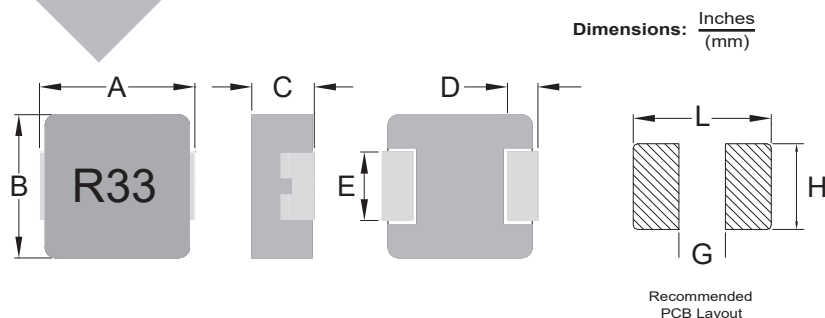




# SMD Power Inductor

# PCHC0412HP



A	B	C	D	E
.175±.01 (4.45±0.25)	.159±.01 (4.06±0.25)	.04±.008 (1.0±0.2)	.03±.012 (.76±0.3)	.079±.008 (2.0±0.2)

L	G	H
.205 (5.2)	.087 (2.2)	.091 (2.3)

Allied Part Number	Inductance (μH) ±20% @ 0A	DCR (mΩ) Typ.@25°C	DCR (mΩ) Max@25°C	I <sub>rms</sub> (A) Typ.	I <sub>sat</sub> (A) Typ.
PCHC0412HP-R10N-RC	0.10*	4.3	5.5	11.5	25.0
PCHC0412HP-R15N-RC	0.15*	5.5	6.8	10.0	21.5
PCHC0412HP-R22M-RC	0.22	6.6	8.0	8.5	20.0
PCHC0412HP-R33M-RC	0.33	13.6	16.0	7.0	11.0
PCHC0412HP-R36M-RC	0.36	15.5	18.0	6.5	8.5
PCHC0412HP-R47M-RC	0.47	18.0	20.0	6.0	6.5
PCHC0412HP-R60M-RC	0.60	22.5	26.0	5.3	6.0
PCHC0412HP-R68M-RC	0.68	32.0	37.0	5.0	6.0
PCHC0412HP-1R0M-RC	1.0	41.0	47.0	4.0	6.0
PCHC0412HP-1R2M-RC	1.2	48.0	56.0	3.5	5.0
PCHC0412HP-1R5M-RC	1.5	55.0	63.3	3.0	4.0
PCHC0412HP-2R2M-RC	2.2	69.2	80.0	2.8	3.5
PCHC0412HP-3R3M-RC	3.3	84.0	97.0	2.3	3.0
PCHC0412HP-4R7M-RC	4.7	128	145	2.0	2.5
PCHC0412HP-5R6M-RC	5.6	180	208	1.7	2.3
PCHC0412HP-6R8M-RC	6.8	300	360	1.5	1.7
PCHC0412HP-8R2M-RC	8.2	313	376	1.4	1.6
PCHC0412HP-100M-RC	10	410	463	1.3	1.4
PCHC0412HP-180M-RC	18	860	960	0.9	1.1
PCHC0412HP-220M-RC	22	950	1050	0.8	1.0

All specifications subject to change without notice.  
\*Tolerance is ±30%

### Features

- Carbonyl Powder
- High Current, Low DCR, High Efficiency
- Very Low Acoustic Noise & Leakage flux
- Compact Design
- MSL Level 1
- Lead Free and RoHS Compliant

### Electrical

**Inductance:** 0.10μH~22μH  
**Tolerance:** ±30% (0.10μH~0.15μH )  
 ±20% (0.22μH~22.0μH)  
**Test Frequency:** 100KHz, 1.0V  
**Operating Temp:** -40°C to +125°C  
**I<sub>rms</sub>:** Current at which ΔT=40°C temp rise without core loss.  
**I<sub>sat</sub>:** Current at which Inductance drop is approximately 30%. The part temperature (ambient + temp rise) should not exceed 125°C under worst case operating conditions

### Solderability

**Pre-Heat:** 150°C, 60 Sec  
**Solder Composition:** Sn96.5%/Ag3%/Cu0.5%  
**Solder Temp:** 245°C ±5°C  
**Flux for lead free:** Rosin 9.5%  
**Immersion Time:** 4 ±1 Sec  
**Depth:** Completely cover terminations

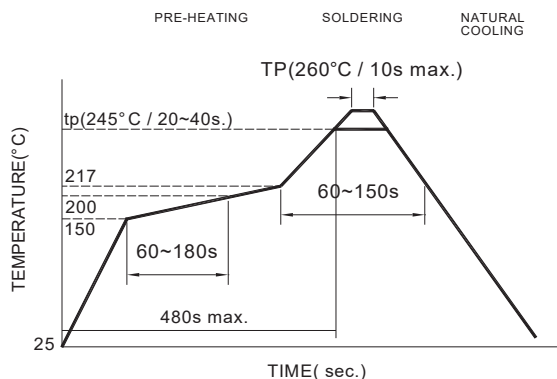
### Test Equipment

**(L):** HP4284A, CH11025, CH3302, CH1320, CH1320S LCR meter  
**DCR:** CH16502, Agilent 33420A Mirco-Ohm Meter

### Physical

**Packaging:** 4,000 pieces per 13 inch reel  
**Marking:** EIA Inductance Code

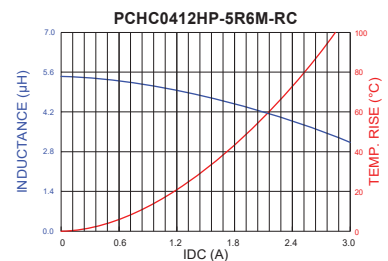
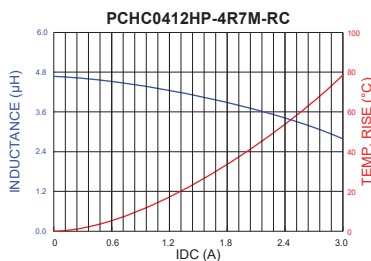
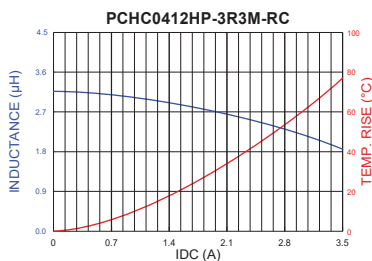
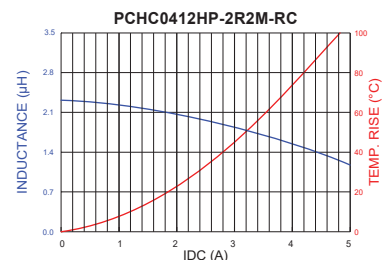
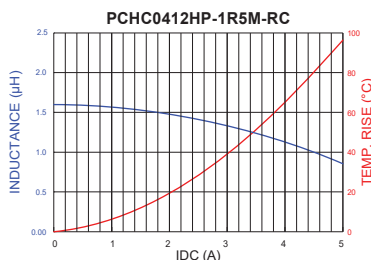
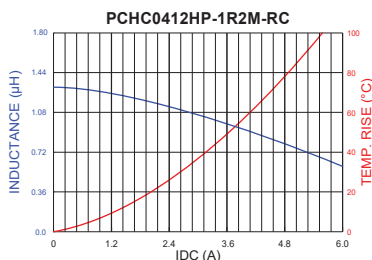
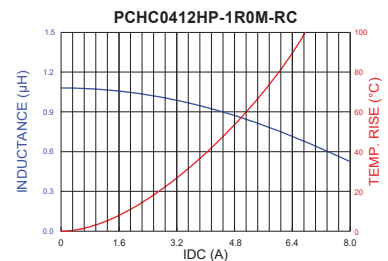
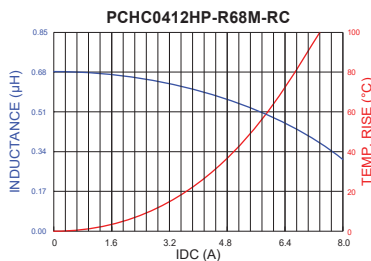
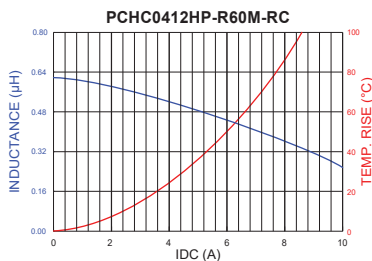
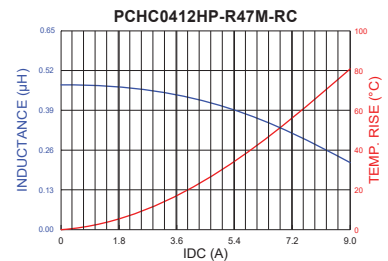
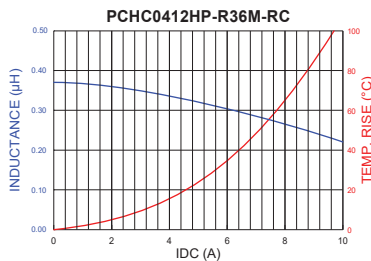
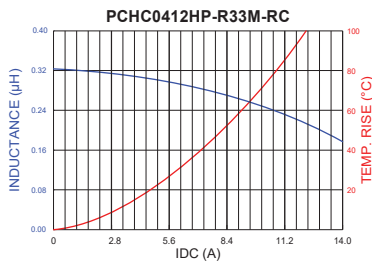
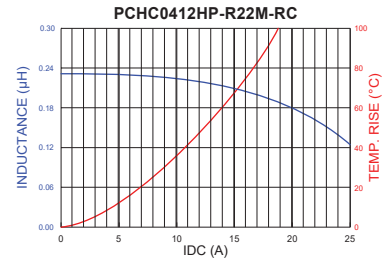
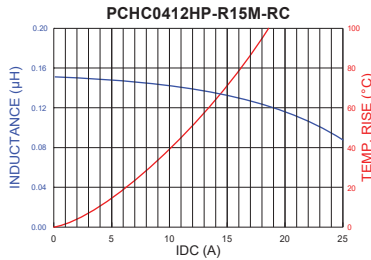
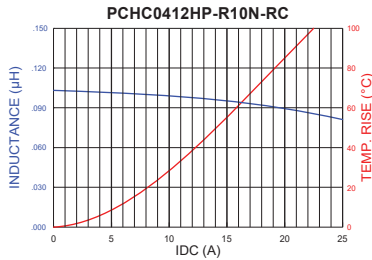
### Reflow Soldering



Reflow times: 3 times max

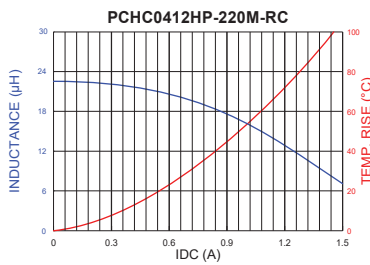
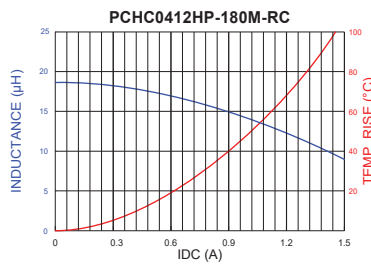
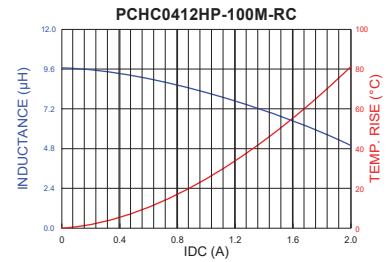
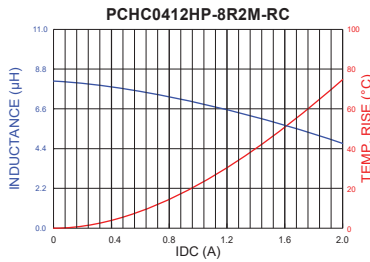
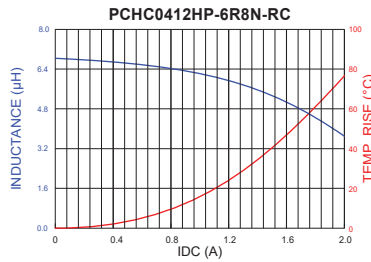


Typical Performance Curves





Typical Performance Curves

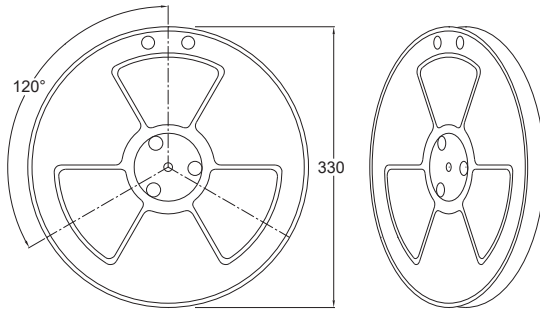




Packaging Information

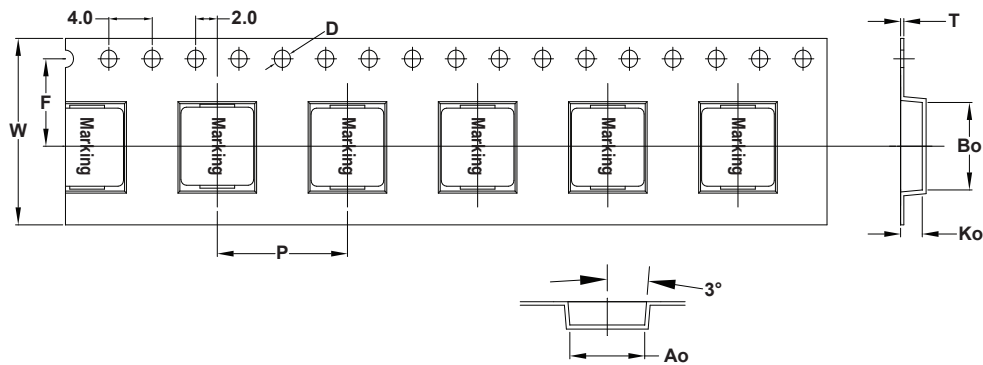
Dimensions: mm

Reel Dimension



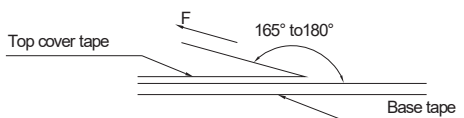
Type	A(mm)	B(mm)	C(mm)	D(mm)
330x16mm	12.4+2/-0	100±2.0	13+0.5/-0.2	330

Tape Dimension



Bo(mm)	Ao(mm)	Ko(mm)	P(mm)	W(mm)	F(mm)	t(mm)	D(mm)
5.0±0.1	4.4±0.1	1.5±0.1	8.0±0.1	12±0.3	5.5±0.1	0.35±0.05	1.5±0.1

Tearing Off Force



The force for tearing off cover tape is 10 to 130 grams in the arrow direction under the following conditions. (Referenced ANSI/EIA-481-C-2008 of 4.11 standard)

Room Temp. (°C)	Room Humidity (%)	Room atm (hPa)	Tearing Speed mm/min
5~35	45~85	860~1060	300

Application Notice

• Storage Conditions

- To maintain the solderability of terminal electrodes:
- 1. PCHC0412HP Series meets IPC/JEDEC J-STD-020D standard-MSL, level 1.
- 2. Temperature and humidity conditions: Less than 40°C and 60% RH.
- 3. Recommended products should be used within 12 months from the time of delivery.
- 4. The packaging material should be kept where no chlorine or sulfur exists in the air.

• Transportation

- 1. Products should be handled with care to avoid damage or contamination from perspiration and skin oils.
- 2. The use of tweezers or vacuum pick up is strongly recommended for individual components.
- 3. Bulk handling should ensure that abrasion and mechanical shock are minimized.