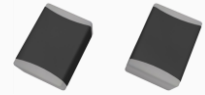


# COIL SPECIFICATION



ZenithTek

Brand **ZenithTek**  
 Product Series Code **ZFLH - Series**  
 File Version **V1.4**  
 Description **Multilayer Chip Power Inductor**



## Features

- Multilayer Construction with Low Profile Package.
- High Rated Current.
- Low DC Resistance.
- Halogen Free, Lead Free, RoHS and REACH Compliance.

## Applications

- DC to DC Converter.
- Computing, Mobile, Networking.
- IoT, Gaming, Audio Devices.
- Industrial PC, Storage Devices.

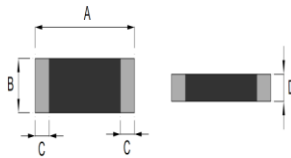
## Product Identification

**ZFLH - 0603 - 2R2 M/N**

1            2            3            4

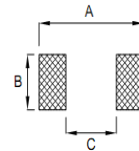
- 1.Product Code:  
ZFLH = ZenithTek Code.
- 2.Dimension Code:  
0603 = 1.6 \* 0.8 \* 0.8 mm.
- 3.Inductance Code:  
2R2 = 2.2μH.
- 4.Tolerance Code:  
M = 20%.  
N = 30%.

## Dimension (Unit: mm)



Type	A	B	C	D
ZFLH-0603	1.60±0.15	0.80±0.15	0.30±0.20	0.80±0.15
ZFLH-0805	2.00±0.30	1.25±0.20	0.50±0.30	0.90±0.10
ZFLH-0806	2.00±0.30	1.60±0.20	0.50±0.30	0.90±0.10
ZFLH-1008	2.50±0.20	2.00±0.30	0.50±0.30	0.90±0.10

## Land Pattern (Unit: mm)



Type	A	B	C
ZFLH-0603	1.8~2.4	0.6~0.8	0.6~0.8
ZFLH-0805	2.4~3.6	0.9~1.6	0.8~1.2
ZFLH-0806	2.4~3.6	1.2~2.0	0.8~1.2
ZFLH-1008	2.2~3.4	1.8~2.2	1.0~1.4

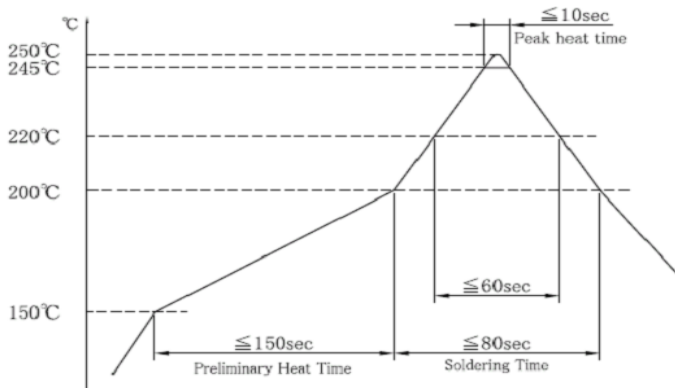
## Product Structure



## Schematic



## Reflow Heat Endurance



## Operating & Storage Conditions

Operating Temp. : -40°C~+85°C (including self-temp. rise).  
 Storage Temp. : -40°C~+85°C (for PCBA).

## Standard & Atmospheric Conditions

Ambient Temp. : 20°C±15°C / Relative Humidity : 65±20%.  
 If there may be any doubt on the result, measurement shall be made within the following limits :  
 Ambient Temp. : 25°C±5°C / Relative Humidity : 75±10%.

## Test Equipment

HP4291B+HP16192A or equivalent.- L.  
 HP4284A, HOKIO3532-50 or equivalent. - IDC.  
 HP4338B or equivalent. - DCR.

# COIL SPECIFICATION



**Brand** ZenithTek  
**Product Series Code** ZFLH - Series  
**File Version** V1.4  
**Description** Multilayer Chip Power Inductor



## Electrical Characteristic

Part Number	Inductance (μH)	Tolerance (%)	Test Frequency (MHz)	S.R.F (MHz)/(Min.)	DCR(Ω) (Typ.)	DCR(Ω) (Max.)	Temperature Current (I <sub>rms</sub> ) (mA)/(Typ.)	Temperature Current (I <sub>rms</sub> ) (mA)/(Max.)	Saturation Current (I <sub>sat</sub> ) (mA)/(Typ.)	Saturation Current (I <sub>sat</sub> ) (mA)/(Max.)	Thickness (mm)
ZFLH-0603-R22□	0.22	20/30	1	200	0.10	0.1250	1400	1250	1600	1360	0.80±0.15
ZFLH-0603-R33□	0.33	20/30	1	190	0.13	0.1625	1350	1200	1500	1275	0.80±0.15
ZFLH-0603-R47□	0.47	20/30	1	180	0.15	0.1875	1250	1100	1200	1020	0.80±0.15
ZFLH-0603-R68□	0.68	20/30	1	160	0.18	0.2250	1300	1150	1100	950	0.80±0.15
ZFLH-0603-1R0□	1.00	20/30	1	125	0.20	0.2500	1150	1000	800	650	0.80±0.15
ZFLH-0603-1R5□	1.50	20/30	1	100	0.23	0.2875	1000	900	500	450	0.80±0.15
ZFLH-0603-2R2□	2.20	20/30	1	80	0.30	0.3750	950	850	300	280	0.80±0.15
ZFLH-0603-4R7□	4.70	20/30	1	65	0.40	0.5000	800	700	80	65	0.80±0.15

Note 1: Tolerance Code: M = ±20%, N = ±30%.

Note 2: I<sub>rms</sub> is direct electric current as chip surface temperature rose just 40°C.

Note 3: I<sub>sat</sub> is the value of DC current as inductance L (μH) decreased just 30% against.

# COIL SPECIFICATION



**Brand** ZenithTek  
**Product Series Code** ZFLH - Series  
**File Version** V1.4  
**Description** Multilayer Chip Power Inductor



## Electrical Characteristic

Part Number	Inductance (μH)	Tolerance (%)	Test Frequency (MHz)	S.R.F (MHz)/(Min.)	DCR(Ω) (Typ.)	DCR(Ω) (Max.)	Temperature Current (I <sub>rms</sub> ) (mA)/(Typ.)	Temperature Current (I <sub>rms</sub> ) (mA)/(Max.)	Saturation Current (I <sub>sat</sub> ) (mA)/(Typ.)	Saturation Current (I <sub>sat</sub> ) (mA)/(Max.)	Thickness (mm)
ZFLH-0805-R47□	0.47	20/30	1	100	0.08	0.1000	1750	1500	1200	1000	0.90±0.10
ZFLH-0805-1R0□	1.00	20/30	1	60	0.11	0.1380	1500	1300	1150	950	0.90±0.10
ZFLH-0805-1R5□	1.50	20/30	1	50	0.16	0.2000	1250	1100	800	750	0.90±0.10
ZFLH-0805-2R2□	2.20	20/30	1	40	0.20	0.2500	1150	900	500	450	0.90±0.10
ZFLH-0805-3R3□	3.30	20/30	1	30	0.20	0.2500	1050	900	350	280	0.90±0.10
ZFLH-0805-4R7□	4.70	20/30	1	30	0.25	0.3130	950	800	280	230	0.90±0.10

Note 1: Tolerance Code: M = ±20%, N = ±30%.  
 Note 2: I<sub>rms</sub> is direct electric current as chip surface temperature rose just 40°C.  
 Note 3: I<sub>sat</sub> is the value of DC current as inductance decreased just 30% against.

# COIL SPECIFICATION



**Brand** ZenithTek  
**Product Series Code** ZFLH - Series  
**File Version** V1.4  
**Description** Multilayer Chip Power Inductor



## Electrical Characteristic

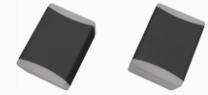
Part Number	Inductance (μH)	Tolerance (%)	Test Frequency (MHz)	S.R.F (MHz)/(Min.)	DCR(Ω) (Typ.)	DCR(Ω) (Max.)	Temperature Current (I <sub>rms</sub> ) (mA)/(Typ.)	Temperature Current (I <sub>rms</sub> ) (mA)/(Max.)	Saturation Current (I <sub>sat</sub> ) (mA)/(Typ.)	Saturation Current (I <sub>sat</sub> ) (mA)/(Max.)	Thickness (mm)
ZFLH-0806-R47□	0.47	20/30	1	100	0.08	0.1000	2000	1500	1600	1500	0.90±0.10
ZFLH-0806-1R0□	1.00	20/30	1	70	0.09	0.1130	1900	1400	1200	1000	0.90±0.10
ZFLH-0806-1R5□	1.50	20/30	1	60	0.11	0.1380	1500	1200	700	600	0.90±0.10
ZFLH-0806-2R2□	2.20	20/30	1	50	0.11	0.1380	1500	1200	500	450	0.90±0.10
ZFLH-0806-3R3□	3.30	20/30	1	40	0.12	0.1500	1400	1200	330	300	0.90±0.10
ZFLH-0806-4R7□	4.70	20/30	1	30	0.14	0.1750	1300	1100	220	200	0.90±0.10

**Note 1:** Tolerance Code: M = ±20%, N = ±30%.  
**Note 2:** I<sub>rms</sub> is direct electric current as chip surface temperature rose just 40°C.  
**Note 3:** I<sub>sat</sub> is the value of DC current as inductance decreased just 30% against.

# COIL SPECIFICATION



**Brand** ZenithTek  
**Product Series Code** ZFLH - Series  
**File Version** V1.4  
**Description** Multilayer Chip Power Inductor



## Electrical Characteristic

Part Number	Inductance (μH)	Tolerance (%)	Test Frequency (MHz)	S.R.F (MHz)/(Min.)	DCR(Ω) (Typ.)	DCR(Ω) (Max.)	Temperature Current (I <sub>rms</sub> ) (mA)/(Typ.)	Temperature Current (I <sub>rms</sub> ) (mA)/(Max.)	Saturation Current (I <sub>sat</sub> ) (mA)/(Typ.)	Saturation Current (I <sub>sat</sub> ) (mA)/(Max.)	Thickness (mm)
ZFLH-1008-R47□	0.47	20/30	1	105	0.04	0.0500	2700	1800	1500	1300	0.90±0.10
ZFLH-1008-1R0□	1.00	20/30	1	70	0.06	0.0750	2500	1600	1400	1150	0.90±0.10
ZFLH-1008-1R5□	1.50	20/30	1	65	0.07	0.0880	2200	1500	1200	1100	0.90±0.10
ZFLH-1008-2R2□	2.20	20/30	1	55	0.08	0.1000	2000	1300	850	700	0.90±0.10
ZFLH-1008-3R3□	3.30	20/30	1	30	0.10	0.1250	1700	1200	450	400	0.90±0.10
ZFLH-1008-4R7□	4.70	20/30	1	25	0.11	0.1380	1600	1100	320	270	0.90±0.10

Note 1: Tolerance Code: M = ±20%, N = ±30%.  
 Note 2: I<sub>rms</sub> is direct electric current as chip surface temperature rose just 40°C.  
 Note 3: I<sub>sat</sub> is the value of DC current as inductance decreased just 30% against.

# COIL SPECIFICATION



ZenithTek

Brand **ZenithTek**  
 Product Series Code **ZFLH - Series**  
 File Version **V1.4**  
 Description **Multilayer Chip Power Inductor**



## Reliability Test

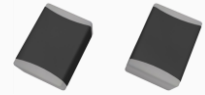
No.	Item	Specification	Test Method
1	Temperature Shock.	Appearance: No damage. Inductance: within $\pm 10\%$ of initial.	Temperature: $-40\pm 2^{\circ}\text{C}$ ~ $+85\pm 2^{\circ}\text{C}$ Kept for 30 minutes. Transition time : 5 minutes. 100 Cycles.
2	Humidity Resistance.	Appearance: No damage. Inductance: within $\pm 10\%$ of initial.	Temperature: $40\pm 2^{\circ}\text{C}$ . Relative Humidity: 90%. Duration: 1000 +4/-0 hours.
3	High Temperature Resistance.	Appearance: No damage. Inductance: within $\pm 10\%$ of initial.	Temperature: $85\pm 2^{\circ}\text{C}$ . Duration: 1000 +4/-0 hours.
4	Low Temperature Resistance.	Appearance: No damage. Inductance: within $\pm 10\%$ of initial.	Temperature: $-40\pm 2^{\circ}\text{C}$ . Duration: 1000 +4/-0 hours.
5	Vibration test.	Appearance: No damage. Inductance: within $\pm 10\%$ of initial.	Oscillation Frequency: 10Hz to 55Hz to 10Hz in 60 seconds as a period. Total amplitude: 1.5mm. Testing Time: a period of 2 hours in each 3 mutually perpendicular directions (total of 6 hours).
6	Solderability Heat test.	Appearance: No damage. Inductance: within $\pm 10\%$ of initial.	Solder temperature: $260\pm 3^{\circ}\text{C}$ . Duration: 5 sec. Allowed reflow time: 2 times.
7	Solderability test.	90% or more of electrode area shall be coated by new solder.	Preheating: $160^{\circ}\text{C}$ , 60sec. Solder temperature: $240\pm 2^{\circ}\text{C}$ . Duration : 3 sec.
8	Flexure Strength.	No visible mechanical damage.	Flexure: 2mm. Pressurizing Speed: 0.5mm/sec. Keep time: $30\pm 1$ sec.
9	Terminal Strength.	No visible mechanical damage.	Force: 2N for 0402 series Force: 5N for 0603 series Force: 10N for 0805 series above Keep time: 5 sec , X,Y directs.
10	Dropping.	No visible mechanical damage. Inductance: within $\pm 10\%$ of initial.	Drop component 10 times on a concrete floor from a height of 100cm.

# COIL SPECIFICATION



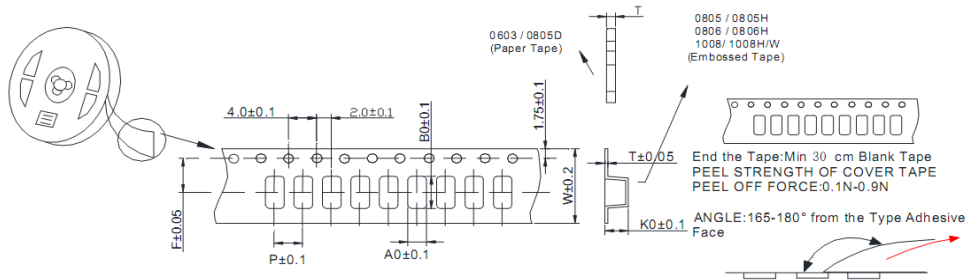
ZenithTek

Brand **ZenithTek**  
 Product Series Code **ZFLH - Series**  
 File Version **V1.4**  
 Description **Multilayer Chip Power Inductor**



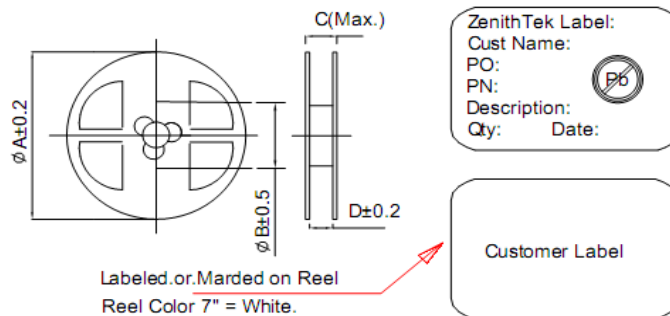
## Package

### Taping Dimension (mm)



Size(mm)	W	P	A0	B0	K0	T	F
ZFLH-0603	8.00	4.00	1.00	1.80	-	1.10	3.50
ZFLH-0805	8.00	4.00	1.55	2.30	1.45	0.30	3.50
ZFLH-0806	8.00	4.00	1.90	2.30	1.45	0.30	3.50
ZFLH-1008	8.00	4.00	2.30	2.80	1.45	0.30	3.50

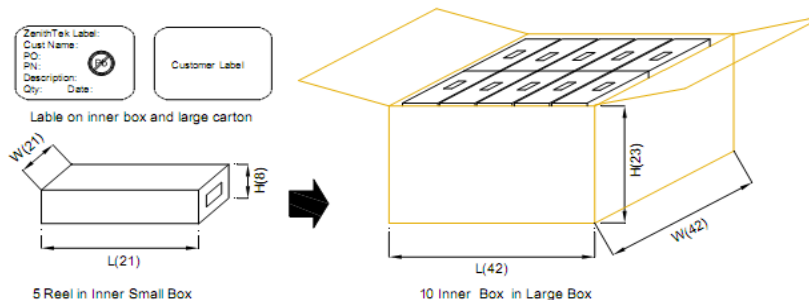
### Reel Dimension (mm)



Labeled.or.Marked on Reel  
 Reel Color 7" = White.

Size(mm)	A	B	C	D	Reel/Size	Qty./Size
ZFLH-0603	178	58	14.4	8.4	7"	4000 Pcs
ZFLH-0805	178	58	14.4	8.4	7"	3000 Pcs
ZFLH-0806	178	58	14.4	8.4	7"	3000 Pcs
ZFLH-1008	178	58	14.4	8.4	7"	3000 Pcs

### Box Dimension (mm)



5 Reel in Inner Small Box

10 Inner Box in Large Box