

POE_HC Series



Features

- RoHS compliant
- For high current, low voltage DC-DC converter applications.

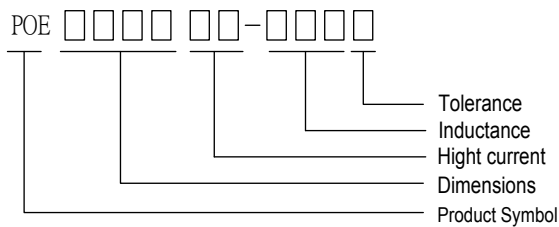
This series is specially designed for high current, low voltage DC-DC converter applications.

Its simple, rugged design provides current ratings normally available in larger packages. With its tinned self-leaded construction, POE-HC series can achieve very low DCR values and excellent solderability. In addition, they have very low resistance and a rugged self-leaded construction. Standard parts shown in catalogue and custom values are also available.

Applications

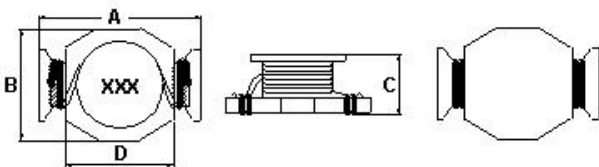
- Notebook computers, step-up and step-down converters, memory programmers, etc..

Product Identification



Shapes and Dimension

POE0503HC

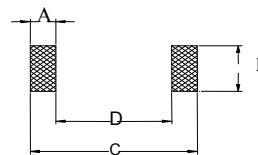


Dimension in mm

A	B	C	D
8.89 ⁺⁰	6.10 ⁺⁰	5.00 ⁺⁰	5.84

Recommended Pattern

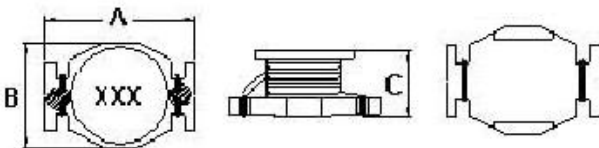
Land Pattern



Dimension in mm

A	B	C	D
1.91	4.06	8.89	5.08

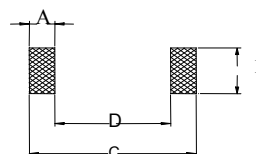
POE0804HC



Dimension in mm

A	B	C
13.21 ⁺⁰	9.91 ⁺⁰	6.35 ⁺⁰

Land Pattern

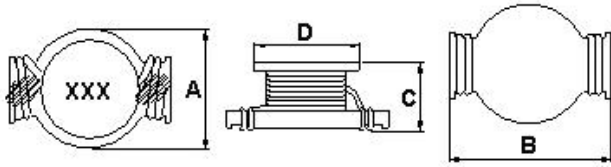


Dimension in mm

A	B	C	D
1.52	4.06	11.68	8.64

Shapes and Dimension

POE1306HC

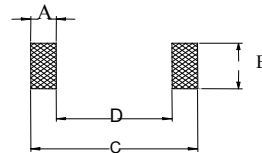


Dimension in mm

A	B	C	D
16.26 ⁺⁰	22.35 ⁺⁰	8.0 ⁺⁰	12.7

Recommended Pattern

Land Pattern



Dimension in mm

A	B	C	D
3.18	8.64	20.71	14.35

Electrical Characteristics

Part Number	Inductance ^① (μ H)	Tolerance ($\pm\%$)	DC Resistance (Ω) Max	SRF ^② (MHz) Typ	Isat ^③ (A)	Irms ^④ (A)
POE0503HC-R56M	0.56	20	0.010	200	7.7	6.0
POE0503HC-1R2M	1.2	20	0.017	140	5.3	4.4
POE0503HC-2R2M	2.2	20	0.035	100	3.5	3.1
POE0503HC-4R7M	4.7	20	0.054	50	2.6	2.2
POE0503HC-100M	10	20	0.111	40	1.9	1.5
POE0503HC-150M	15	20	0.17	30	1.5	1.2
POE0503HC-220M	22	20	0.25	25	1.2	1.0
POE0503HC-330M	33	20	0.37	20	0.99	0.82
POE0503HC-470M	47	20	0.47	15	0.87	0.72

1. Inductance tested at 100 KHz, 0.25 Vrms.

2. SRF measured using HP8753D network analyzer

3. Inductance drop = 30% typ. at Isat.

4. $\Delta T = 40^\circ$ typ at I rms.

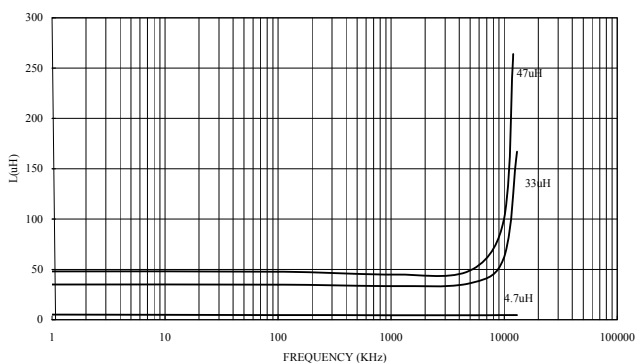
● Tolerance: M = $\pm 20\%$

● Operating temperature range – 40 °C ~ 125 °C (Including self - temperature rise)

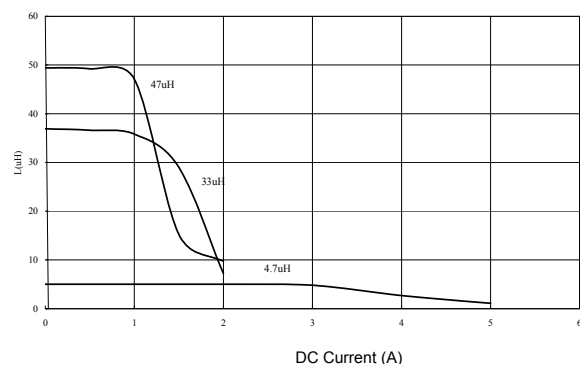
● Electrical specifications at 25 °C

Test Instruments :

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Inductance vs. DC Current



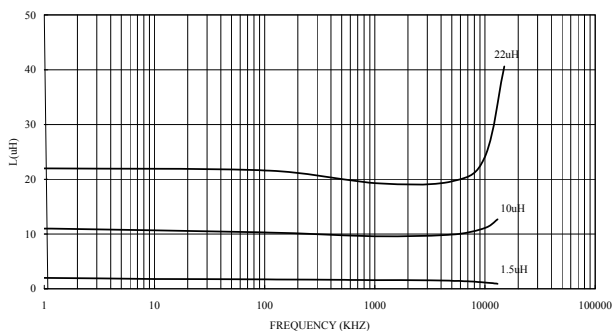
Electrical Characteristics

Part Number	Inductance ^① (μ H)	Tolerance (\pm %)	DC Resistance (Ω) Max	SRF ^② (MHz) Typ	Isat ^③ (A)	Irms ^④ (A)
POE0804HC-R33M	0.33	20	0.002	300	20.0	16.0
POE0804HC-R68M	0.68	20	0.005	200	13.0	12.0
POE0804HC-1R0M	1.0	20	0.006	100	11.0	10.0
POE0804HC-1R5M	1.5	20	0.008	90	9.0	9.0
POE0804HC-2R2M	2.2	20	0.011	90	7.8	7.4
POE0804HC-2R7M	2.7	20	0.012	65	7.0	6.6
POE0804HC-3R3M	3.3	20	0.014	65	6.4	5.9
POE0804HC-4R7M	4.7	20	0.018	45	5.4	4.8
POE0804HC-6R8M	6.8	20	0.035	35	3.6	5.0
POE0804HC-100M	10	20	0.04	26	3.3	4.3
POE0804HC-150M	15	20	0.06	21	2.4	3.5
POE0804HC-220M	22	20	0.08	17	2.0	2.8
POE0804HC-330M	33	20	0.15	14	1.7	2.1
POE0804HC-470M	47	20	0.28	12	1.4	1.7
POE0804HC-680M	68	20	0.3	9	1.2	1.5
POE0804HC-101M	100	20	0.4	7	0.95	1.2

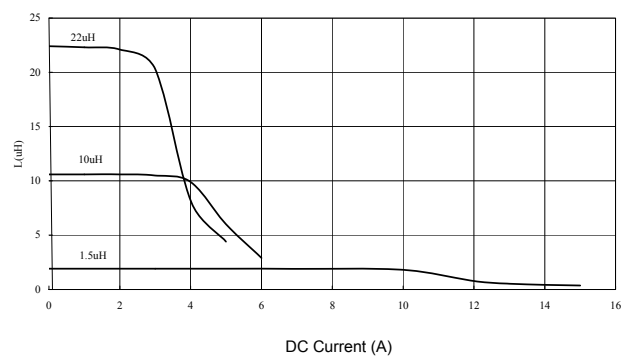
- Inductance tested at 100 KHz, 0.1 Vrms.
 - SRF measured using HP8753D network analyzer
 - Inductance drop = 10% typ. at Isat.
 - $\Delta T = 40^\circ\text{C}$ typ at Irms.
- Tolerance: M = $\pm 20\%$
 - Operating temperature range $-40^\circ\text{C} \sim 125^\circ\text{C}$ (Including self - temperature rise)
 - Electrical specifications at 25°C

Test Instruments :

INDUCTANCE vs. FREQUENCY CHARACTERISTICS



Inductance vs. DC Current



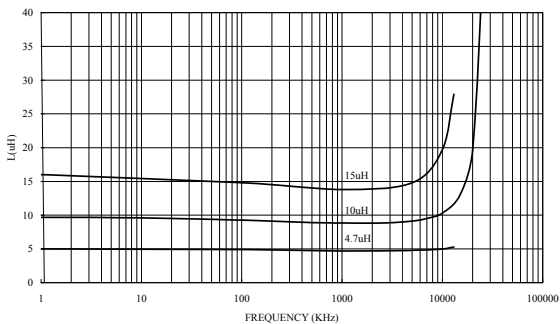
Electrical Characteristics

Part Number	Inductance ^① (μ H)	Tolerance (\pm %)	DC Resistance ($m\Omega$) Max	SRF (MHz) Typ	Isat ^② (A) Typ	Irms ^③ (A)
POE1306HC-R78M	0.78	20	2.6	156	30	15
POE1306HC-1R5M	1.5	20	4.0	100	25	15
POE1306HC-2R2M	2.2	20	6.1	75	20	12
POE1306HC-3R3M	3.3	20	8.6	60	17	10
POE1306HC-3R9M	3.9	20	10	55	15	9.0
POE1306HC-4R7M	4.7	20	14	40	13	8.4
POE1306HC-6R0M	6.0	20	17	35	12	7.5
POE1306HC-7R8M	7.8	20	18	35	11	7.5
POE1306HC-100M	10	20	26	28	10	6.0
POE1306HC-150M	15	20	32	20	8	4.4

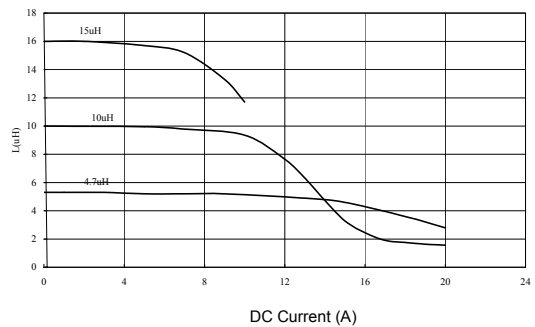
- L: Tested at 100 KHz, 0.1 Vrms.(HP-4192A)
 - Isat: Inductance drop = 10% typ.
 - $\Delta T = 40^\circ\text{C}$ typ at Irms.
- Tolerance: M = $\pm 20\%$
 - Operating temperature range $-40^\circ\text{C} \sim 125^\circ\text{C}$ (Including self - temperature rise)

Test Instruments :

INDUCTANCE vs. FREQUENCY CHARACTERISTICS

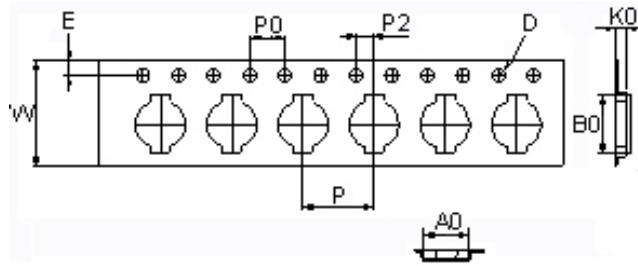


Inductance vs. DC Current

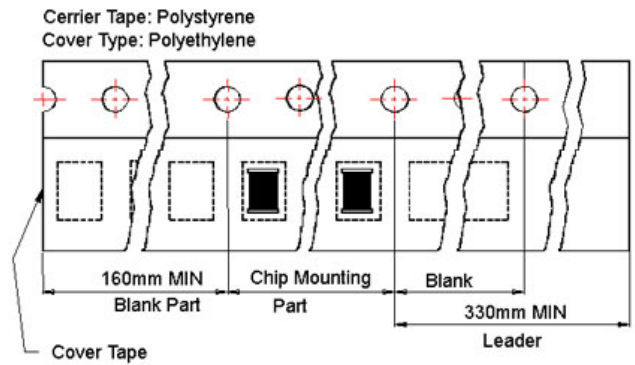


Packaging Specifications

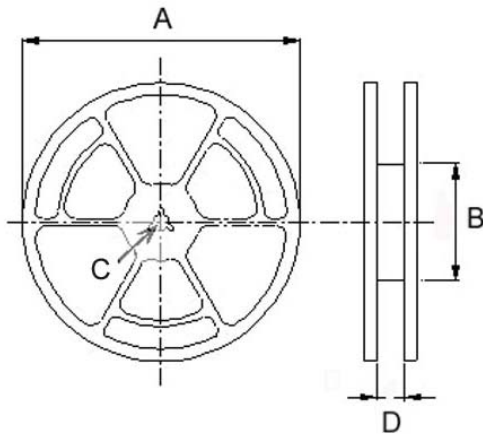
Tape Dimensions



Tape Material



Reel Dimensions



Dimensions in mm

TPYE	Tape Dimensions							Reel Dimensions				Quantity PCS / REEL
	K0	D	E	W	P	P0	P2	A	B	C	D	
POE 0503HC	5.3	1.55	1.75	16	12	4	2	330	100	13	17.4	1000
POE 0804HC	6.1	1.55	1.75	24	16	4	2	330	100	13	24.2	700
POE 1306HC	7.2	1.55	1.75	44	24	4	2	330	100	13	45.4	250