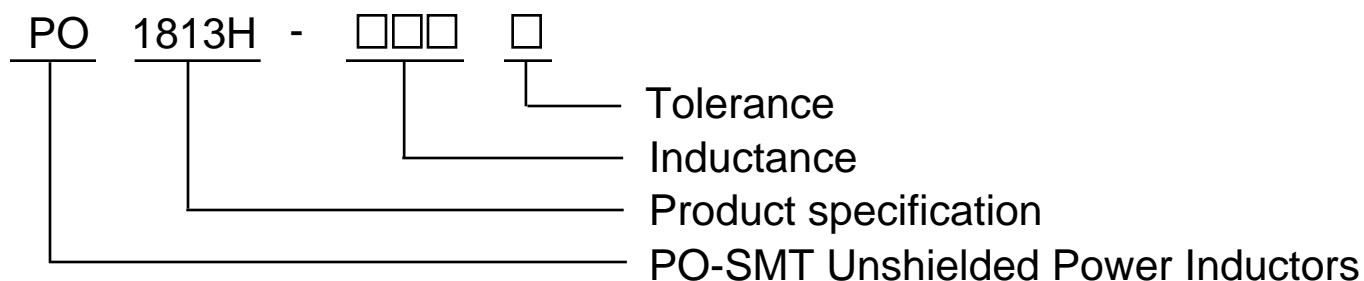


SMT Power Inductors - PO1813H

產品型號

PRODUCT IDENTIFICATION



Tolerance:

Code	Tolerance
102	1.0uH
103	10.0uH
104	100.0uH
105	1000.0uH
106	10000.0uH

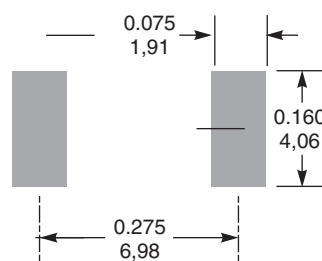
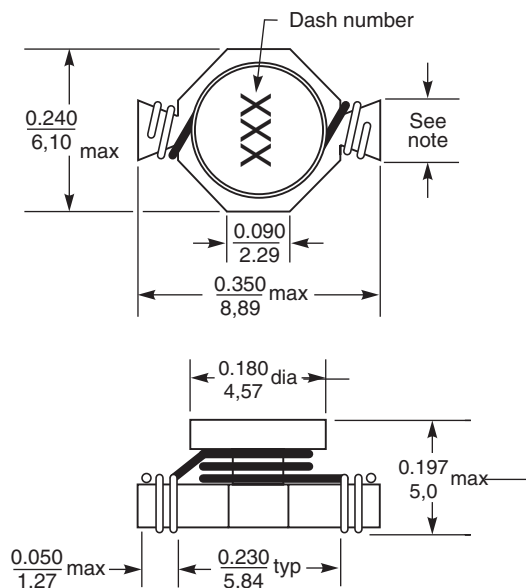
Inductance:

Code	Tolerance
J	± 5%
K	± 10%
L	± 15%
M	± 20%
N	± 30%

外觀尺寸

SHAPE AND DIMENSIONS

Dimensions are in $\frac{\text{inches}}{\text{mm}}$



Recommended Land Pattern

Note:
 0.080 ± 0.010
 2.03 ± 0.25 body
 0.100
 2.54 leads, based on -561



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SMT Power Inductors - PO1813H

規格特性

SPECIFICATIONS

Part number	L ref (μ H)	L typ $\pm 20\%$ ¹ (μ H)	DCR max (Ohms)	SRF typ (MHz)	Isat ² (A)	Irms ³ (A)
PO1813H-181M	0.18	0.18	0.003	800	14.0	10.0
PO1813H-331M	0.33	0.33	0.004	600	10.0	7.0
PO1813H-561M	0.56	0.56	0.010	200	7.7	6.0
PO1813H-122M	1.2	1.15	0.017	140	5.3	4.4
PO1813H-222M	2.2	2.06	0.035	100	3.5	3.1
PO1813H-332M	3.3	3.20	0.040	80	3.0	2.7
PO1813H-472M	4.7	4.70	0.054	50	2.6	2.2
PO1813H-682M	6.8	6.80	0.080	45	2.2	1.8
PO1813H-822M	8.2	8.20	0.092	42	2.0	1.6
PO1813H-103M	10.0	9.55	0.11	40	1.9	1.5
PO1813H-153M	15.0	15.3	0.17	30	1.5	1.2
PO1813H-223M	22.0	22.6	0.25	25	1.2	1.0
PO1813H-333M	33.0	32.5	0.35	20	0.99	0.82
PO1813H-473M	47.0	48.1	0.47	15	0.87	0.72

1. Inductance tested at 0.25 Vrms, 100 kHz, 0 Adc.

2. DC current at which the inductance drops 30% (typ) from its value without current.

3. Current that causes a 40°C temperature rise from 25°C ambient.

4. Electrical specifications at 25°C.

Designer's Kit C331 contains 3 of each part

Core material Ferrite

Terminations RoHS compliant tin-silver over copper. Other terminations available at additional cost.

Weight 278–315 mg

Ambient temperature –40°C to +85°C with Irms current, +85°C to +125°C with derated current

Storage temperature Component: –40°C to +125°C.

Tape and reel packaging: –40°C to +80°C

Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Failures in Time (FIT) / Mean Time Between Failures (MTBF)

38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332



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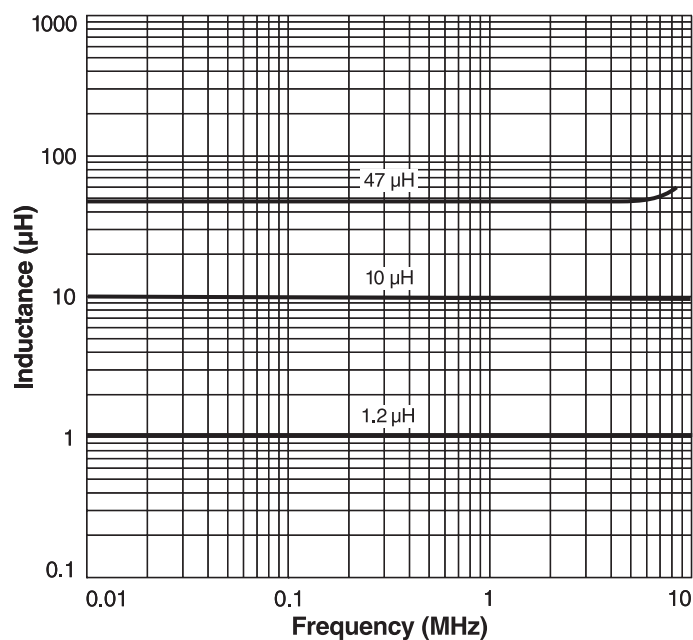
Email:xy@frcoil.com

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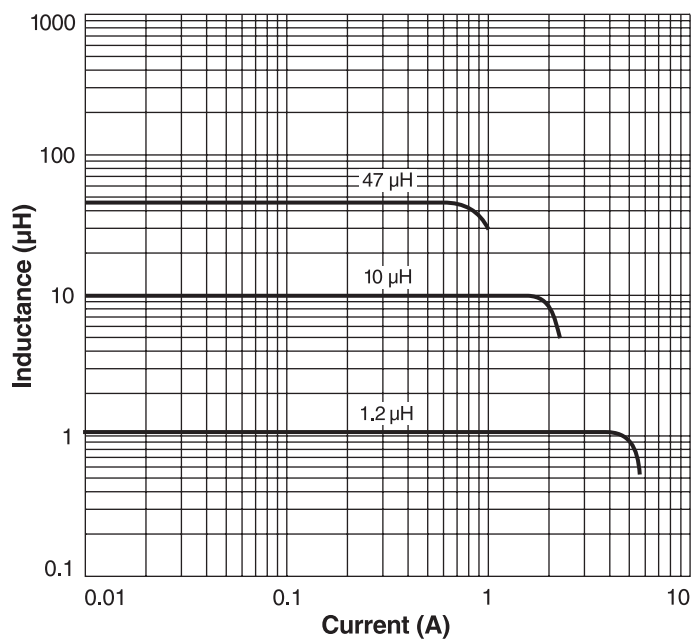
電氣特性

TYPICAL ELECTRICAL CHARACTERISTICS

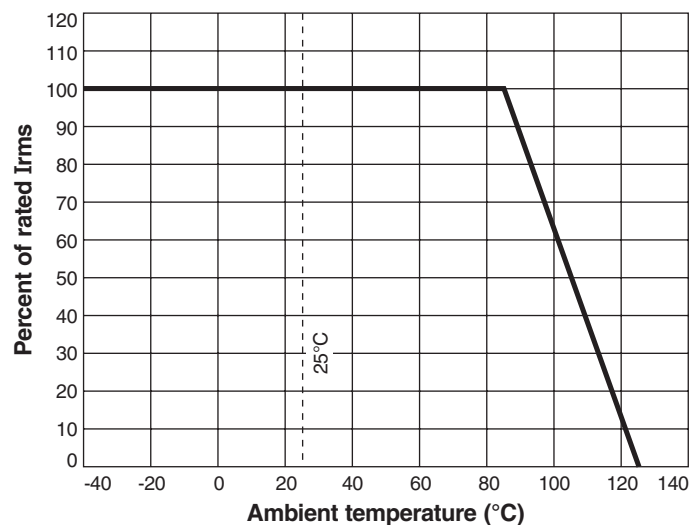
Typical L vs Frequency



Typical L vs Current



Irms Derating





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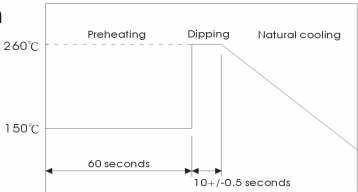
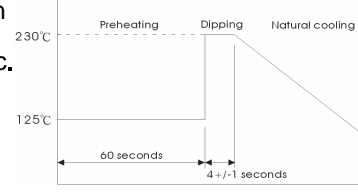
電氣特性

TYPICAL ELECTRICAL CHARACTERISTICS

Reliability and Test Conditions (可靠性測試條件)

ITEM	Performance	Test Condition
Operating Temperature 操作溫度	-55℃~125℃	10Pcs Passed
Storage temperature 儲存溫度	-40℃~+85℃	10Pcs Passed
Rated Current 額定電流	Refer to standard electrical characteristics list. 參考標準特性規格表	10Pcs Passed
Temperature Rise Test 溫升測試	40℃ max.(Δt) 40度最大	10Pcs Passed

Electrical Performance Test

Solder Heat Resistance 耐焊錫熱	Appearance:No significant abnormality. Inductance change:Within $\pm 20\%$. 外觀：無顯著異常 電感值：變異值在初始值20%之內	Preheat:150℃,60sec. Solder:H63A solder temperature:260 ± 5 ℃ Flux for lead free:rosin Dip time:10 ± 0.5 sec. 預熱：150℃,60sec. 錫爐溫度：260 ± 5 ℃ 時間：10 ± 0.5 sec. 助焊劑：rosin 
Solderability Test 端面焊錫性	More than 90% of the terminal electrode should be covered with solder. 端電極之錫覆蓋面達90%以上	Preheat:125 ± 25 ℃,60sec. Solder:H63A solder temperature:230 ± 5 ℃ Flux for lead free:rosin Dip time:4 ± 1 sec. 預熱：125 ± 25 ℃,60sec. 錫爐溫度：230 ± 5 ℃ 時間：4 ± 1 sec. 助焊劑：rosin 
High Temperature Resistance Test 高溫放置測試	Appearance:no damage. Inductance:within $\pm 20\%$ of initial value. No disconnection or short circuit. 外觀不能破損 電感值:變異值在初始值20%之內. 電性無短路或斷線	Temperature:85 ± 2 ℃. Applied current: rated current. Duration: 500 hrs.
Humidity Resistance Test 高濕放置測試	Appearance:no damage. Inductance:within $\pm 20\%$ of initial value. No disconnection or short circuit. 外觀不能破損 電感值:變異值在初始值20%之內. 電性無短路或斷線	Temperature:40 ± 2 ℃. Applied current: rated current. Duration: 500 hrs. Humidity: 90~95%



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SMT Power Inductors - PO1813H

電氣特性

TYPICAL ELECTRICAL CHARACTERISTICS

Reliability and Test Conditions (可靠性測試條件)

ITEM	Performance	Test Condition															
Thermal shock 熱衝擊試驗	Appearance: no damage. Inductance: within $\pm 20\%$ of initial value. No disconnection or short circuit. 外觀不能破損 電感值：變異值在初始值20%之內。 電性無短路或斷線	Condition for 1 cycle Step1:-25 $\pm 2^{\circ}\text{C}$, 30 ± 3 min. Step2:Room temperature within 15 min. Step3:+85 $\pm 5^{\circ}\text{C}$, 30 ± 3 min. Step4: Room temperature within 15 min. Number of cycles: 50 <table border="1"> <thead> <tr> <th>Phase</th><th>Temperature($^{\circ}\text{C}$)</th><th>Time(min)</th></tr> </thead> <tbody> <tr> <td>1</td><td>-25$\pm 2^{\circ}\text{C}$</td><td>30± 3</td></tr> <tr> <td>2</td><td>Room Temp.</td><td>15</td></tr> <tr> <td>3</td><td>+85$\pm 2^{\circ}\text{C}$</td><td>30± 3</td></tr> <tr> <td>4</td><td>Room Temp.</td><td>15</td></tr> </tbody> </table>	Phase	Temperature($^{\circ}\text{C}$)	Time(min)	1	-25 $\pm 2^{\circ}\text{C}$	30 ± 3	2	Room Temp.	15	3	+85 $\pm 2^{\circ}\text{C}$	30 ± 3	4	Room Temp.	15
Phase	Temperature($^{\circ}\text{C}$)	Time(min)															
1	-25 $\pm 2^{\circ}\text{C}$	30 ± 3															
2	Room Temp.	15															
3	+85 $\pm 2^{\circ}\text{C}$	30 ± 3															
4	Room Temp.	15															
Humidity Resistance 高濕測試	Appearance: no damage. Inductance: within $\pm 20\%$ of initial value. No disconnection or short circuit. 外觀不能破損 電感值：變異值在初始值20%之內。 電性無短路或斷線	Humidity:90~95%RH. Temperature:40 $\pm 5^{\circ}\text{C}$. Applied current:rated current. Duration:500 ± 12 hrs. Measured at room temperature after placing for 2 to 3hrs. 濕度:90~95%RH. 溫度:40 $\pm 5^{\circ}\text{C}$. 須加電流:額定電流. 放置時間:500 ± 12 hrs.															

卷盤包裝

REEL PACKAGING

Taping for automatic insertion of SMT coils.

Surface mount devices/adjustable & fixed

This ever expanding assortment of product and unsurpassed quality control, not only give you a component that functionally performs, but just as importantly, allows the use of a variety of placement and soldering equipment necessary for the FLEXIBLE MANUFACTURING PLANT required in today's competitive world.

Various packaging schemes are available. In addition to bulk, tape and reel and magazine, methods are offered for high volume insertion equipment. The following chart lists the packaging details for FRE's SMD coils

自動插入編帶的表面貼裝線圈

表面貼裝設備/可調整型和固定型

它可以擴展到產品分類和非常突出的質量控制。不只是給你一各構成方面的優良的性能表現，而且最重要的，允許在當今這個競爭世界中要求的靈活製造廠使用多樣化的放置和焊接設備。

可以使用多樣的包裝方案。提供批量散裝和卷盤包裝共大量入設備使用。以下圖表為富爾的SMD線圈羅列包裝 細節：

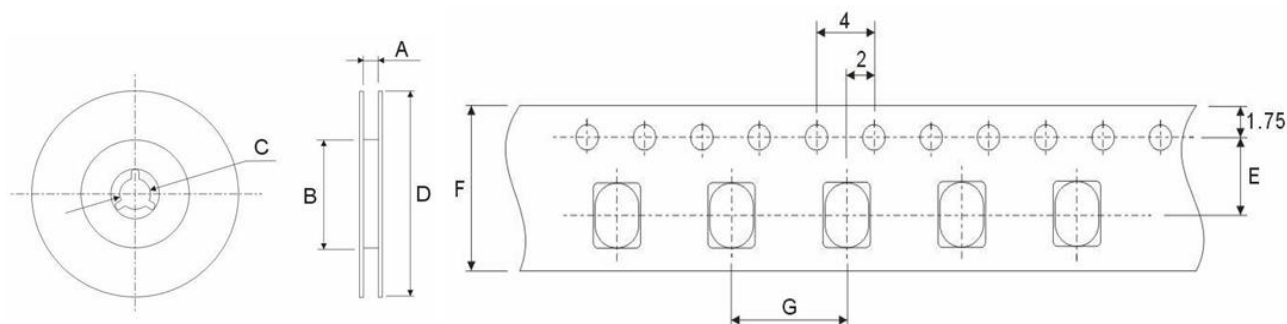
SMT Power Inductors - PO1813H

卷盤包裝

REEL PACKAGING

Tape and reel dimensions

編帶和卷盤尺寸



(1) There are at least 10 blank spaces (80mm each) at both ends of the tape which do not include the coils

(2) The protective tape should not cover the holes nor be shifted to the sides. Further the tape should not be removed during transportation.

(3) The coils are positioned with the bonding surface facing bottom of the pocket.

注意

(1) 在沒有包括線圈的編帶的每個末端至少有10個空間(每個80毫米)。

(2) 保護袋不能覆蓋洞口或者移動到側面。而且，運輸過程中，帶子不能移動

(3) 線圈設置在焊接表面對著袋子底部

表面貼裝型,卷盤/編帶列表 SURFACE MOUNTING TYPE, REEL/TAPE LIST

TYPE	Packaging Quantity	Tape and Reel Dimension						
	Pcs/Reel	A	B	C	D	E	F	G
PO1813H	3000	8.4	60	13	178	3.5	8	4

注意事項

PRECAUTIONS

1. During storage, the products must be kept in an environment away from excessive high temperatures, high humidity, dust and noxious gases which may affect solderability.

2. Terminals should not be handled with fingers. This is to prevent deterioration in solderability.

3. Products should not be dropped on the floor. This is to prevent damage to the products.

1. 在儲存階段，產品必須保持遠離過熱的溫度，過高的濕度灰塵和有害氣體等可能影響可焊性效果的环境。

2. 接線端不能用手指直接處理。這是為了防止降低可焊性

3. 產品不能掉在地板上。這是為了防止損壞鐵氧體芯