

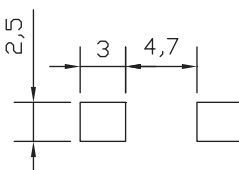


## Power Choke Shielded

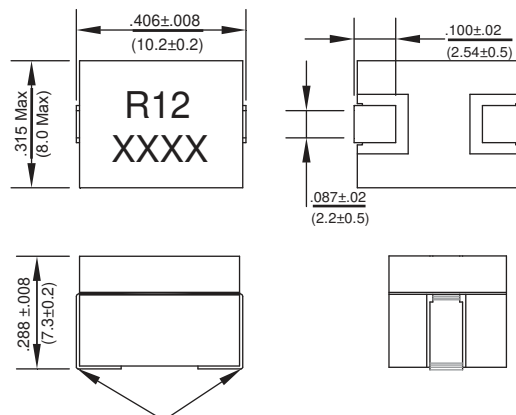
## PCS1087



Dimensions:  $\frac{\text{Inches}}{\text{(mm)}}$



PCB Layout

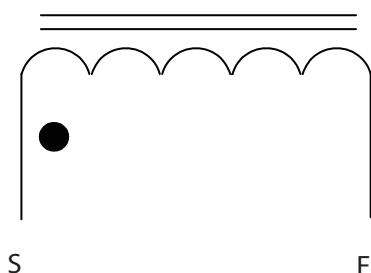


DCR measured at these points

Allied Part Number	Inductance (nh)	Tolerance (%)	RDC (mΩ)	Isat-1 (A) @25°C	Isat-2 (A) @125°C	Irms (A)
PCS1087-R12K-RC	120	10	.29±6	96	80	56
PCS1087-R15K-RC	150	10	.29±6	76	60	56
PCS1087-R17K-RC	170	10	.29±6	66	50	56
PCS1087-R22K-RC	220	10	.29±6	50	40	56
PCS1087-R27K-RC	270	10	.29±6	40	30	56
PCS1087-R30K-RC	300	10	.29±6	35	25	56

All specifications subject to change without notice.

### Schematic



### Features

- SMD Power Chip Inductor/Power Bead
- High saturation current up to 90A
- Expanding operating temp range
- Low DCR resistance
- Suitable for pick and place

### Electrical

**Inductance Range:** 120nH to 300nH

**Tolerance:** 10%

**Test Frequency:** 100KHz, 1.0Vdc

**Operating Temp:** -40°C ~ +125°C

**Irms:** Current at which the temperature rise will not exceed 40°C.

**Isat:** Current at which the Inductance will drop by no more than 20% from initial value at the stated temperature.

### Resistance to Soldering Heat

Pre-Heat 150°C, 1 minute.

**Solder Composition:** Sn/Ag3.0/Cu0.5

**Solder Temp:** 260°C ± 5°C

**Immersion Time:** 10 sec. ± 1 sec.

### Test Equipment

(L): WK4237 or equivalent

(RDC): CH502B or equivalent

(IDC): WK3260B / WK3265B

### Physical

**Packaging:** 700 pieces per 13 inch reel.

**Marking:** EIA Inductance Code

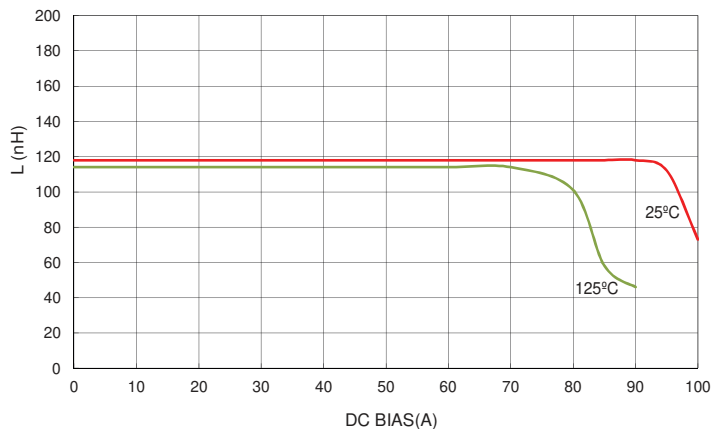


L vs DC BIAS

PCS1087-R12K-RC

DC BIAS(A)	@25°C		125°C	
	Value	% L0	Value	% L0
0	118		114	
10	118	100.00%	114	100.00%
20	118	100.00%	114	100.00%
30	118	100.00%	114	100.00%
40	118	100.00%	114	100.00%
50	118	100.00%	114	100.00%
60	118	100.00%	114	100.00%
70	118	100.00%	114	100.00%
80	118	100.00%	101	88.60%
85	118	100.00%	58	50.88%
90	118	100.00%	46	40.35%
95	112	94.92%		
100	73	61.86%		

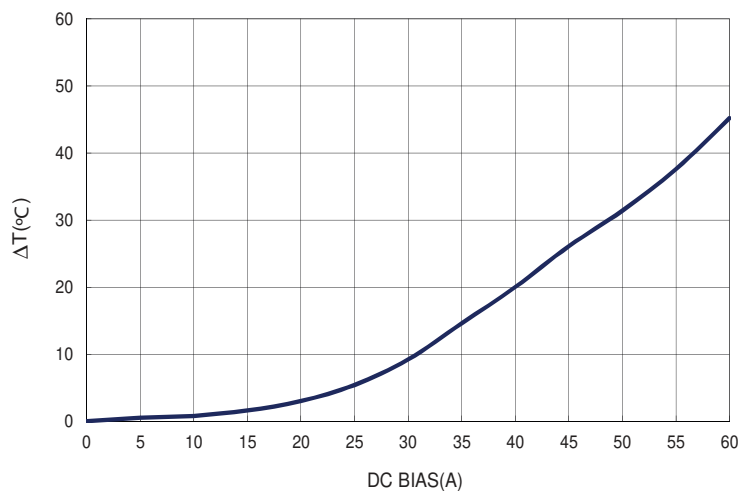
CONDITION : 100KHz,1.0V



TEMPERATURE RISE ΔT (°C) VS DC BIAS (Amps)

DC BIAS(A)	ΔT(°C)	
	Value	Time
0	0	0 Minutes
5	0.5	5 Minutes
10	0.8	10 Minutes
15	1.6	15 Minutes
20	3.0	20 Minutes
25	5.4	25 Minutes
30	9.2	30 Minutes
35	14.6	35 Minutes
40	20.0	40 Minutes
45	26.1	45 Minutes
50	31.4	50 Minutes
55	37.6	55 Minutes
60	45.2	52 Minutes

CONDITION : 1.0V



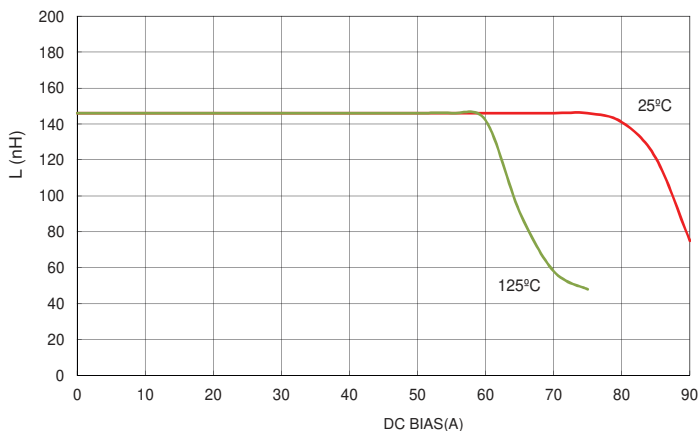


L vs DC BIAS

PCS1087-R15K-RC

DC BIAS(A)	@25°C		125°C	
	Value	% L0	Value	% L0
0	146		146	
20	146	100.00%	146	100.00%
30	146	100.00%	146	100.00%
40	146	100.00%	146	100.00%
50	146	100.00%	146	100.00%
55	146	100.00%	146	100.00%
60	146	100.00%	142	97.26%
65	146	100.00%	91	62.33%
70	146	100.00%	58	39.73%
75	146	100.00%	48	32.88%
80	141	96.58%		
85	121	82.88%		
90	75	51.37%		

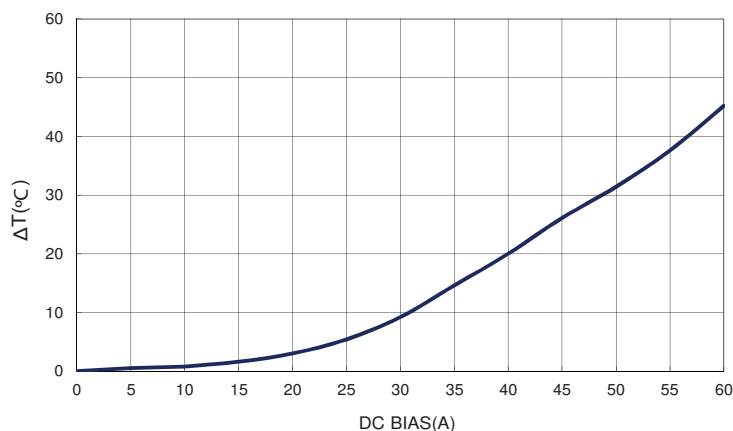
CONDITION : 100KHz,1.0V



TEMPERATURE RISE  $\Delta T$  (°C) VS DC BIAS (Amps)

DC BIAS(A)	$\Delta T$ (°C)	Time
0	0	0 Minutes
5	0.5	5 Minutes
10	0.8	10 Minutes
15	1.6	15 Minutes
20	3.0	20 Minutes
25	5.4	25 Minutes
30	9.2	30 Minutes
35	14.6	35 Minutes
40	20.0	40 Minutes
45	26.1	45 Minutes
50	31.4	50 Minutes
55	37.6	55 Minutes
60	45.2	52 Minutes

CONDITION : 100KHz,1.0V



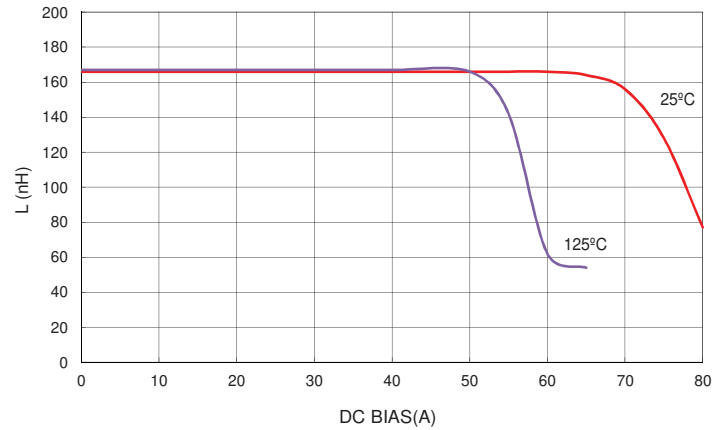


L vs DC BIAS

PCS1087-R17K-RC

DC BIAS(A)	25°C		125°C	
	L	% L0	L	% L0
0	166		167	
20	166	100.00%	167	100.00%
30	166	100.00%	167	100.00%
40	166	100.00%	167	100.00%
50	166	100.00%	166	99.40%
55	166	100.00%	142	85.03%
60	166	100.00%	62	37.13%
65	164	98.80%	54	32.34%
70	156	93.98%		
75	128	77.11%		
80	77	46.39%		

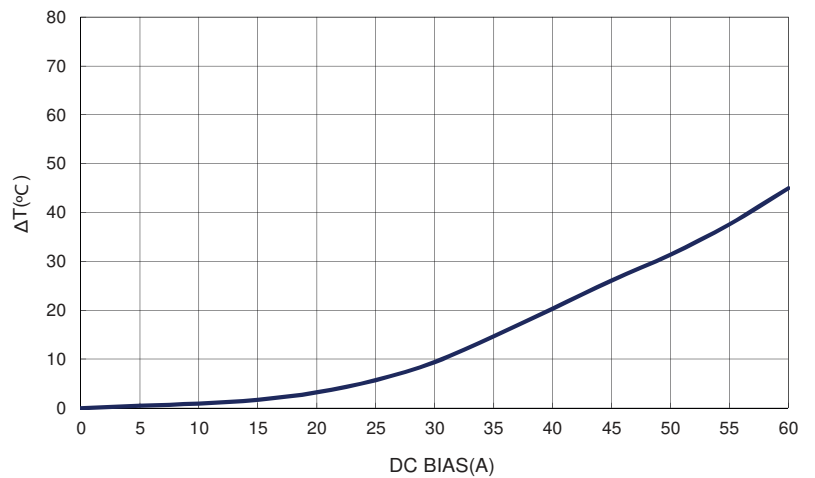
CONDITION : 100KHz,1.0V



TEMPERATURE RISE ΔT (°C) VS DC BIAS (Amps)

DC BIAS(A)	ΔT(°C)	
	ΔT	Time
0	0	0 Minutes
5	0.5	5 Minutes
10	0.9	10 Minutes
15	1.7	15 Minutes
20	3.2	20 Minutes
25	5.7	25 Minutes
30	9.4	30 Minutes
35	14.7	35 Minutes
40	20.3	40 Minutes
45	26.1	45 Minutes
50	31.4	50 Minutes
55	37.6	55 Minutes
60	45.0	60 Minutes

CONDITION : 100KHz,1.0V



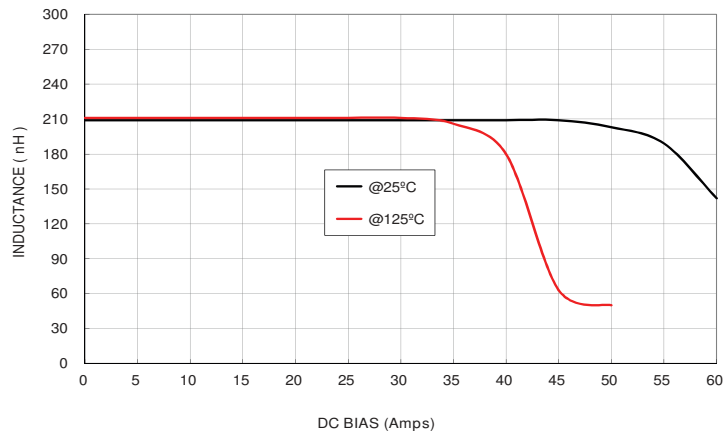


L vs DC BIAS

PCS1087-R22K-RC

DC BIAS(A)	25°C		125°C	
	Value	% L0	Value	% L0
0	209		211	
5	209	100.00%	211	100.00%
10	209	100.00%	211	100.00%
15	209	100.00%	211	100.00%
20	209	100.00%	211	100.00%
25	209	100.00%	211	100.00%
30	209	100.00%	211	100.00%
35	209	100.00%	206	97.63%
40	209	100.00%	180	85.31%
45	209	100.00%	63	29.86%
50	203	97.13%	50	23.70%
55	189	90.43%		
60	142	67.94%		

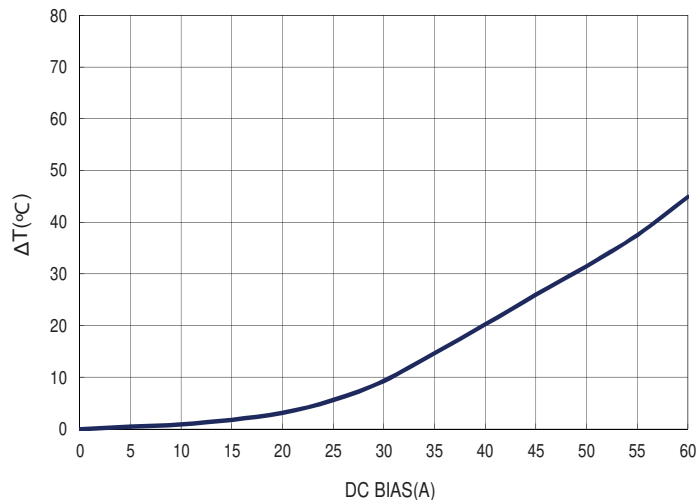
CONDITION : 100KHz,1.0V



TEMPERATURE RISE  $\Delta T$  (°C) VS DC BIAS (Amps)

DC BIAS(A)	$\Delta T$ (°C)	
	Value	Time
0	0	0 Minutes
5	0.5	5 Minutes
10	0.9	10 Minutes
15	1.8	15 Minutes
20	3.1	20 Minutes
25	5.6	25 Minutes
30	9.3	30 Minutes
35	14.7	35 Minutes
40	20.2	40 Minutes
45	26.0	45 Minutes
50	31.5	50 Minutes
55	37.5	55 Minutes
60	44.9	60 Minutes

CONDITION : 100KHz,1.0V



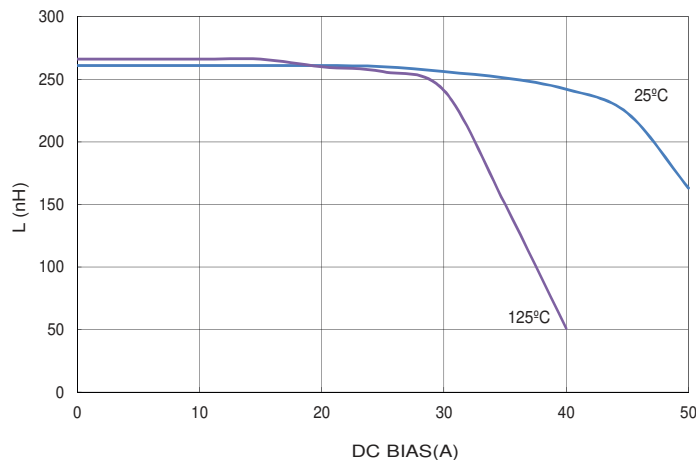


L vs DC BIAS

PCS1087-R27K-RC

DC BIAS(A)	25°C		125°C	
	Value	% L0	Value	% L0
0	261		266	
5	261	100.00%	266	100.00%
10	261	100.00%	266	100.00%
15	261	100.00%	266	100.00%
20	261	100.00%	260	97.74%
25	260	99.62%	256	96.24%
30	256	98.08%	241	90.60%
35	251	96.17%	150	56.39%
40	242	92.72%	51	19.17%
45	223	85.44%		
50	163	62.45%		

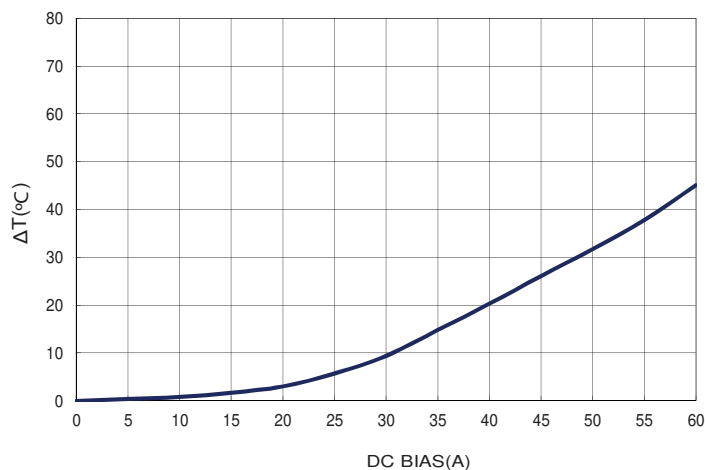
CONDITION : 100KHz,1.0V



TEMPERATURE RISE  $\Delta T$  (°C) VS DC BIAS (Amps)

DC BIAS(A)	$\Delta T$ (°C)	Time
0	0	0 Minutes
5	0.4	5 Minutes
10	0.8	10 Minutes
15	1.7	15 Minutes
20	3	20 Minutes
25	5.7	25 Minutes
30	9.4	30 Minutes
35	14.8	35 Minutes
40	20.3	40 Minutes
45	26.1	45 Minutes
50	31.7	50 Minutes
55	37.8	55 Minutes
60	45.1	60 Minutes

CONDITION : 100KHz,1.0V



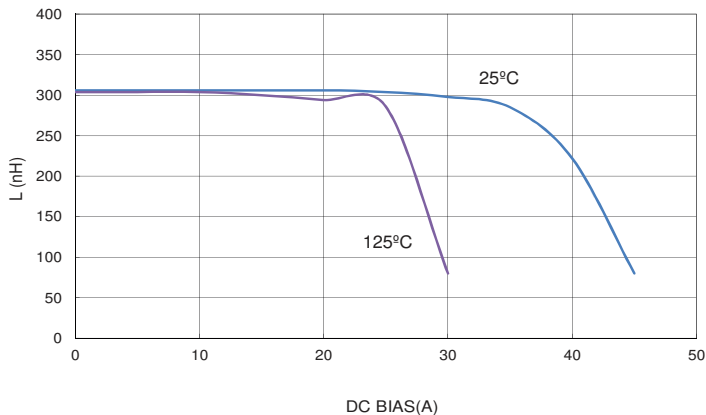


L vs DC BIAS

PCS1087-R30K-RC

DC BIAS(A)	25°C		125°C	
	Value	% L0	Value	% L0
0	306	100.00%	304	100.00%
5	306	100.00%	304	100.00%
10	306	100.00%	304	100.00%
15	306	100.00%	300	98.68%
20	306	100.00%	294	96.71%
25	304	99.35%	286	94.08%
30	298	97.39%	80	26.32%
35	285	93.14%	52	17.11%
40	222	72.55%		
45	80	26.14%		

CONDITION : 100KHz,1.0V



TEMPERATURE RISE  $\Delta T$  (°C) VS DC BIAS (Amps)

DC BIAS(A)	$\Delta T$ (°C)	
0	0	0 Minutes
5	0.4	5 Minutes
10	0.8	10 Minutes
15	1.7	15 Minutes
20	3.0	20 Minutes
25	5.5	25 Minutes
30	9.1	30 Minutes
35	14.5	35 Minutes
40	20.0	40 Minutes
45	26.1	45 Minutes
50	31.4	50 Minutes
55	37.3	55 Minutes
60	45	60 Minutes

CONDITION : 100KHz,1.0V

