.20	7.00
PIC1235HP2R2MF	2.20	1.0V/100KHz	16	29	6.30	8.00
PIC1235HP3R3MF	3.30	1.0V/100KHz	12	27	11.0	13.5
PIC1235HP4R7MF	4.70	1.0V/100KHz	10	24	15.3	18.5
PIC1235HP5R6MF	5.60	1.0V/100KHz	9.5	19	18.0	22.0
PIC1235HP6R8MF	6.80	1.0V/100KHz	9	18	20.0	24.0
PIC1235HP8R2MF	8.20	1.0V/100KHz	8.5	16	23.0	28.0
PIC1235HP100MF	10.0	1.0V/100KHz	7	14	29.0	34.0

Note:

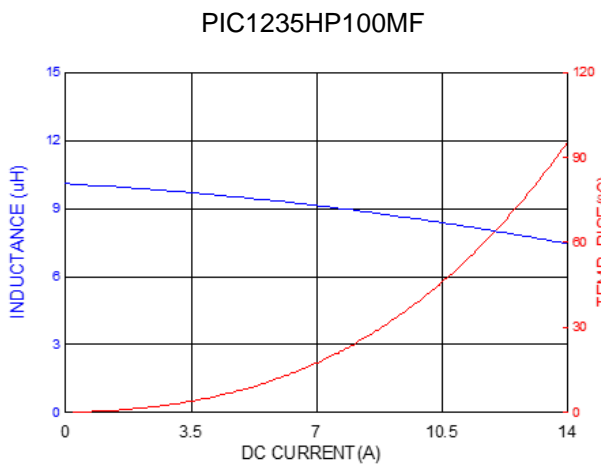
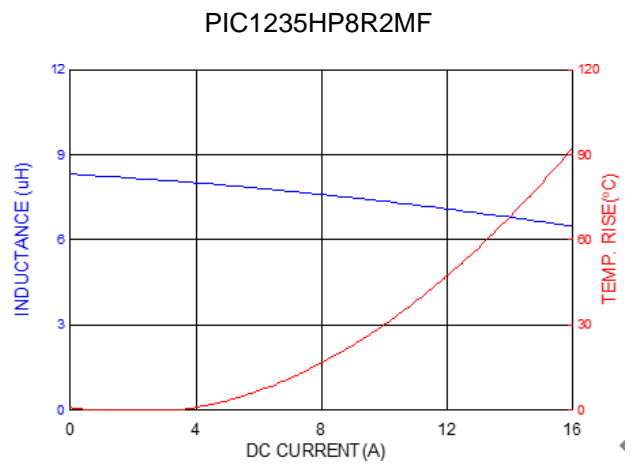
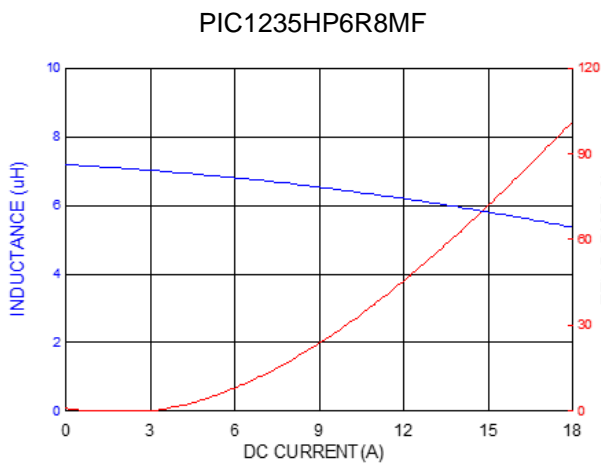
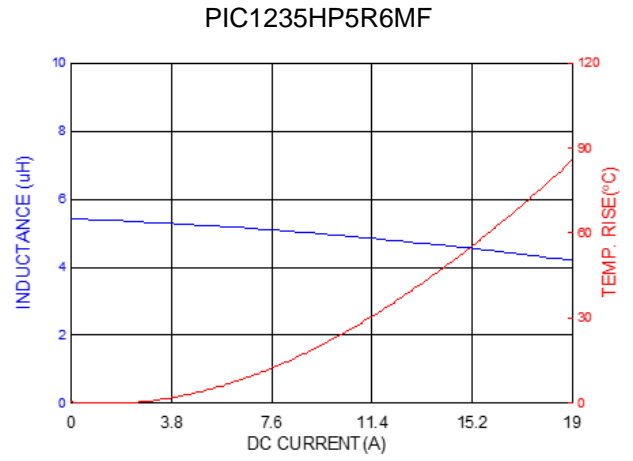
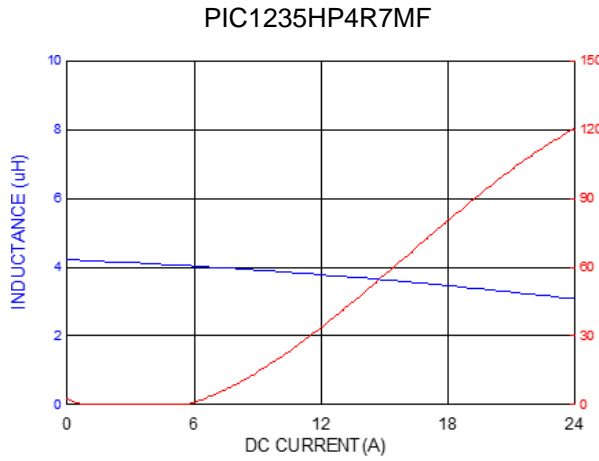
Isat Typ and Irms Typ value is derived based from accounting the upper limit tolerance into the inductance value.

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7. Characteristics Curve



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8. Soldering Specification

Mildly activated rosin fluxes are preferred. Our terminations are suitable for re-flow soldering systems. If hand soldering cannot be avoided, the preferred technique is the utilization of hot air soldering tools.

8-1. IR Soldering Reflow

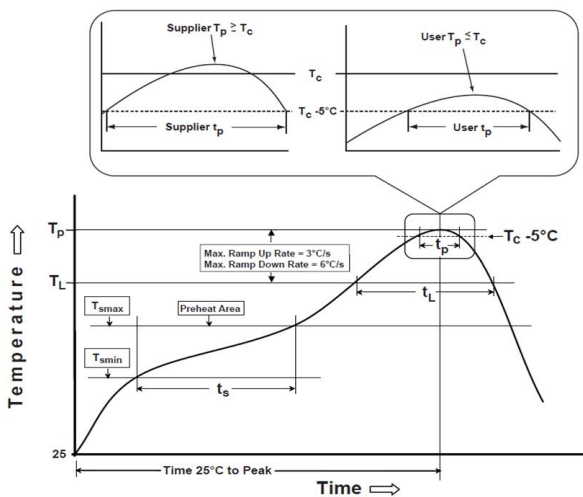
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

8-2. Iron Reflow

Products attachment with a 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 (Figure 2).

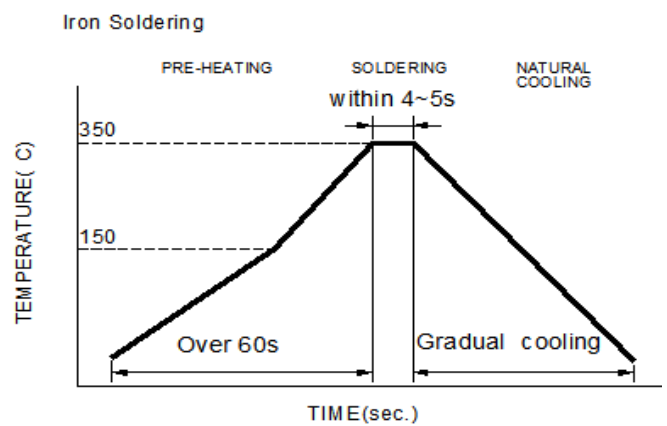
Note:

- (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 sec.



Reflow times: 3 times Max

Figure 1: IR Soldering Reflow



Iron Soldering times: 1 times max.

Soldering iron method: 350±5°C Max

Figure 2: Iron soldering temperature profiles

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Table (1.1) Reflow Profiles

Profile Type:	Pb-Free Assembly
Preheat	
-Temperature Min (T_{smin})	150°C
-Temperature Max (T_{smax})	200°C
-Time (t_s) from (T_{smin} to T_{smax})	60-120seconds
Ramp-up rate (T_L to T_p)	3°C /second max.
Liquids temperature (T_L)	217°C
Time (t_L) maintained above T_L	60-150 seconds
Classification temperature (T_c)	See Table (1.2)
Time (t_p) at $T_c - 5^\circ\text{C}$ (T_p should be equal to or less than T_c .)	* < 30 seconds
Ramp-down rate (T_p to T_L)	6°C /second max.
Time 25°C to peak temperature	8 minutes max.

T_p: maximum peak package body temperature, **T_c**: the classification temperature.

For user (customer) **T_p** should be equal to or less than **T_c**.

*Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

Table (1.2) Package Thickness/Volume and Classification Temperature (T_c)

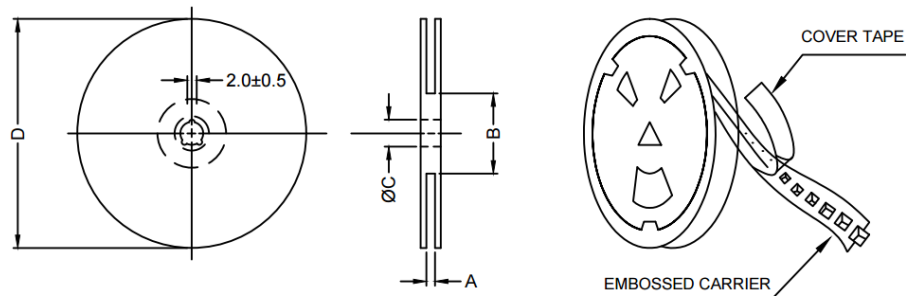
	Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

Reflow is referred to standard IPC/JEDEC J-STD-020E.

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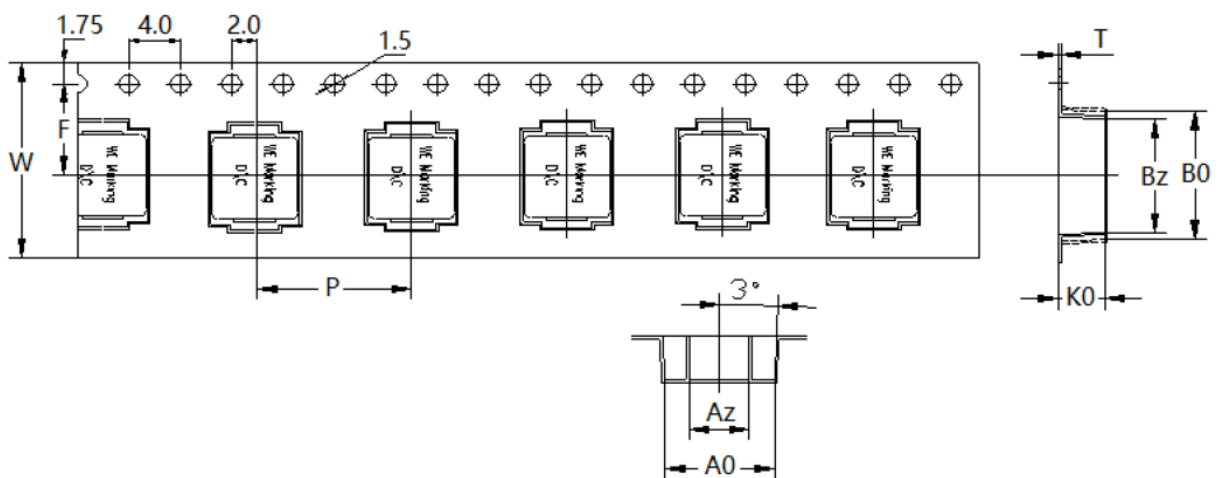
9. Packaging Information

9-1. Reel Dimension (Unit: mm)



Type	A	B	C	D
13"x24mm	24.4+2.0/-0.0	100.0±2.0	13.0+0.5/-0.2	330.0

9-2. Tape Dimension (Unit: mm)



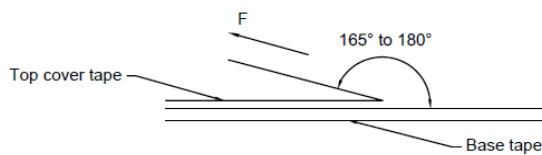
B0	Bz	A0	Az	K0
14.10±0.10	13.00±0.10	12.90±0.10	7.00±0.10	4.00±0.10
P	W	F	T	-
16.00±0.10	24.00±0.30	11.50±0.10	0.35±0.05	-

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9-3. Packaging Quantity (Unit: Pcs)

Chip/ Reel	500
Inner Box	1,000
Carton	4,000

9-4. Tearing Off Force



The force for tearing off cover tape is according to the follow table, 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±10

Tape Size	8 mm	12 to 56 mm	72 mm or Wider
Tearing Off Force (grams)	10~100	10~130	10~150

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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