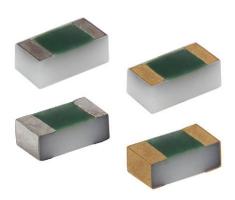
HALOGEN FREE

<u>(5-2008)</u>



High Frequency (Up to 40 GHz) Resistor, Thin Film Surface Mount Chip



LINKS TO ADDITIONAL RESOURCES





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 %.

FEATURES

- Small standard size 0402 case size
- Edge trimmed block resistors
- High purity alumina substrate
- Ohmic range (10 Ω to 1000 Ω)
- Small internal reactance (< 10 m Ω)
- Low TCR (down to ± 25 ppm/°C)
- . En ever le en elelele terresimentiere evenilelele
- Epoxy bondable termination available
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Note

* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details

APPLICATIONS

- · Low noise amplifiers
- Attenuation
- Line termination

STANDARD ELECTRICAL SPECIFICATIONS					
TEST	SPECIFICATIONS	CONDITIONS			
Material	Passivated nichrome	-			
Resistance Range	10 Ω to 1000 Ω	Case size dependent			
TCR: Absolute	± 25 ppm/°C to ± 100 ppm/°C	-55 °C to +125 °C			
Tolerance: Absolute	± 0.1 % to ± 5.0 %	+25 °C			
Stability: Absolute	ΔR ± 0.02 %	2000 h at 70 °C			
Stability: Ratio	-	-			
Voltage Coefficient	0.1 ppm/V	-			
Working Voltage	30 V to 75 V	-			
Operating Temperature Range	-55 °C to +155 °C	-			
Storage Temperature Range	-55 °C to +155 °C	-			
Noise	< -35 dB	-			
Shelf Life Stability: Absolute	ΔR ± 0.01 %	1 year at +25 °C			

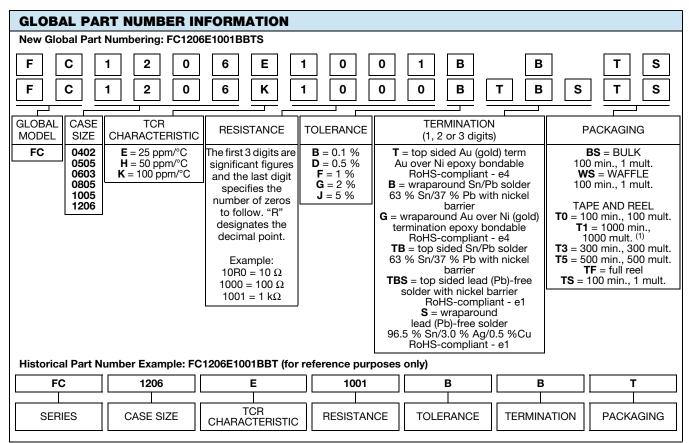
COMPONENT RATINGS						
CASE SIZE	POWER RATING (mW)	WORKING VOLTAGE (V)	RESISTANCE RANGE (Ω)			
0402	50	30	10 to 1000			
0505	125	37	20 to 1000			
0603	125	50	10 to 1000			
0805	200	50	10 to 1000			
1005	250	75	10 to 1000			
1206	330	75	10 to 1000			



Vishay Dale Thin Film

DIMENSIONS in inches (millimeters)						
- D+	CASE SIZE	LENGTH	WIDTH W (± 0.005)	THICKNESS T (± 0.0015)	TOP PAD D (± 0.005)	BOTTOM PAD E (± 0.005)
	0402	0.042 ± 0.008 (1.067 ± 0.203)	0.022 (0.559)	0.015 (0.381)	0.010 (0.254)	0.010 (0.254)
	0505	0.055 ± 0.006 (1.397 ± 0.152)	0.050 (1.270)	0.015 (0.381)	0.010 (0.254)	0.015 (0.381)
- D - - T - - T -	0603	0.064 ± 0.006 (1.626 ± 0.152)	0.032 (0.813)	0.015 (0.381)	0.012 (0.305)	0.015 (0.381)
	0805	0.080 ± 0.006 (2.032 ± 0.152)	0.050 (1.270)	0.015 (0.381)	0.016 ± 0.008 (0.406 ± 0.203)	0.015 (0.381)
	1005	0.105 ± 0.008 (2.667 ± 0.203)	0.050 (1.270)	0.015 (0.381)	0.015 (0.381)	0.015 (0.381)
L	1206	0.126 ± 0.008 (3.200 ± 0.203)	0.063 (1.600)	0.015 (0.381)		005/- 0.010 127/- 0.254)

MECHANICAL SPECIFICATIONS			
Resistive Element	Passivated nichrome		
Substrate Material	Alumina		
Terminations	Pre-soldered or gold		
Lead (Pb)-free Option	96.5 % Sn, 3.0 % Ag, 0.5 % Cu		
Tin/Lead Option	Sn63		
Lead (Pb)-free Finish and Tin / Lead	Hot solder dip		



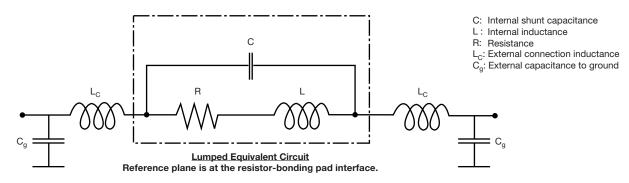
Note

(1) Preferred packaging code

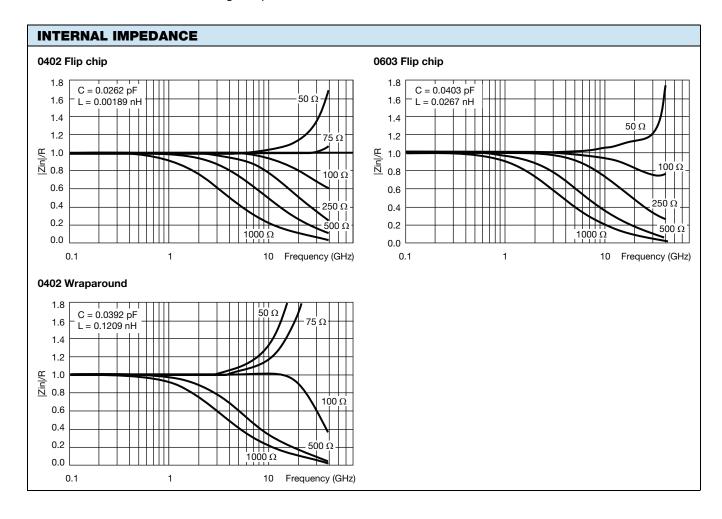


Vishay Dale Thin Film

TYPICAL HIGH FREQUENCY PERFORMANCE ELECTRICAL MODEL AND TESTING

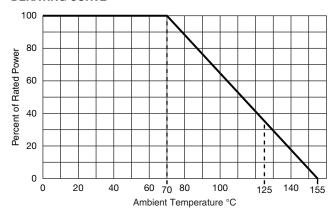


The lumped circuit above was used to model the data at the bonding pad-resistor reference plane. High frequency testing was performed by Modelithics, Inc. on parts mounted to quartz test boards. Quartz test boards were chosen to minimize the contribution of the board effects at high frequencies.

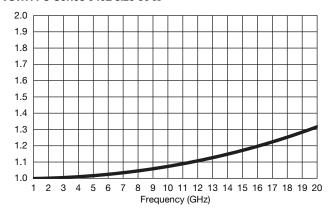




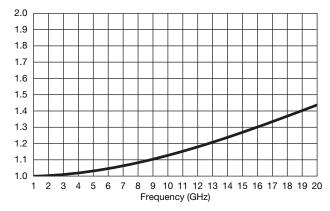
DERATING CURVE



VSWR FC Series 0402 size 50 Ω



VSWR FC Series 0402 size 100 Ω





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