

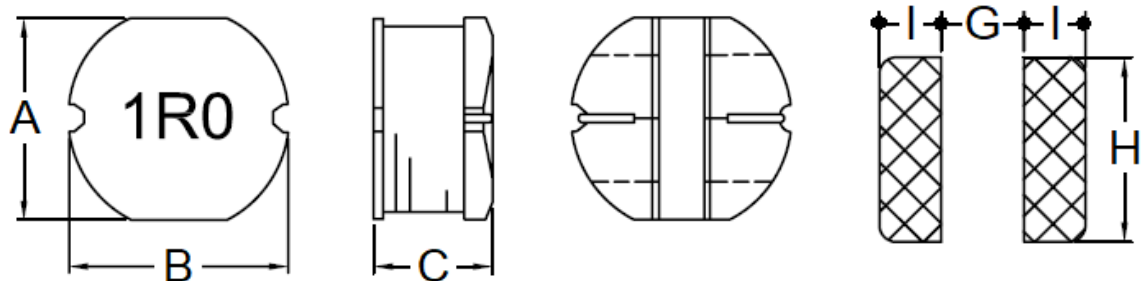
1. Part No. Expression

PDC03021R0MZ F

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

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

2. Configuration & Dimensions (Unit: mm)

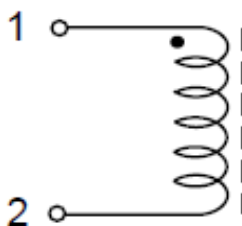


Recommended PCB Layout

- Note:
1. The above PCB layout reference only.
 2. Marking: Inductance Code

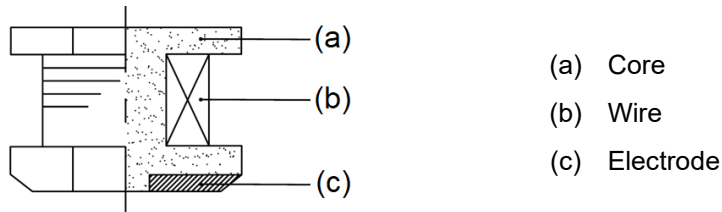
A	B	C	G	H	I
3.0±0.3	3.5±0.3	2.2±0.3	0.8 Ref	3.5 Ref	1.6 Ref

3. Schematic



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

4. Material List



5. General Specifications

- (a) Operating Temp.: -40°C to +125°C (including self-temperature rise)
- (b) All test data referenced to 25°C ambient.
- (c) Heat Rated Current (I_{rms}) will cause the coil temperature rise ΔT of 40°C Max.
- (d) Saturation Current (I_{sat}) will cause inductance L_0 to drop approximately 10%.
- (e) Rated Current: The lower value of I_{sat} and I_{rms} .
- (f) Storage Condition (Component in its packaging)
 - i) Temperature: -10°C to 40°C
 - ii) Humidity: Less than 60% RH

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6. Electrical Characteristics

Part Number	Inductance (μ H) @0A $\pm 20\%$	Test Frequency	DCR (Ω) Max	IDC (A)
PDC03021R0MZF	1.0	1V/7.96MHz	0.055	2.50
PDC03021R4MZF	1.4	1V/7.96MHz	0.060	2.00
PDC03021R8MZF	1.8	1V/7.96MHz	0.070	1.90
PDC03022R2MZF	2.2	1V/7.96MHz	0.090	1.70
PDC03022R7MZF	2.7	1V/7.96MHz	0.100	1.60
PDC03023R3MZF	3.3	1V/7.96MHz	0.130	1.30
PDC03023R9MZF	3.9	1V/7.96MHz	0.150	1.20
PDC03024R7MZF	4.7	1V/7.96MHz	0.180	1.10
PDC03025R6MZF	5.6	1V/7.96MHz	0.210	1.00
PDC03026R8MZF	6.8	1V/7.96MHz	0.230	0.95
PDC03028R2MZF	8.2	1V/7.96MHz	0.310	0.90
PDC0302100MZF	10.0	1V/2.52MHz	0.350	0.80
PDC0302120MZF	12.0	1V/2.52MHz	0.390	0.70
PDC0302150MZF	15.0	1V/2.52MHz	0.540	0.65
PDC0302180MZF	18.0	1V/2.52MHz	0.620	0.60
PDC0302220MZF	22.0	1V/2.52MHz	0.720	0.55
PDC0302270MZF	27.0	1V/2.52MHz	0.820	0.50
PDC0302330MZF	33.0	1V/2.52MHz	1.100	0.45
PDC0302390MZF	39.0	1V/2.52MHz	1.200	0.40
PDC0302470MZF	47.0	1V/2.52MHz	1.600	0.38

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7. 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.

7-1. IR Soldering Reflow

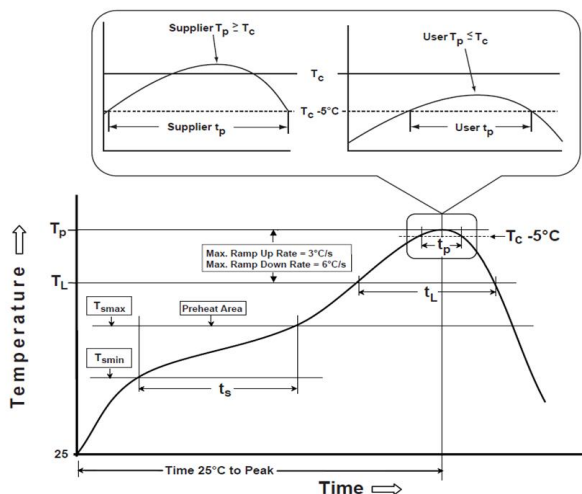
Recommended temperature profiles for lead free re-flow soldering in Figure 1, Table 1.1 & 1.2 (J-STD-020E).

7-2. 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).

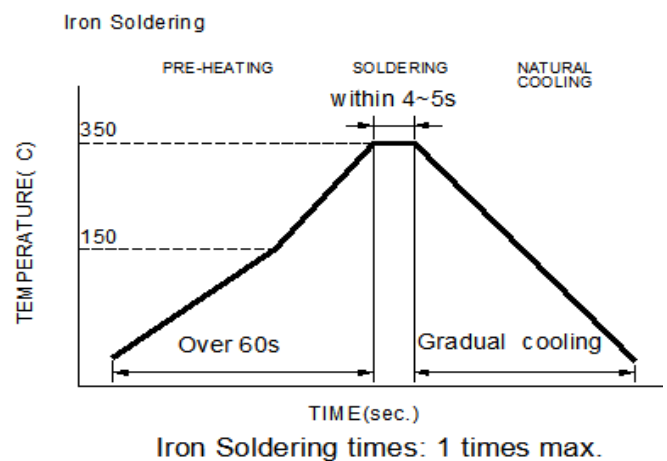
Note:

- 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

Figure 1: IR Soldering Reflow



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 ($T_{\min}$)	150°C
-Temperature Max ($T_{\max}$)	200°C
-Time (t_s) from ($T_{\min}$ to $T_{\max}$)	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)

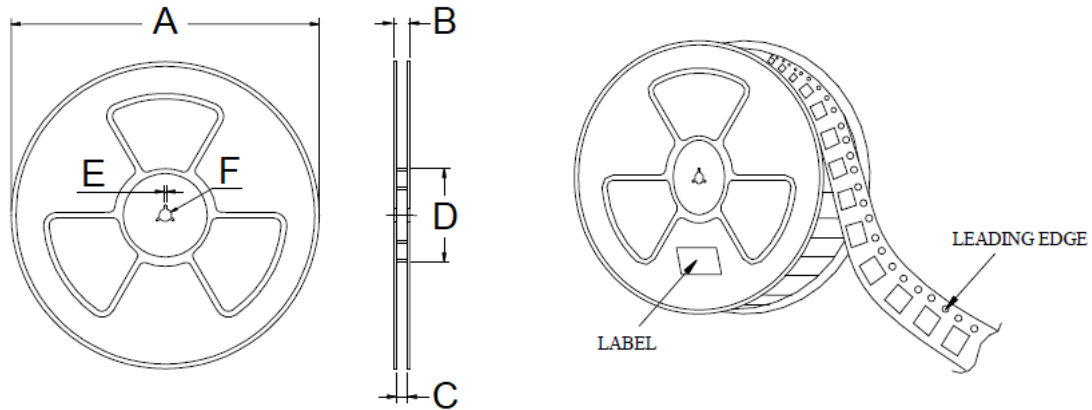
	Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
PB-Free Assembly	<1.6mm	260°C	260°C	260°C
	1.6-2.5mm	260°C	250°C	245°C
	≥2.5mm	250°C	245°C	245°C

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

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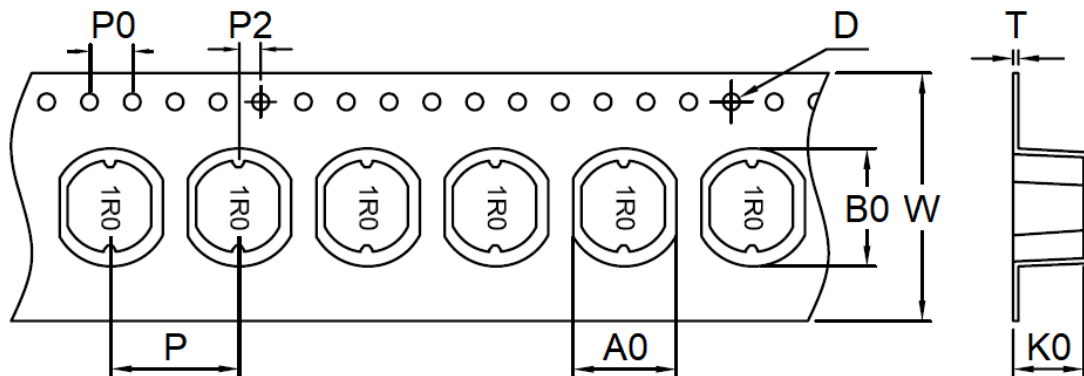
8. Packaging Information

8-1. Reel Dimension (Unit: mm)



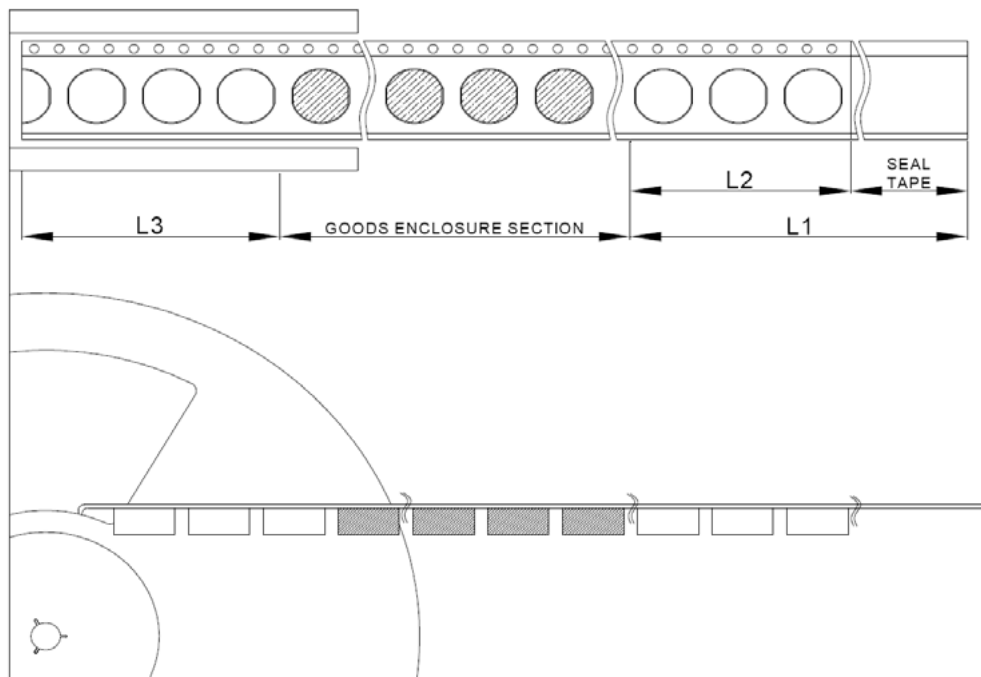
Type	A	B	C	D	E	F
13"x12	330.00	18.40	12.40	100.00	2.30	R6.75

8-2. Tape Dimension (Unit: mm)



W	A0	B0	K0	P
12.0+0.3/-0.1	3.3±0.1	3.8±0.1	2.3±0.1	8.0±0.1
D	P0	P2	T	-
1.5+0.1/-0.0	4.0±0.1	2.0±0.1	0.3 Ref	-

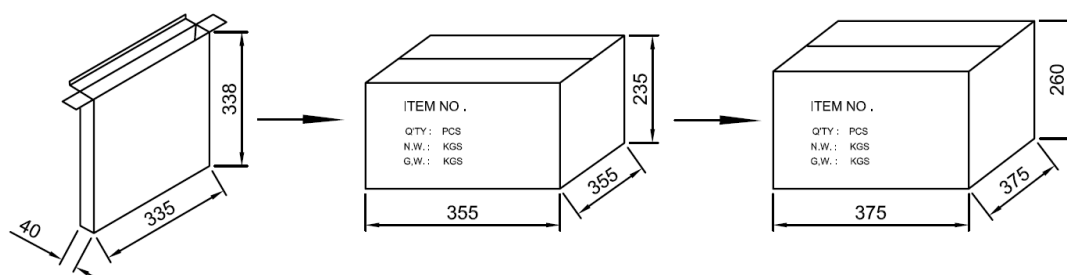
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L1	LEADER SECTION LENGTH	400mm Min
L2	START CARRIER TAPE LENGTH	170mm Min
L3	TRAILER SECTION LENGTH	170mm Min
QUANTITY	3000 PCS	

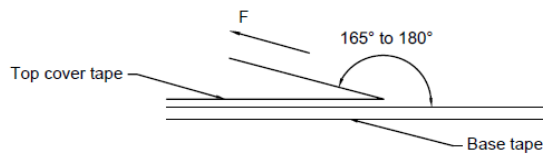
8-3. Packaging Type

Chip/ Reel	6,000
Inner Carton	30,000
Outside Carton	30,000



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8-4. 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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