

Metal Composite Power Inductor (Thin Film) **Specification Sheet**



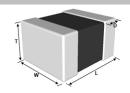
CIGT252008LHR47MNE (2520 / EIA 1008)

Smart phones, Tablet, Wearable devices, Power converter modules, etc.

Small power inductor for mobile devices Low DCR structure and high efficiency inductor for power circuits. Monolithic structure for high reliability Free of all RoHS-regulated substances Halogen free



	Unit: mm
TYPE	2520
Α	1.2
В	0.8
С	2.0



TYPE	Dimension [mm]						
IIFL	L	W	Т	D			
2520	2.5±0.2	2.0±0.2	0.8 max	0.55±0.25			

Part no.	Size Thickness [mm] (max)	Thickness	Inductance	Inductance tolerance	DC Resist	ance [mΩ]	Rated DC Cu	rrent (Isat) [A]	Rated DC C	
		[uH]	(%)	Max.	Тур.	Max.	Тур.	Max.	Тур.	
CIGT252008LHR47MNE	1008/2520	0.8	0.47	±20	29	24	5	5.5	4.2	4.5

- * Inductance : Measured with a LCR meter 4991A(Agilent) or equivalent (Test Freq. 1MHz, Level 0.1V)
- * DC Resistance : Measured with a Resistance HI-TESTER 3541(HIOKI) or equivalent
- * Maximum allowable DC current : Value defined when DC current flows and the initial value of inductance has decreased by 30% or when current flows and temperature has risen to 40 ℃ whichever is smaller. (Reference: ambient temperature is 25 ℃±10)

(Isat): Allowable current in DC saturation: The DC saturation allowable current value is specified when the decrease of

the initial inductance value at 30% (Reference: ambient temperature is 25 °C±10)

(Irms): Allowable current of temperature rise: The temperature rise allowable current value is specified when temperature of

the inductor is raised 40 ℃ by DC current. (Reference: ambient temperature is 25 ℃±10)

- * Absolute maximum voltage : Absolute maximum voltage DC 20V.
- * Operating temperature range: -40 to +125°C (Including self-temperature rise)

PRODUCT IDENTIFICATION

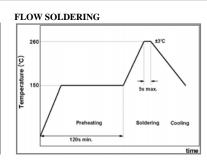
(1)	(2)	(3)	(4)	

(T: Metal Composite Thin Film Type) (2) Type

(6)

- (1) Power Inductor
- (3) Dimensior (2520: 2.5mm x 2.0mm)
- (5) Remark (Characterization Code)
- (7) Toleranc (M:±20%)
- (8) Internal Code
- (9) Packaging (C:paper tape, E:embossed tape)
- (4) Thicknes (08: 0.8mm)
- (6) Inductan (R47: 0.47 uH)

REFLOW SOLDERING 230 (C) (C)



IRON SOLDERING								
Temperature of Soldering Iron Tip	280 °C max.							
Preheating Temperature	150℃min.							
Temperature Differential	Δ T≤130 ℃							
Soldering Time	3sec max.							
Wattage	50W max.							

Packaging Style	Quantity(pcs/reel)
Embossed Taping	3000 pcs

Item	Specified Value	Test Condition			
Solderability	More than 90% of terminal electrode should be soldered newly.	After being dipped in flux for 4 ± 1 seconds, and preheated at $150\sim180$ °C for $2\sim3$ min, the specimen shall be immersed in solder at 245 ± 5 °C for 4 ± 1 seconds.			
Resistance to Soldering	No mechanical damage. Remaining terminal Electrode: 75% min. Inductance change to be within ±20% to the initial.	After being dipped in flux for 4 ± 1 seconds, and preheated at $150\sim180$ °C for $2\sim3$ min, the specimen shall be immersed in solder at 260 ± 5 °C for 10 ± 0.5 seconds.			
Thermal Shock (Temperature Cycle test)	No mechanical damage Inductance change to be within ±20% to the initial.	Repeat 100 cycles under the following conditions. -40±3 ℃ for 30 min → 85±3 ℃ for 30 min			
High Temp. Humidity Resistance Test	No mechanical damage Inductance change to be within ±20% to the initial	85±2°C, 85%RH, for 500±12 hours. Measure the test items after leaving at normal temperature and humidity for 24 hours.			
Low Temperature Test	No mechanical damage Inductance change to be within ±20% to the initial.	Solder the sample on PCB. Exposure at -55±2°C for 500±12 hours. Measure the test items after leaving at normal temperature and humidity for 24hours.			
High Temperature Test	No mechanical damage Inductance change to be within ±20% to the initial.	Solder the sample on PCB. Exposure at 125±2 °C for 500±12 hours. Measure the test items after leaving at normal temperature and humidity for 24hours.			
High Temp. Humidity Resistance Loading Test	No mechanical damage Inductance change to be within ±20% to the initial	85±2°C, 85%RH, Rated Current for 500±12 hours. Measure the test items after leaving at normal temperature and humidity for 24 hours.			
High Temperature Loading Test	No mechanical damage Inductance change to be within ±20% to the initial	85±2°C, Rated Current for 500±12 hours. Measure the test items after leaving at normal temperature and humidity for 24 hours.			
Reflow Test	No mechanical damage Inductance change to be within ±20% to the initial	Peak 260±5℃, 3 times			
Vibration Test	No mechanical damage Inductance change to be within ±20% to the initial.	Solder the sample on PCB. Vibrate as apply 10~55Hz, 1.5mm amplitude for 2 hours in each of three(X,Y,Z) axis (total 6 hours).			
	No mechanical damage	Bending Limit; 2mm Test Speed; 1.0mm/sec. Keep the test board at the limit point in 5 sec. PCB thickness: 1.6mm			
Bending Test	19	20 Unit :mm R340 45			
	No indication of peeling shall occur on the	W(kgf) TIME(sec)			
	terminal electrode.	0.5 10±1			
Terminal Adhesion Test		77772 ₩ *77772			
Drop Test	No mechanical damage Inductance change to be within ±20% to the initial.	Random Free Fall test on concrete plate. 1 meter, 10 drops			
Ipeak (AC+DC Load Life)	No mechanical damage Inductance change to be within ±20% to the initial	85±2°C, 85%RH, Load(Ipeak) for 120 hours. (Frequncy:1MHz, Load(Ipeak):1.5hr on / 0.5hr off) Measure the test items after leaving at normal temperature and humidity for 24 hours. * Load(Ipeak) = Irms(max)×1.4			



Metal Composite Power Inductor (Thin Film) Data Sheet

RoHS+Halogen Compilant • Coparts

1. Model: CIGT252008LHR47MNE

2. Description

Part no.	Size	Thickness	Inductance	Inductance tolerance	DC Resistance [mΩ]		Rated DC Current (Isat) [A]		Rated DC Current (Irms) [A]	
. arrier	[inch/mm]	[mm] (max)	[uH]	(%)	Max.	Тур.	Max.	Тур.	Max.	Тур.
CIGT252008LHR47MNE	1008/2520	0.8	0.47	±20	29	24	5	5.5	4.2	4.5

- * Inductance : Measured with a LCR meter 4991A(Agilent) or equivalent (Test Freq. 1MHz, Level 0.1V)
- * DC Resistance : Measured with a Resistance HI-TESTER 3541(HIOKI) or equivalent
- * Maximum allowable DC current : Value defined when DC current flows and the initial value of inductance has decreased by 30% or when current flows and temperature has risen to 40 °C whichever is smaller. (Reference: ambient temperature is 25 °C±10)

 $(lsat): Allowable \ current \ in \ DC \ saturation: The \ DC \ saturation \ allowable \ current \ value \ is \ specified \ when \ the \ decrease \ of \ saturation \ allowable \ current \ value \ is \ specified \ when \ the \ decrease \ of \ saturation \ allowable \ current \ value \ is \ specified \ when \ the \ decrease \ of \ saturation \ allowable \ current \ value \ is \ specified \ when \ the \ decrease \ of \ saturation \ allowable \ current \ value \ is \ specified \ when \ the \ decrease \ of \ saturation \ allowable \ current \ value \ is \ specified \ when \ the \ decrease \ of \ saturation \ allowable \ current \ value \ is \ specified \ when \ the \ decrease \ of \ saturation \ allowable \ current \ value \ is \ specified \ when \ the \ decrease \ of \ saturation \ allowable \ current \ value \ is \ specified \ when \ the \ decrease \ of \ saturation \ allowable \ current \ value \ is \ specified \ when \ the \ decrease \ of \ saturation \ allowable \ current \ value \ is \ saturation \ allowable \ current \ of \ saturation \ allowable \ current \ of \ saturation \ of \ of \ saturation \ of \ saturation \ of \ saturation \ of \ satu$

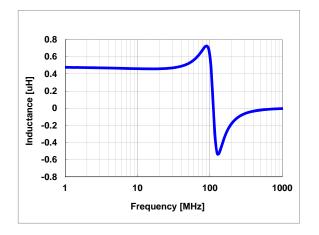
the initial inductance value at 30% (Reference: ambient temperature is 25 ℃±10) (Irms) : Allowable current of temperature rise : The temperature rise allowable current value is specified when temperature of

- the inductor is raised 40 ℃ by DC current. (Reference: ambient temperature is 25 ℃±10)
- * Absolute maximum voltage : Absolute maximum voltage DC 20V.
- * Operating temperature range : -40 to +125°C (Including self-temperature rise)

3. Characteristics data

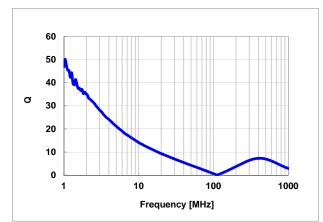
1) Frequency characteristics (Ls)

Agilent E4294A +E4991A , 1MHz to 1,000MHz

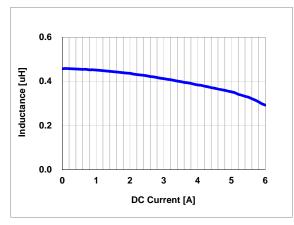


2) Frequency characteristics (Q)

Agilent E4294A +E4991A , 1MHz to 1,000MHz



3) DC Bias characteristics (Typ.)



4)Temperature characteristics (Typ.)

