



**●FEATURE**

1. Excellent solder heat resistance(add "C" is for high current type)
2. Low voltage drops and small variations inductance



**●APPLICATION**

1. DC power supply circuits
2. Power line choke coils...etc

**●ORDERING INFORMATION**

PIQ322516

PN

-R12

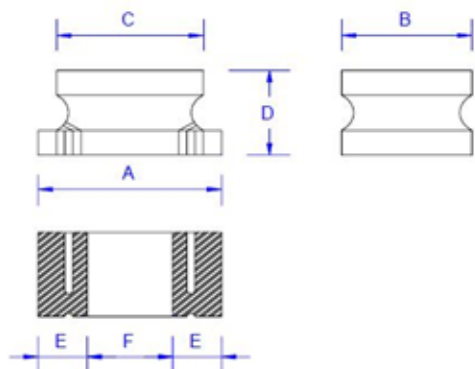
Inductance

I

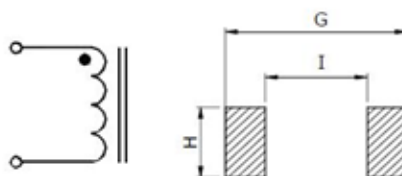
K: ±10%

M:±20%

**●SHAPE AND DIMENSION**



**●SCHEMATICS AND LAND PATTERNS(mm)**



**●SPECIFICATION**

Dimension in mm

TYPE	A	B	C	D	E	F	G	I	H
PIQ201610T[0806]	2.0±0.30	1.6±0.30		1.0 MAX			2.10	0.70	2.00
PIQ252010H[1008]	2.5±0.20	2.0±0.35		1.0 MAX	0.85	0.8	2.70	0.80	2.20
PIQ252012H[1008]	2.5±0.30	2.0±0.30		1.2 MAX	0.85	0.8	2.70	0.80	2.20
PIQ322516[1210]	3.2±0.30	2.5±0.30	2.5±0.30	1.6±0.30	0.9	1.3	3.70	1.10	2.90
PIQ321618[1206]	3.2±0.30	1.6±0.30	2.3±0.30	1.8±0.30	0.9	1.3	3.70	0.70	2.00
PIQ322520[1210]	3.2±0.30	2.5±0.30	2.5±0.30	2.0±0.30	0.9	1.3	3.70	1.10	2.90
PIQ453226[1812]	4.5±0.30	3.2±0.30	3.6±0.30	2.6±0.30	1.0	1.0	5.00	1.00	3.70
PIQ575047[2220]	5.7±0.30	5.0±0.30	5.0±0.30	4.7±0.30	1.3	1.7	6.20	1.70	5.50
PIQ322520C[1210]	3.2±0.30	2.5±0.30	2.5±0.30	2.0±0.30	0.9	1.3	3.70	1.10	2.90
PIQ453226C[1812]	4.5±0.30	3.2±0.30	3.6±0.30	2.6±0.30	1.0	1.0	5.00	1.00	3.70

Note1. Measurement frequency of Inductance value : at 1kHz, 0.25V

Note2. Measurement ambient temperature of L, DCR and IDC : at 25°C

Note3. IDC : This indicates the value of current when the inductances is 10% lower than its initial value at D.C. superimposition or D.C. current when at Δt=40°C, which is lower.(Ta=20°C)

Note4. Inductance tolerance: K: ±10% ; M: ±20%

Note5. This specification might be changed without notice due to under developing and improving.



●ELECTRICAL CHARACTERISTICS

PART NUMBER	Inductance (uH)	D.C.R.(ΩMax)/Rated D.C. Current(A)				
		PIQ201610T	PIQ252010H	PIQ252012H	PIQ322516	PIQ321618
R12	0.12					0.13 / 0.184
R27	0.27					
R47	0.47					0.17 / 0.178
1R0	1.0			0.065 / 3.00	0.06 / 1.48	0.49 / 0.175
1R5	1.5					0.52 / 0.155
2R2	2.2			0.12 / 1.90	0.125 / 1.25	0.54 / 0.140
3R3	3.3				0.160 / 1.08	0.61 / 0.130
4R2	4.2					
4R7	4.7	0.40 / 0.90			0.236 / 0.98	1.70 / 0.120
6R8	6.8				0.371 / 0.79	2.00 / 0.110
8R2	8.2				0.471 / 0.72	2.20 / 0.105
100	10		0.56 / 0.60		0.576 / 0.66	2.50 / 0.100
120	12				0.684 / 0.59	2.70 / 0.095
150	15				0.888 / 0.54	2.90 / 0.090
180	18				1.087 / 0.48	3.00 / 0.085
220	22				1.343 / 0.43	3.10 / 0.085
330	33				2.245 / 0.35	3.80 / 0.080
390	39					4.50 / 0.085
470	47				3.064 / 0.29	6.30 / 0.085
560	56				4.120 / 0.27	7.10 / 0.050
680	68				5.289 / 0.24	7.90 / 0.050
820	82				7.223 / 0.20	8.70 / 0.045
101	100				8.209 / 0.19	11.57 / 0.045
151	150				12.57 / 0.16	15.03 / 0.015
181	180				19.65 / 0.14	16.60 / 0.013
221	220				22.31 / 0.13	
271	270				24.61 / 0.12	29.70 / 0.011
331	330				28.21 / 0.11	43.06 / 0.010
391	390				32.19 / 0.10	
471	470				48.75 / 0.09	53.50 / 0.008
561	560				53.89 / 0.08	
681	680				63.01 / 0.07	
821	820					66.10 / 0.005
102	1000					

PIQ201610T/ PIQ252010H/ PIQ252012H: Measurement frequency of Inductance value : at 1MHz, 1V/ 0.25V/ 0.1V

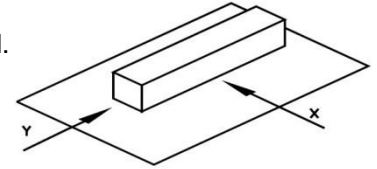


PART NUMBER	Inductance (uH)	D.C.R.(ΩMax)/Rated D.C. Current(A)				
		PIQ322520	PIQ453226	PIQ575047	PIQ322520C	PIQ453226C
R12	0.12			0.010 / 6.00		
R27	0.27	0.25 / 0.600		0.014 / 5.30		
R47	0.47			0.018 / 4.80		
1R0	1.0	0.50 / 0.445	0.20 / 0.500	0.027 / 4.00	0.117 / 0.800	0.08 / 1.08
1R5	1.5	0.60 / 0.400	0.30 / 0.500	0.031 / 3.70		0.09 / 1.00
2R2	2.2	0.80 / 0.370	0.30 / 0.500	0.041 / 3.20	0.169 / 0.600	0.11 / 0.90
3R3	3.3	1.00 / 0.300	0.35 / 0.500	0.050 / 2.90	0.180 / 0.500	0.13 / 0.80
4R2	4.2					
4R7	4.7	1.20 / 0.270	0.40 / 0.500	0.057 / 2.70	0.260 / 0.450	0.15 / 0.75
6R8	6.8	1.50 / 0.240	0.50 / 0.450	0.100 / 2.00	0.300 / 0.430	0.20 / 0.72
8R2	8.2	1.60 / 0.225	0.56 / 0.450		0.392 / 0.400	
100	10	1.80 / 0.190	0.56 / 0.400	0.130 / 1.70	0.572 / 0.300	0.24 / 0.65
120	12	2.00 / 0.180	0.62 / 0.380	0.200 / 1.50	0.650 / 0.290	
150	15	2.20 / 0.170	0.73 / 0.360	0.210 / 1.40	0.700 / 0.285	0.32 / 0.57
180	18	2.50 / 0.160	0.82 / 0.340		0.800 / 0.265	
220	22	2.80 / 0.150	0.94 / 0.320	0.270 / 1.20	0.923 / 0.250	0.60 / 0.42
330	33	3.50 / 0.115	1.20 / 0.270	0.450 / 0.90	1.352 / 0.230	1.00 / 0.31
390	39	3.90 / 0.110	1.40 / 0.240			
470	47	4.30 / 0.100	1.50 / 0.220	0.560 / 0.80	1.690 / 0.170	1.10 / 0.28
560	56	4.90 / 0.085	1.70 / 0.200		2.00 / 0.160	1.34 / 0.26
680	68	5.50 / 0.080	1.90 / 0.180	0.940 / 0.64	2.67 / 0.150	1.70 / 0.22
820	82	6.20 / 0.080	2.20 / 0.170			
101	100	7.00 / 0.080	2.50 / 0.160	1.20 / 0.56	4.55 / 0.100	2.20 / 0.19
151	150	9.30 / 0.070		2.66 / 0.42	5.80 / 0.095	3.50 / 0.13
181	180	10.20 / 0.065	4.50 / 0.120		6.27 / 0.090	
221	220	11.80 / 0.065	5.40 / 0.110	3.36 / 0.32	10.90 / 0.070	4.00 / 0.11
271	270	12.50 / 0.065	6.80 / 0.100			
331	330	13.00 / 0.065	8.20 / 0.095	6.16 / 0.27	13.00 / 0.060	6.80 / 0.10
391	390	22.00 / 0.050	9.70 / 0.090		22.10 / 0.060	
471	470	25.00 / 0.045	11.80 / 0.080	7.56 / 0.24	24.70 / 0.060	
561	560	28.00 / 0.040	14.50 / 0.070		28.60 / 0.060	
681	680	30.00 / 0.035	17.00 / 0.065	11.30 / 0.19		
821	820		20.50 / 0.060			
102	1000	39.20 / 0.030	25.00 / 0.050	14.40 / 0.15		

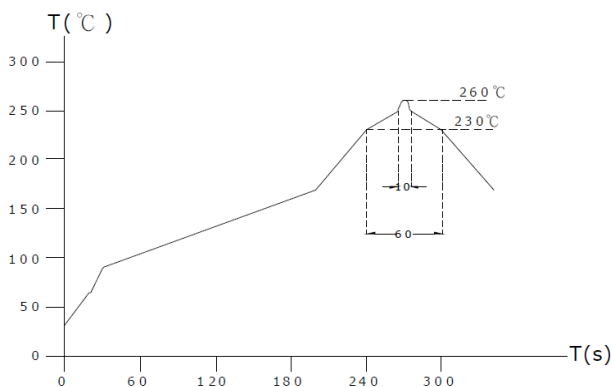


●GENERAL CHARACTERISTICS

1. Operating temperature range: -40 TO + 85°C (Includes temperature when the coil is heated)
2. External appearance: On visual inspection, the coil has external defects.
3. Terminal strength: After soldering. Between copper plate and terminals of coil.  
Push in two directions of X.Y with withstanding at below conditions.  
Terminal should not peel off. (refer to figure at right) 0.5kg
4. Insulating resistance: Over 100MΩ at 100V D.C. between coil and core.
5. Dielectric strength: No dielectric breakdown at 100V D.C. for 1 minute between coil and core.
6. Temperature characteristics: Inductance coefficient  $(0\sim 2,000)\times 10^{-6}/^{\circ}\text{C}$  (-25~+80°C).
7. Humidity characteristics(Moisture Resistance): Inductance deviation within  $\pm 5\%$ , after 96 hours in 90~95% relative humidity at  $40 \pm 2^{\circ}\text{C}$  and 1 hour drying under normal condition.
8. Vibration resistance: Inductance deviation within  $\pm 5\%$ , after vibration for 1 hour. In each of three orientations at sweep vibration (10~55~10 Hz) with 1.5mm P-P amplitudes.
9. Shock resistance: Inductance deviation within  $\pm 5\%$ , after being dropped once with 981m/s<sup>2</sup> (100G) shock attitude upon a rubber block method shock testing machine, in three different orientations.
10. Resistance to Soldering Heat: 260°C, 10 seconds.
11. Storage environment  
Storage condition:  
Temperature Range: 10°C ~ 35°C (Generally: 21°C ~ 31°C)  
Humidity Range: 50% ~ 80% RH (Generally: 65% ~ 75%)  
Transportation condition:  
Temperature Range: -35°C ~ 85°C, Humidity Range: 50% ~ 95% RH
12. Use components within 6 months. If 6 months or more have elapsed, check solderability before use.
13. Reflow profile recommend:



Lead - free heat endurance test



Lead-free the recommended reflow condition

