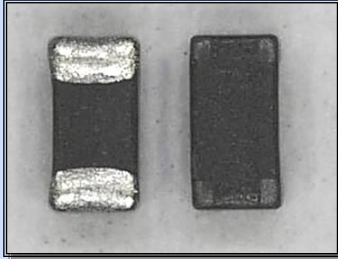


IWPIF Series

Multilayer Chip Ferrite Large Current Inductor – IWPIF160808, IWPIF201208, IWPIF321611

TRIGON
COMPONENTS



FEATURES

- Monolithic inorganic material construction.
- Closed magnetic circuit avoids crosstalk.
- S.M.T. type.
- Suitable for reflow soldering.
- Shapes and dimensions follow E.I.A. spec.
- Available in various sizes.
- Excellent solderability and heat resistance.
- High SRF up to 6GHz and above.
- 100% Lead(Pb) & Halogen-Free and RoHS compliant.

ORDERING CODE

IWPIF 160808 M 2R2 T
(1) (2) (3) (4) (5)

(1) Multilayer Chip Ferrite Large Current Inductor

(2) Dimension

(3) Tolerance Code

K: ±10% M: ±20%

(4) Inductance

2R2: 2.2uH

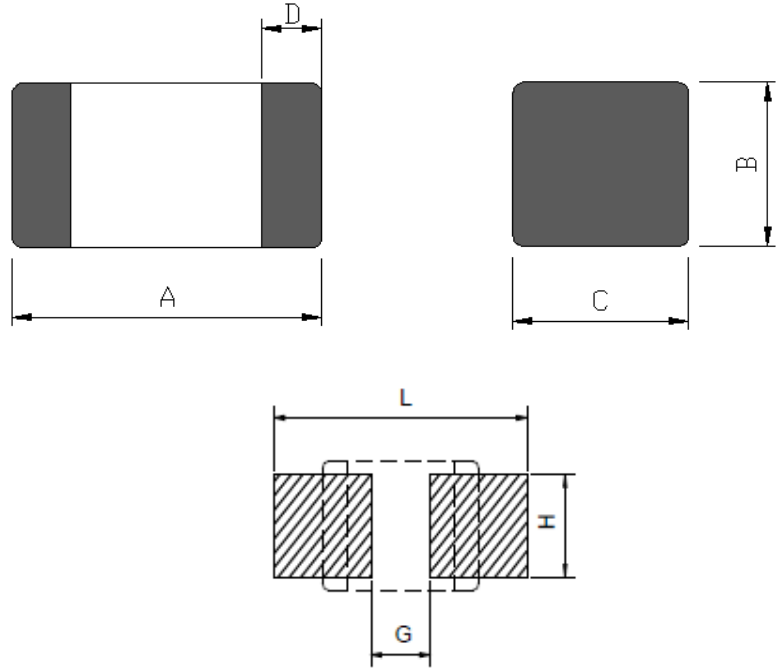
100: 10uH

220: 22uH

(5) Package

T: Tape & Reel

Configurations:



Dimension (mm)

Item	A	B	C	D
IWPIF160808	1.60±0.20	0.80±0.20	0.80±0.20	0.30±0.20
IWPIF201208	2.00±0.20	1.25±0.20	0.80±0.20	0.50±0.30
IWPIF321611	3.20±0.30	1.60±0.30	1.10±0.30	0.50±0.30

Recommended PC Board Pattern(mm)

Item	L	G	H
IWPIF160808	2.60	0.6	0.80
IWPIF201208	3.10	1.00	1.45
IWPIF321611	4.30	2.20	1.80

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Electrical Characteristics:

Part Number	Inductance (uH)	Freq. (MHz)	Tolerance (±%)	DCR(Ω) (±30%)	I rms (mA)MAX	SRF (MHz)min
IWPIF160808M1R0T	1.0	1.0	20	0.25	1000	125
IWPIF160808M1R5T	1.5	1.0	20	0.30	800	109
IWPIF160808M2R2T	2.2	1.0	20	0.36	700	90
IWPIF160808M3R3T	3.3	1.0	20	0.53	600	70
IWPIF160808M4R7T	4.7	1.0	20	0.60	500	50
IWPIF160808M6R8T	6.8	1.0	20	0.75	400	40
IWPIF160808M100T	10.0	1.0	20	0.90	400	33
IWPIF160808M150T	15.0	1.0	20	1.80	220	20
IWPIF160808M220T	22.0	1.0	20	2.25	200	15
IWPIF201208M1R0T	1.0	1.0	20	0.20	1400	75
IWPIF201208M1R5T	1.5	1.0	20	0.24	1300	60
IWPIF201208M2R2T	2.2	1.0	20	0.28	1200	50
IWPIF201208M3R3T	3.3	1.0	20	0.32	1100	41
IWPIF201208M4R7T	4.7	1.0	20	0.39	1000	35
IWPIF201208M6R8T	6.8	1.0	20	0.45	550	29
IWPIF201208M100T	10.0	1.0	20	0.53	500	24
IWPIF201208M150T	15.0	1.0	20	1.15	400	19
IWPIF201208M220T	22.0	1.0	20	1.55	300	19
IWPIF321611M1R0T	1.0	1.0	20	0.18	1600	90
IWPIF321611M1R5T	1.5	1.0	20	0.25	1500	75
IWPIF321611M2R2T	2.2	1.0	20	0.30	1300	58
IWPIF321611M3R3T	3.3	1.0	20	0.40	1200	49
IWPIF321611M4R7T	4.7	1.0	20	0.45	980	41
IWPIF321611M6R8T	6.8	1.0	20	0.60	830	34
IWPIF321611M100T	10.0	1.0	20	0.95	670	28

Inductor

※Rated current: based on temperature rise test

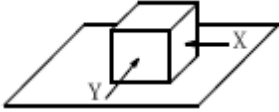
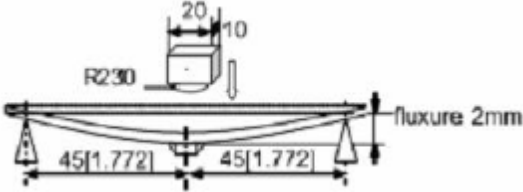
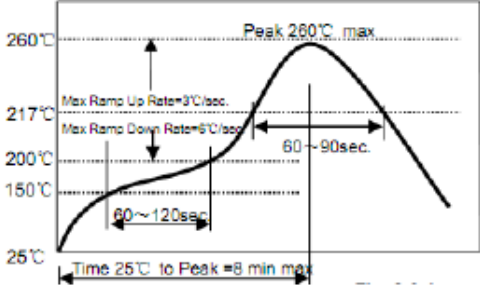
※In compliance with EIA 595

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Reliability Test:

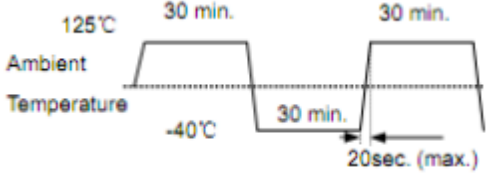
Items	Requirements	Test Methods and Remarks
1. Terminal Strength	No removal or split of the termination or other defects shall occur.  Fig: 1-1	<ol style="list-style-type: none"> Solder the inductor to the testing jig (glass epoxy board shown in Fig.1-1) using eutectic solder. Then apply a force in the direction of the arrow. 10N force. Keep time: 5s
2. Resistance to Flexure	No visible mechanical damage.  Fig: 2-1	<ol style="list-style-type: none"> Solder the chip to the test jig (glass epoxy board) Using eutectic solder. Then apply a force in the Direction shown as Fig.2-1 Flexure: 2mm Pressurizing Speed: 0.5mm/sec Keep time: 30±1s Test board size: 100*40*1.0 Land dimension
3. Vibration	<ol style="list-style-type: none"> No visible mechanical damage. Inductance change: Within±10% 	<ol style="list-style-type: none"> Solder the chip to the testing jig (glass epoxy board shown as the following figure) using eutectic solder The chip shall be subjected to a simple harmonic Motion having total amplitude of 1.5mm, the approximate limits of 10and 55Hz The frequency range from 10 to 55Hz and return to 10Hz shall be traversed in approximately 1 minute. This motion shall be applied for a period of 2 hours in each 3 mutually perpendicular directions (total of 6 hours).
4. Temperature coefficient	Inductance change: Within±2%	<ol style="list-style-type: none"> Temperature: -40°C~+125°C With a reference value of +20°C, change rate shall be calculated
5. Solderability	90% or more of electrode area shall be coated by new solder	<ol style="list-style-type: none"> The test samples shall be dipped in flux, and then immersed in molten solder. Solder temperature: 245±5°C Duration: 5±1sec Solder: Sn/3.0Ag/0.5Cu Flux: 25% resin and 75% ethanol in weight Immersion depth: all sides of mounting terminal shall be immersed
6. Resistance to Soldering Heat	<ol style="list-style-type: none"> No visible mechanical damage. Inductance change: Within ±10%  Fig: 6-1	<ol style="list-style-type: none"> Re-flowing Profile: Please refer to Fig .6-1 Test board thickness: 1.0mm Test board material: glass epoxy resin The chip shall be stabilized at normal condition for 1~2 hours before measuring

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<p>7. Thermal Shock</p>	<p>1. No visible mechanical damage. 2. Inductance change: Within $\pm 10\%$</p>  <p>Fig 7-1</p>	<p>1. Temperature and time: $-40\pm 3^\circ\text{C}$ for 30 ± 3 min $+125^\circ\text{C}$ for 30 ± 3 min. Please refer to Fig .7-1 2. Transforming interval: Max, 20sec 3. Tested cycle: 100 cycles 4. The chip shall be stabilized at normal condition for 1~2 hours before measuring</p>
<p>8. Resistance to Low Temperature</p>	<p>1. No visible mechanical damage 2. Inductance change: Within $\pm 10\%$</p>	<p>1. Temperature and time: $-40\pm 3^\circ\text{C}$ 2. Duration: 1000 ± 24 hours 3. The chip shall be stabilized at normal condition for 1~2 hours before measuring</p>
<p>9. Resistance to High Temperature</p>	<p>1. No visible mechanical damage 2. Inductance change: Within $\pm 10\%$</p>	<p>1. Temperature and time: $125\pm 2^\circ\text{C}$ 2. Duration: 1000 ± 24 hours 3. The chip shall be stabilized at normal condition for 1~2 hours before measuring</p>
<p>10. Damp Heat</p>	<p>1. No visible mechanical damage 2. Inductance change: Within $\pm 10\%$</p>	<p>1. Temperature and time: $60\pm 2^\circ\text{C}$ 2. Humidity: 90% to 95% RH 3. Duration: 1000 ± 24 hours 4. The chip shall be stabilized at normal condition for 1~2 hours before measuring</p>
<p>11. Loading Under Damp Heat</p>	<p>1. No visible mechanical damage 2. Inductance change: Within $\pm 10\%$</p>	<p>1. Temperature and time: $60\pm 2^\circ\text{C}$ 2. Humidity: 90% to 95% RH 3. Applied current: Rated current 4. Duration: 1000 ± 24 hours 5. The chip shall be stabilized at normal condition for 1~2 hours before measuring</p>
<p>12. Loading at High Temperature</p>	<p>1. No visible mechanical damage 2. Inductance change: Within $\pm 10\%$</p>	<p>1. Temperature and time: $85\pm 2^\circ\text{C}$ 2. Applied current: Rated current 3. Duration: 1000 ± 24 hours 4. The chip shall be stabilized at normal condition for 1~2 hours before measuring</p>

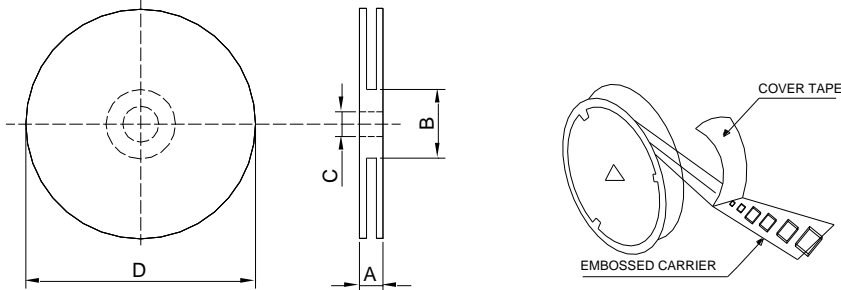
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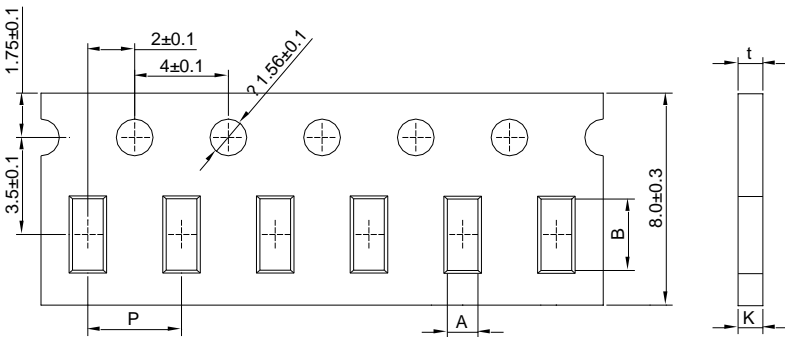
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Packaging Information: Reel Dimension

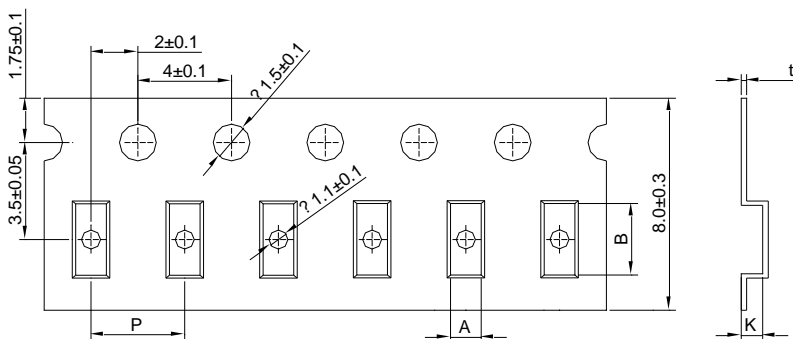


TYPE	A(mm)	B(mm)	C(mm)	D(mm)
7"*8mm	10±1.5	50 or more	13±0.2	178±2

Tape Dimension/8mm:



Size	A(mm)	B(mm)	P(mm)	t(mm)	K(mm)
160808	0.96±0.05	1.8±0.05	4.0±0.1	0.95±0.05	0.95±0.05
201208	1.3±0.05	2.1±0.05	4.0±0.1	0.95±0.05	0.95±0.05



Size	A(mm)	B(mm)	P(mm)	t(mm)	K(mm)
321611	1.75±0.1	3.35±0.1	4.0±0.1	0.23±0.05	1.25±0.1

Packaging Quantity:

Chip size	160808	201208	321611
Chip/Reel	4000	4000	3000
Inner box	20000	20000	15000
Middle box	100000	100000	75000
Carton	200000	200000	150000

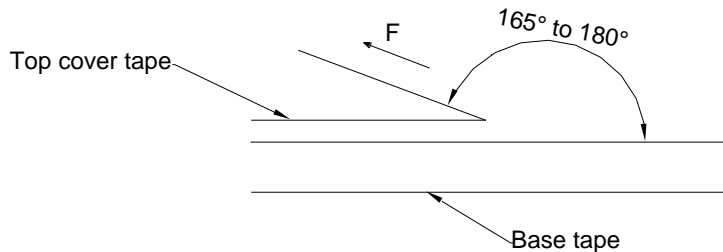
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Tearing off force:



The force for tearing off cover tape is 15 to 60 grams in the arrow direction under the following conditions.

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

Application Notice:

Storage Conditions(component level)

To maintain the solder ability of terminal electrodes:

1. Products meet 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.

Inductor