Vishay HIFREQ Multilayer Ceramic Capacitor
Touch "N" Tune™ Kits

Vishay *Touch "N" Tune*™ kits are a new tool intended for RF engineers to test selected capacitance values within a tuned circuit. The capacitor is temporarily touched onto the element pad location to view the resulting characteristics. Without the need for soldering, multiple components may be touched until the desired tuning is achieved. (1)

FEATURES

- Case sizes 0505, 0603 available
- Wide selection of tuning capacitance values
- HighFreq series MLCC within tuning rod
- Reliable Noble Metal Electrode (NME) MLCC
- Case size 0505, per VJ0505DRFTNTKIT
- Case size 0603, per VJ0603DRFTNTKIT
- AEC-Q200 qualified available
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE Available

Pb Available

RoHS* Available

HALOGEN FREE GREEN (5-2008) Available

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

- Broadband wireless communication
- RF instruments
- Lasers, CATV, UHF/microwave RF power amplifiers
- Filter networks, timing circuits
- Mixers, oscillators impedance matching networks

ELECTRICAL SPECIFICATIONS OF KIT VALUES

Note

- Electrical characteristics at 25 °C unless otherwise specified

Operating Temperature: -55 °C to +200 °C (2)

Capacitance Range:

0505: 0.1 pF to 100 pF

0603: 0.1 pF to 100 pF

Voltage Rating:

0505: 200 V_{DC} to 250 V_{DC}

0603: 200 V_{DC} to 250 V_{DC}

Temperature Coefficient of Capacitance (TCC):

C0G (D): 0 ppm/°C ± 30 ppm/°C from -55 °C to +125 °C with zero (0) V_{DC} applied

Dissipation Factor (DF):

C0G (D): 0.05 % max. at 1.0 V_{RMS} and 1 MHz

Aging Rate: 0 % maximum per decade

Insulation Resistance (IR):

at +25 °C and rated voltage 100 000 MΩ minimum or 1000 ΩF, whichever is less

at +125 °C and rated voltage 10 000 MΩ minimum or 100 ΩF, whichever is less

Notes

(1) Once the correct tuning capacitance value is obtained, perform a final test with soldered components. Solder fillets and metallization may influence the circuit performance

(2) Refer to the specific VJHIFREQ series datasheet for capacitance value, voltage ratings, and their temperature range

KIT NUMBER VJ0603DRFTNTKIT INCLUDES THE CAPACITANCE VALUES				
	VISHAY PART NUMBER	CAPACITANCE VALUE (pF)	TOLERANCE	WVDC
1.	VJ0603D0R1BXP	0.1	± 0.1 pF	250
2.	VJ0603D0R2BXP	0.2	± 0.1 pF	250
3.	VJ0603D0R3BXP	0.3	± 0.1 pF	250
4.	VJ0603D0R5CXP	0.5	± 0.25 pF	250
5.	VJ0603D0R6CXP	0.6	± 0.25 pF	250
6.	VJ0603D0R8CXP	0.8	± 0.25 pF	250
7.	VJ0603D0R9CXP	0.9	± 0.25 pF	250
8.	VJ0603D1R0CXP	1.0	± 0.25 pF	250
9.	VJ0603D1R2CXP	1.2	± 0.25 pF	250
10.	VJ0603D1R5CXP	1.5	± 0.25 pF	250
11.	VJ0603D1R6CXP	1.6	± 0.25 pF	250
12.	VJ0603D1R8CXP	1.8	± 0.25 pF	250
13.	VJ0603D2R0CXP	2.0	± 0.25 pF	250
14.	VJ0603D2R2CXP	2.2	± 0.25 pF	250
15.	VJ0603D2R4CXP	2.4	± 0.25 pF	250
16.	VJ0603D2R7CXP	2.7	± 0.25 pF	250
17.	VJ0603D3R0CXP	3.0	± 0.25 pF	250
18.	VJ0603D3R3CXP	3.3	± 0.25 pF	250
19.	VJ0603D3R9CXP	3.9	± 0.25 pF	250
20.	VJ0603D4R7CXP	4.7	± 0.25 pF	250
21.	VJ0603D5R6CXP	5.6	± 0.25 pF	250
22.	VJ0603D6R8CXP	6.8	± 0.25 pF	250
23.	VJ0603D8R2CXP	8.2	± 0.25 pF	250
24.	VJ0603D100JXP	10.0	± 5 %	250
25.	VJ0603D120JXP	12.0	± 5 %	250
26.	VJ0603D150JXP	15.0	± 5 %	250
27.	VJ0603D180JXP	18.0	± 5 %	250
28.	VJ0603D200JXP	20.0	± 5 %	250
29.	VJ0603D220JXP	22.0	± 5 %	250
30.	VJ0603D240JXP	24.0	± 5 %	250
31.	VJ0603D270JXP	27.0	± 5 %	250
32.	VJ0603D300JXP	30.0	± 5 %	250
33.	VJ0603D330JXP	33.0	± 5 %	250
34.	VJ0603D390JXP	39.0	± 5 %	250
35.	VJ0603D470JXP	47.0	± 5 %	250
36.	VJ0603D560JXC	56.0	± 5 %	200
37.	VJ0603D680JXC	68.0	± 5 %	200
38.	VJ0603D820JXC	82.0	± 5 %	200
39.	VJ0603D101JXC	100.0	± 5 %	200

KIT NUMBER VJ0603DRFTNTKIT PRODUCT FEATURES (1)		
PRODUCT FEATURES		
High Q / low ESR	Non-magnetic and lead (Pb)-free	High series resonant frequency
Stable C0G dielectric	Noble metal electrode system	Low series inductance
High temperature: +175 °C / +200 °C	Vishay Automotive Grade available	Tin / lead terminations available
ELECTRICAL SPECIFICATIONS		
Capacitance range: 0.1 pF to 100 pF	C0G (D:) 0 ppm/°C, ± 30 ppm/°C from -55 °C to +200 °C	
Voltage rating: 25 V_{DC} to 250 V_{DC}	Case size (inches): 0.063 x 0.031 x 0.037	

Note

(1) Refer to the specific VJHIFREQ series datasheet for capacitance value, voltage ratings, and their temperature range

KIT NUMBER VJ0505DRFTNTKIT INCLUDES THE CAPACITANCE VALUES				
	VISHAY PART NUMBER	CAPACITANCE VALUE (pF)	TOLERANCE	WVDC
1.	VJ0505D0R1BXP	0.1	± 0.1 pF	250
2.	VJ0505D0R2BXP	0.2	± 0.1 pF	250
3.	VJ0505D0R3BXP	0.3	± 0.1 pF	250
4.	VJ0505D0R5CXP	0.5	± 0.25 pF	250
5.	VJ0505D0R7CXP	0.7	± 0.25 pF	250
6.	VJ0505D1R0CXP	1.0	± 0.25 pF	250
7.	VJ0505D1R2CXP	1.2	± 0.25 pF	250
8.	VJ0505D1R5CXP	1.5	± 0.25 pF	250
9.	VJ0505D1R8CXP	1.8	± 0.25 pF	250
10.	VJ0505D2R0CXP	2.0	± 0.25 pF	250
11.	VJ0505D2R2CXP	2.2	± 0.25 pF	250
12.	VJ0505D2R4CXP	2.4	± 0.25 pF	250
13.	VJ0505D2R7CXP	2.7	± 0.25 pF	250
14.	VJ0505D3R0CXP	3.0	± 0.25 pF	250
15.	VJ0505D3R3CXP	3.3	± 0.25 pF	250
16.	VJ0505D3R9CXP	3.9	± 0.25 pF	250
17.	VJ0505D4R7CXP	4.7	± 0.25 pF	250
18.	VJ0505D5R6CXP	5.6	± 0.25 pF	250
19.	VJ0505D6R8CXP	6.8	± 0.25 pF	250
20.	VJ0505D8R2CXP	8.2	± 0.25 pF	250
21.	VJ0505D100JXP	10.0	± 5 %	250
22.	VJ0505D120JXP	12.0	± 5 %	250
23.	VJ0505D150JXP	15.0	± 5 %	250
24.	VJ0505D180JXP	18.0	± 5 %	250
25.	VJ0505D200JXP	20.0	± 5 %	250
26.	VJ0505D220JXP	22.0	± 5 %	250
27.	VJ0505D240JXP	24.0	± 5 %	250
28.	VJ0505D270JXP	27.0	± 5 %	250
29.	VJ0505D300JXP	30.0	± 5 %	250
30.	VJ0505D330JXP	33.0	± 5 %	250
31.	VJ0505D390JXP	39.0	± 5 %	250
32.	VJ0505D470JXP	47.0	± 5 %	250
33.	VJ0505D560JXP	56.0	± 5 %	250
34.	VJ0505D680JXP	68.0	± 5 %	250
35.	VJ0505D820JXP	82.0	± 5 %	250
36.	VJ0505D101JXC	100.0	± 5 %	200

KIT NUMBER VJ0505DRFTNTKIT PRODUCT FEATURES (1)		
PRODUCT FEATURES		
High Q / low ESR	Non-magnetic and lead (Pb)-free	High series resonant frequency
Stable C0G dielectric	Noble metal electrode system	Low series inductance
High temperature: +175 °C / +200 °C	Vishay Automotive Grade available	Tin / lead terminations available
ELECTRICAL SPECIFICATIONS		
Capacitance range: 0.1 pF to 100 pF	C0G (D:) 0 ppm/°C, ± 30 ppm/°C from -55 °C to +200 °C	
Voltage rating: 25 V_{DC} to 250 V_{DC}	Case size (inches): 0.055 x 0.055 x 0.057	

Note

(1) Refer to the specific VJHIFREQ series datasheet for capacitance value, voltage ratings, and their temperature range

LINKS TO MORE INFORMATION ON VISHAY'S RF MLCCs

- VJHIFREQ High Temperature (HT) series datasheet: www.vishay.com/doc?45239
- VJ HIFREQ Series datasheet: www.vishay.com/doc?45258
- GA….31M, GA….34G Automotive MLCC HIFREQ datasheet: www.vishay.com/doc?45248
- Design Tools S2P files: www.vishay.com/en/how/design-support-tools/
- VJHIFREQ Design Kits: www.vishay.com/doc?45232