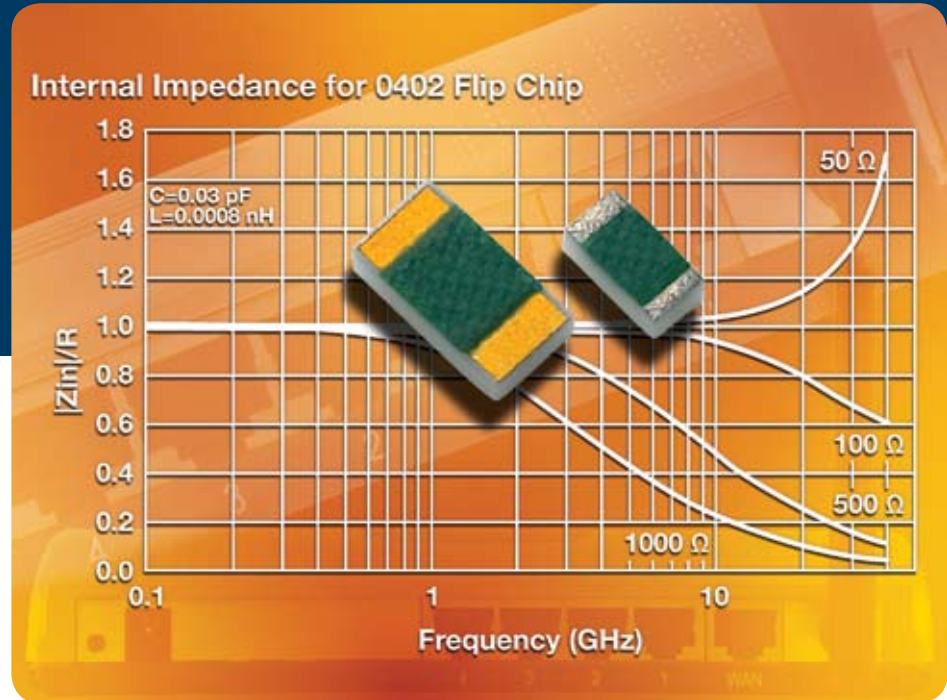




THIN FILM CHIP RESISTOR

FC Series



High-Frequency Thin Film Chip Resistor

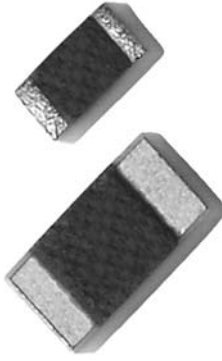
KEY BENEFITS

- Small size (20 mil x 40 mil min)
- Frequency response: 20 GHz
- Tolerances to 0.1 %
- Termination solder (lead or lead (Pb)-free), ribbon- or wire-bondable

APPLICATIONS

- Low-noise amplifiers
- High-speed routers
- Attenuation circuitry
- High-frequency line termination

High-Frequency (up to 20 GHz) Chip Resistors



FEATURES

- Lead (Pb)-free or Sn/Pb terminations available
- Small standard size 0402 case size
- Edge trimmed block resistors
- Alumina substrate High Purity (99.6 %)
- Ohmic range (10 Ω to 1000 Ω)
- Small internal reactance (< 10 mΩ)
- Low TCR (down to ± 25 ppm/°C)

APPLICATIONS

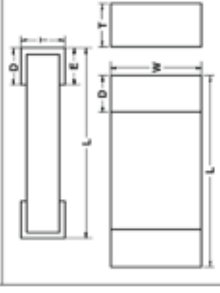
- Low noise amplifiers
- Attenuation
- Line termination

FC series chip resistors are designed with low internal reactance. They function as almost pure resistors on a very high range of frequencies. The specialized laser edge trimming allows for precision tolerances to 0.1 %.



RoHS COMPLIANT

DIMENSIONS in inches [millimeters]



CASE SIZE	LENGTH W (± 0.005)	THICKNESS MIN/MAX	TOP PAD D (± 0.005)	BOTTOM PAD E (± 0.005)	
					0402
0402	0.040 ± 0.003 (1.016 ± 0.076)	0.020 (0.508)	0.015 (0.381)	0.015 (0.381)	
0505	0.050 ± 0.005 (1.270 ± 0.127)	0.020 (0.508)	0.015 (0.381)	0.015 (0.381)	
0603	0.064 ± 0.006 (1.625 ± 0.153)	0.022 (0.559)	0.015 (0.381)	0.015 (0.381)	
0805	0.080 ± 0.005 (2.032 ± 0.127)	0.020 (0.508)	0.015 (0.381)	0.015 (0.381)	
1005	0.100 ± 0.008 (2.540 ± 0.204)	0.025 (0.635)	0.020 ± 0.005 (0.508 ± 0.127)	0.010 ± 0.005 (0.254 ± 0.127)	
1206	0.126 ± 0.004 (3.201 ± 0.204)	0.025 (0.635)	0.020 ± 0.005 (0.508 ± 0.127)	0.010 ± 0.005 (0.254 ± 0.127)	

MECHANICAL SPECIFICATIONS

Resistive Element	Passivated Nichrome
Substrate Material	Alumina (99.6 %)
Terminations	Gold or Sn 60 Solder over Nickel barrier
Lead (Pb)-free Option	99.5 % Sn, 3.0 % Ag, 0.5 % Cu
Lead (Pb)-free Finish	Hot Solder Dip

GLOBAL PART NUMBER INFORMATION

New Global Part Numbering: FC1206E1001BBT (preferred part number format)

GLOBAL MODEL	FC	TCR CHARACTERISTIC	RESISTANCE	TERMINATION	PACKAGING
CASE SIZE	0402	'E' = 25 ppm/°C	B = 0.1 %	T = Top Solder Au (Gold) Term	BS = BULK
	0505	'H' = 50 ppm/°C	D = 0.5 %	Au over Ni	100 Min 1 Mult
	0603	'K' = 100 ppm/°C	G = 2 %	Wirearound Sn/Pb Solder	WS = 100 Min 1 Mult
	1005	'J' = 50 Ω only	J = 5 %	Wirearound Sn/Pb Solder	TAPE AND REEL
	1206			New Lead Form	100 Min 1 Mult
				Wirearound Au over Ni	T1 = 1000 Min 1000 Mult
				Epoxy Solderable	T3 = 300 Min 300 Mult
				Hot Solder Dip	T5 = 500 Min 500 Mult
				Top Solder Sn/Pb Solder	T8 = 100 Min 1 Mult
				Sn/Pb Solder	
				Nickel Barrier	
				ReHS compliant - e1	
				ReHS compliant - e1	
				96.5 % Sn/3.0 % Ag/	
				0.5 % Cu	
				ReHS compliant - e1	

Revision 08-May-07

STANDARD ELECTRICAL SPECIFICATIONS		SPECIFICATIONS	CONDITIONS
MATERIAL	PASSIVATED NICHROME	10 Ω to 1000 Ω	Case Size Dependant
Resistance Range	25 (standard) (± 50 Ω) to ± 100 ppm/°C	-55 °C to +125 °C	
TCR	± 0.1 %, ± 0.5 %, ± 1.0 % and ± 5.0 %	+ 25 °C	
Tolerance	Power Rating	Working Voltage	
Component Ratings	50 mW	30 V	Max. at +70 °C
	125 mW	37 V	Max. at +70 °C
	125 mW	50 V	Max. at +70 °C
	200 mW	50 V	Max. at +70 °C
	250 mW	75 V	Max. at +70 °C
	330 mW	75 V	Max. at +70 °C
Stability	500 ppm		2000 h at +70 °C
Operating Temperature Range	-55 °C to +125 °C		

• Pb containing terminations are not RoHS compliant, exemptions may apply

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For technical questions, contact thin-film@vishay.com