Surface Mount Multilayer Ceramic Chip Capacitors for High Temperatures 200 °C

FEATURES

- Case size 0402, 0603, 0805, 1111
- High frequency / high temperature 200 °C
- Ultra-stable dielectric material
- Non-magnetic copper termination “C”
- Lead (Pb)-free terminations code “X”
- Tin / lead termination code “L”
- Epoxy for conductive adhesive mounting code “E”
- Surface mount, wet build process
- Reliable Noble Metal Electrode (NME) system
- Made with a combination of design, materials and tight process control to achieve very high field reliability
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

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

DESIGN TOOLS (click logo to get started)

MVP Modelithics Vendor Partner

APPLICATIONS

- RF and microwave
- Broadband communication
- Satellite communication
- Base stations
- Medical instrumentation and test
- Military devices (radar, communication, etc.)
- Wireless devices

ELECTRICAL SPECIFICATIONS

Note

- Electrical characteristics at 25 °C unless otherwise specified

Operating Temperature: -55 °C to +200 °C

Capacitance Range:

0402: 0.1 pF to 47 pF

0603: 0.1 pF to 270 pF

0805: 0.1 pF to 1000 pF

1111: 0.2 pF to 3300 pF

Voltage Rating: 25 V_{DC} to 500 V_{DC}

Temperature Coefficient of Capacitance (TCC):

C0G (D): 0 ppm/°C ± 30 ppm/°C from -55 °C to +200 °C

Dissipation Factor (DF):

C0G (D): 0.05 % max. at 1.0 V_{RMS} and 1 MHz
for values ≤ 1000 pF

C0G (D): 0.05 % max. at 1.0 V_{RMS} and 1 kHz
for values > 1000 pF

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 +200 °C and rated voltage 10 000 MΩ minimum or 100 ΩF, whichever is less

Dielectric Strength Test:

performed per method 103 of EIA-198-2-E.

Applied test voltages:
≤ 100 V_{DC}-rated: min. 250 % of rated voltage

For technical questions, contact: mlccrf@vishay.com

QUICK REFERENCE DATA

DIELECTRIC	CASE	MAXIMUM VOLTAGE (V)	CAPACITANCE	
			MINIMUM	MAXIMUM
D = HIFREQ	0402	50	0.1 pF	47 pF
	0603	200	0.1 pF	270 pF
	0805	250	0.1 pF	1.0 nF
	1111	500	0.2 pF	3.3 nF

ORDERING INFORMATION

VJ0805	D	2R2	V	X	A	A	C	HT
CASE CODE	DIELECTRIC	CAPACITANCE NOMINAL CODE	CAPACITANCE TOLERANCE	TERMINATION	DC VOLTAGE RATING (1)	MARKING	PACKAGING	PROCESS CODE
0402 0603 0805 1111	D = HIFREQ	Expressed in picofarads (pF). The first two digits are significant, the third is a multiplier. An "R" indicates a decimal point. Examples: 1R0 = 1.0 pF	V = ± 0.05 pF B = ± 0.10 pF C = ± 0.25 pF D = ± 0.50 pF F = ± 1 % G = ± 2 % J = ± 5 % K = ± 10 % M = ± 20 % **Note:** for details see "Selection Chart"	C = non-magnetic copper barrier 100 % tin plate matte finish E = AgPd (2) X = Ni barrier 100 % tin plate matte finish L = Ni barrier with lead plated finish min. 4 % lead	J = 16 V X = 25 V A = 50 V B = 100 V C = 200 V P = 250 V D = 300 V E = 500 V	A = unmarked Q = marked	T = 7" reel / plastic tape C = 7" reel / paper tape O = 7" reel / flamed paper tape J = 7" reel (low quantity) R = 11 1/4 / 13" reel / plastic tape P = 11 1/4 / 13" reel / paper tape I = 11 1/4 / 13" reel / flamed paper tape B = bulk **Note** "I" and "O" is used for "E" termination code	

Notes

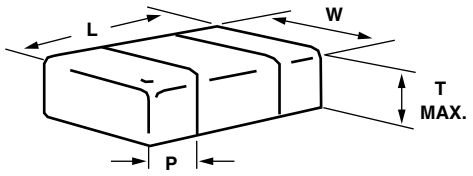
(1) DC voltage rating should not be exceeded in application

(2) Termination code "E" is for conductive epoxy assembly

ENVIRONMENTAL STATUS

TERMINATION CODE	TERMINATION DESCRIPTION	RoHS COMPLIANT	VISHAY GREEN
C	Non-magnetic copper barrier 100 % tin plated matte finish	Yes	Yes
X	Ni barrier 100 % tin plated matte finish	Yes	Yes
E	AgPd	Yes	Yes
L	Ni barrier 100 % tin plated matte finish min. 4 % lead	No	No

DIMENSIONS in inches (millimeters)



CASE CODE	STYLE	LENGTH (L)	WIDTH (W)	MAXIMUM THICKNESS (T)	TERMINATIONS PAD (P)	
					MINIMUM	MAXIMUM (1)
0402	VJ0402	0.040 ± 0.004 (1.02 ± 0.10)	0.020 ± 0.004 (0.51 ± 0.10)	0.021 (0.61)	0.004 (0.10)	0.016 (0.41)
0603	VJ0603	0.063 ± 0.006 (1.60 ± 0.15)	0.031 ± 0.005 (0.80 ± 0.12)	0.037 (0.94)	0.012 (0.30)	0.018 (0.46)
0805	VJ0805	0.079 ± 0.008 (2.00 ± 0.20)	0.049 ± 0.008 (1.25 ± 0.20)	0.057 (1.45)	0.010 (0.25)	0.028 (0.71)
1111	VJ1111	0.117 + 0.020 / - 0.010 (2.98 + 0.51 / - 0.25)	0.110 ± 0.020 (2.79 ± 0.51)	0.102 (2.59)	0.012 (0.30)	0.018 (0.46)

Note

(1) For copper terminations add 0.01 mm to maximum termination pad

SELECTION CHART					
DIELECTRIC (VISHAY CODE)		C0G (D)			
STYLE		VJ0402			TOLERANCE
CASE SIZE		0402			
VOLTAGE (V_{DC})		16	25	50	
VOLTAGE CODE		J	X	A	
CAP. CODE	CAP.				
0R1	0.1 pF	••	••	••	V, B, C, D
0R2	0.2 pF	••	••	••	V, B, C, D
0R3	0.3 pF	••	••	••	V, B, C, D
0R4	0.4 pF	••	••	••	V, B, C, D
0R5	0.5 pF	••	••	••	V, B, C, D
0R6	0.6 pF	••	••	••	V, B, C, D
0R7	0.7 pF	••	••	••	V, B, C, D
0R8	0.8 pF	••	••	••	V, B, C, D
0R9	0.9 pF	••	••	••	V, B, C, D
1R0	1.0 pF	••	••	••	B, C, D
1R1	1.1 pF	••	••	••	B, C, D
1R2	1.2 pF	••	••	••	B, C, D
1R3	1.3 pF	••	••	••	B, C, D
1R4	1.4 pF	••	••	••	B, C, D
1R5	1.5 pF	••	••	••	B, C, D
1R6	1.6 pF	••	••	••	B, C, D
1R7	1.7 pF	••	••	••	B, C, D
1R8	1.8 pF	••	••	••	B, C, D
1R9	1.9 pF	••	••	••	B, C, D
2R0	2.0 pF	••	••	••	B, C, D
2R1	2.1 pF	••	••	••	B, C, D
2R2	2.2 pF	••	••	••	B, C, D
2R4	2.4 pF	••	••	••	B, C, D
2R7	2.7 pF	••	••	••	B, C, D
3R0	3.0 pF	••	••	••	B, C, D
3R3	3.3 pF	••	••	••	B, C, D
3R6	3.6 pF	••	••	••	B, C, D
3R9	3.9 pF	••	••	••	B, C, D
4R3	4.3 pF	••	••	••	B, C, D
4R7	4.7 pF	••	••	••	B, C, D
5R1	5.1 pF	••	••	••	B, C, D
5R6	5.6 pF	••	••	••	B, C, D
6R2	6.2 pF	••	••	••	B, C, D
6R8	6.8 pF	••	••	••	B, C, D
7R5	7.5 pF	••	••	••	B, C, D
8R2	8.2 pF	••	••	••	B, C, D
9R1	9.1 pF	••	••	••	B, C, D

SELECTION CHART					
DIELECTRIC (VISHAY CODE)		C0G (D)			
STYLE		VJ0402			TOLERANCE
CASE SIZE		0402			
VOLTAGE (V_{DC})		16	25	50	
VOLTAGE CODE		J	X	A	
CAP. CODE	CAP.				
100	10 pF	••	••	••	F, G, J, K, M
110	11 pF	••	••	••	F, G, J, K, M
120	12 pF	••	••	••	F, G, J, K, M
130	13 pF	••	••	••	F, G, J, K, M
150	15 pF	••	••	••	F, G, J, K, M
180	18 pF	••	••		F, G, J, K, M
200	20 pF	••	••		F, G, J, K, M
220	22 pF	••	••		F, G, J, K, M
240	24 pF	••	••		F, G, J, K, M
270	27 pF	••	••		F, G, J, K, M
300	30 pF	••			F, G, J, K, M
330	33 pF	••			F, G, J, K, M
360	36 pF	••			F, G, J, K, M
390	39 pF	••			F, G, J, K, M
430	43 pF	••			F, G, J, K, M
470	47 pF	••			F, G, J, K, M
510	51 pF				
560	56 pF				
620	62 pF				

Notes

Green product except for L termination (nickel barrier with lead plating finish)

•• Paper carrier

SELECTION CHART							
DIELECTRIC (VISHAY CODE)		C0G (D)					
STYLE		VJ0603					TOLERANCE
CASE SIZE		0603					
VOLTAGE (V_{DC})		16	25	50	100	200	
VOLTAGE CODE		J	X	A	B	C	
CAP. CODE	CAP.						
0R1	0.1 pF	••	••	••	••	••	V, B, C, D
0R2	0.2 pF	••	••	••	••	••	V, B, C, D
0R3	0.3 pF	••	••	••	••	••	V, B, C, D
0R4	0.4 pF	••	••	••	••	••	V, B, C, D
0R5	0.5 pF	••	••	••	••	••	V, B, C, D
0R6	0.6 pF	••	••	••	••	••	V, B, C, D
0R7	0.7 pF	••	••	••	••	••	V, B, C, D
0R8	0.8 pF	••	••	••	••	••	V, B, C, D
0R9	0.9 pF	••	••	••	••	••	V, B, C, D
1R0	1.0 pF	••	••	••	••	••	V, B, C, D
1R1	1.1 pF	••	••	••	••	••	B, C, D
1R2	1.2 pF	••	••	••	••	••	B, C, D
1R3	1.3 pF	••	••	••	••	••	B, C, D
1R4	1.4 pF	••	••	••	••	••	B, C, D
1R5	1.5 pF	••	••	••	••	••	B, C, D
1R6	1.6 pF	••	••	••	••	••	B, C, D
1R7	1.7 pF	••	••	••	••	••	B, C, D
1R8	1.8 pF	••	••	••	••	••	B, C, D
1R9	1.9 pF	••	••	••	••	••	B, C, D
2R0	2.0 pF	••	••	••	••	••	B, C, D
2R1	2.1 pF	••	••	••	••	••	B, C, D
2R2	2.2 pF	••	••	••	••	••	B, C, D
2R4	2.4 pF	••	••	••	••	••	B, C, D
2R7	2.7 pF	••	••	••	••	••	B, C, D
3R0	3.0 pF	••	••	••	••	••	B, C, D
3R3	3.3 pF	••	••	••	••	••	B, C, D
3R6	3.6 pF	••	••	••	••	••	B, C, D
3R9	3.9 pF	••	••	••	••	••	B, C, D
4R3	4.3 pF	••	••	••	••	••	B, C, D
4R7	4.7 pF	••	••	••	••	••	B, C, D
5R1	5.1 pF	••	••	••	••	••	B, C, D
5R6	5.6 pF	••	••	••	••	••	B, C, D
6R2	6.2 pF	••	••	••	••	••	B, C, D
6R8	6.8 pF	••	••	••	••	••	B, C, D
7R5	7.5 pF	••	••	••	••	••	B, C, D
8R2	8.2 pF	••	••	••	••	••	B, C, D
9R1	9.1 pF	••	••	••	••		B, C, D

SELECTION CHART							
DIELECTRIC (VISHAY CODE)		C0G (D)					
STYLE		VJ0603					TOLERANCE
CASE SIZE		0603					
VOLTAGE (V_{DC})		16	25	50	100	200	
VOLTAGE CODE		J	X	A	B	C	
CAP. CODE	CAP.						
100	10 pF	••	••	••	••		F, G, J, K, M
110	11 pF	••	••	••	••		F, G, J, K, M
120	12 pF	••	••	••	••		F, G, J, K, M
130	13 pF	••	••	••	••		F, G, J, K, M
150	15 pF	••	••	••	••		F, G, J, K, M
180	18 pF	••	••	••	••		F, G, J, K, M
200	20 pF	••	••	••	••		F, G, J, K, M
220	22 pF	••	••	••	••		F, G, J, K, M
240	24 pF	••	••	••	••		F, G, J, K, M
270	27 pF	••	••	••	••		F, G, J, K, M
300	30 pF	••	••	••	••		F, G, J, K, M
330	33 pF	••	••	••	••		F, G, J, K, M
360	36 pF	••	••	••	••		F, G, J, K, M
390	39 pF	••	••	••	••		F, G, J, K, M
430	43 pF	••	••	••	••		F, G, J, K, M
470	47 pF	••	••	••	••		F, G, J, K, M
510	51 pF	••	••	••			F, G, J, K, M
560	56 pF	••	••	••			F, G, J, K, M
620	62 pF	••	••	••			F, G, J, K, M
680	68 pF	••	••	••			F, G, J, K, M
750	75 pF	••	••	••			F, G, J, K, M
820	82 pF	••	••	••			F, G, J, K, M
910	91 pF	••	••	••			F, G, J, K, M
101	100 pF	••	••	••			F, G, J, K, M
111	110 pF	••	••				F, G, J, K, M
121	120 pF	••	••				F, G, J, K, M
131	130 pF	••	••				F, G, J, K, M
151	150 pF	••	••				F, G, J, K, M
181	180 pF	••					F, G, J, K, M
201	200 pF	••					F, G, J, K, M
221	220 pF	••					F, G, J, K, M
241	240 pF	••					F, G, J, K, M
271	270 pF	••					F, G, J, K, M
301	300 pF						
331	330 pF						

Notes

Green product except for L termination (nickel barrier with lead plating finish)

•• Paper carrier

SELECTION CHART

DIELECTRIC (VISHAY CODE)		C0G (D)						
STYLE		VJ0805						TOLERANCE
CASE SIZE		0805						
VOLTAGE (V_{DC})		16	25	50	100	200	250	
VOLTAGE CODE		J	X	A	B	C	P	
CAP. CODE	CAP.							
0R1	0.1 pF	•	•	•	•	•	•	V, B, C, D
0R2	0.2 pF	•	•	•	•	•	•	V, B, C, D
0R3	0.3 pF	•	•	•	•	•	•	V, B, C, D
0R4	0.4 pF	•	•	•	•	•	•	V, B, C, D
0R5	0.5 pF	•	•	•	•	•	•	V, B, C, D
0R6	0.6 pF	•	•	•	•	•	•	V, B, C, D
0R7	0.7 pF	•	•	•	•	•	•	V, B, C, D
0R8	0.8 pF	•	•	•	•	•	•	V, B, C, D
0R9	0.9 pF	•	•	•	•	•	•	V, B, C, D
1R0	1.0 pF	•	•	•	•	•	•	V, B, C, D
1R1	1.1 pF	•	•	•	•	•	•	B, C, D
1R2	1.2 pF	•	•	•	•	•	•	B, C, D
1R3	1.3 pF	•	•	•	•	•	•	B, C, D
1R4	1.4 pF	•	•	•	•	•	•	B, C, D
1R5	1.5 pF	•	•	•	•	•	•	B, C, D
1R6	1.6 pF	•	•	•	•	•	•	B, C, D
1R7	1.7 pF	•	•	•	•	•	•	B, C, D
1R8	1.8 pF	•	•	•	•	•	•	B, C, D
1R9	1.9 pF	•	•	•	•	•	•	B, C, D
2R0	2.0 pF	•	•	•	•	•	•	B, C, D
2R1	2.1 pF	•	•	•	•	•	•	B, C, D
2R2	2.2 pF	•	•	•	•	•	•	B, C, D
2R4	2.4 pF	•	•	•	•	•	•	B, C, D
2R7	2.7 pF	•	•	•	•	•	•	B, C, D
3R0	3.0 pF	•	•	•	•	•	•	B, C, D
3R3	3.3 pF	•	•	•	•	•	•	B, C, D
3R6	3.6 pF	•	•	•	•	•	•	B, C, D
3R9	3.9 pF	•	•	•	•	•	•	B, C, D
4R3	4.3 pF	•	•	•	•	•	•	B, C, D
4R7	4.7 pF	•	•	•	•	•	•	B, C, D
5R1	5.1 pF	•	•	•	•	•	•	B, C, D
5R6	5.6 pF	•	•	•	•	•	•	B, C, D
6R2	6.2 pF	•	•	•	•	•	•	B, C, D
6R8	6.8 pF	•	•	•	•	•	•	B, C, D
7R5	7.5 pF	•	•	•	•	•	•	B, C, D
8R2	8.2 pF	•	•	•	•	•	•	B, C, D
9R1	9.1 pF	•	•	•	•	•	•	B, C, D
100	10 pF	•	•	•	•	•	•	F, G, J, K, M
110	11 pF	•	•	•	•	•	•	F, G, J, K, M
120	12 pF	•	•	•	•	•	•	F, G, J, K, M
130	13 pF	•	•	•	•	•	•	F, G, J, K, M
150	15 pF	•	•	•	•	•	•	F, G, J, K, M
180	18 pF	•	•	•	•	•	•	F, G, J, K, M
200	20 pF	•	•	•	•	•	•	F, G, J, K, M
220	22 pF	•	•	•	•	•	•	F, G, J, K, M

SELECTION CHART

DIELECTRIC (VISHAY CODE)		C0G (D)						
STYLE		VJ0805						TOLERANCE
CASE SIZE		0805						
VOLTAGE (V_{DC})		16	25	50	100	200	250	
VOLTAGE CODE		J	X	A	B	C	P	
CAP. CODE	CAP.							
240	24 pF	•	•	•	•	•	•	F, G, J, K, M
270	27 pF	•	•	•	•	•	•	F, G, J, K, M
300	30 pF	•	•	•	•	•	•	F, G, J, K, M
330	33 pF	•	•	•	•	•	•	F, G, J, K, M
360	36 pF	•	•	•	•	•	•	F, G, J, K, M
390	39 pF	•	•	•	•	•	•	F, G, J, K, M
430	43 pF	•	•	•	•	•	•	F, G, J, K, M
470	47 pF	•	•	•	•	•	•	F, G, J, K, M
510	51 pF	•	•	•	•	•	•	F, G, J, K, M
560	56 pF	•	•	•	•	•	•	F, G, J, K, M
620	62 pF	•	•	•	•	•	•	F, G, J, K, M
680	68 pF	•	•	•	•	•		F, G, J, K, M
750	75 pF	•	•	•	•	•		F, G, J, K, M
820	82 pF	•	•	•	•			F, G, J, K, M
910	91 pF	•	•	•	•			F, G, J, K, M
101	100 pF	•	•	•	•			F, G, J, K, M
111	110 pF	•	•	•	•			F, G, J, K, M
121	120 pF	•	•	•	•			F, G, J, K, M
131	130 pF	•	•	•	•			F, G, J, K, M
151	150 pF	•	•	•	•			F, G, J, K, M
181	180 pF	•	•	•	•			F, G, J, K, M
201	200 pF	•	•	•	•			F, G, J, K, M
221	220 pF	•	•	•	•			F, G, J, K, M
241	240 pF	•	•	•	•			F, G, J, K, M
271	270 pF	•	•	•				F, G, J, K, M
301	300 pF	•	•	•				F, G, J, K, M
331	330 pF	•	•	•				F, G, J, K, M
361	360 pF	•	•	•				F, G, J, K, M
391	390 pF	•	•	•				F, G, J, K, M
431	430 pF	•	•	•				F, G, J, K, M
471	470 pF	•	•	•				F, G, J, K, M
511	510 pF	•	•	•				F, G, J, K, M
561	560 pF	•	•					F, G, J, K, M
621	620 pF	•	•					F, G, J, K, M
681	680 pF	•	•					F, G, J, K, M
751	750 pF	•						F, G, J, K, M
821	820 pF	•						F, G, J, K, M
911	910 pF	•						F, G, J, K, M
102	1000 pF	•						F, G, J, K, M
112	1100 pF							
122	1200 pF							
132	1300 pF							
152	1500 pF							

Notes

Green product except for L termination (nickel barrier with lead plating finish)

• Plastic carrier tape

SELECTION CHART							
DIELECTRIC (VISHAY CODE)		C0G (D)					
STYLE		VJ1111					TOLERANCE
CASE SIZE		1111					
VOLTAGE (V_{DC})		50	100	200	300	500	
VOLTAGE CODE		A	B	C	D	E	
CAP. CODE	CAP.						
0R2	0.2 pF	•	•	•	•	•	V, B, C, D
0R3	0.3 pF	•	•	•	•	•	V, B, C, D
0R4	0.4 pF	•	•	•	•	•	V, B, C, D
0R5	0.5 pF	•	•	•	•	•	V, B, C, D
0R6	0.6 pF	•	•	•	•	•	V, B, C, D
0R7	0.7 pF	•	•	•	•	•	V, B, C, D
0R8	0.8 pF	•	•	•	•	•	V, B, C, D
0R9	0.9 pF	•	•	•	•	•	V, B, C, D
1R0	1.0 pF	•	•	•	•	•	V, B, C, D
1R1	1.1 pF	•	•	•	•	•	B, C, D
1R2	1.2 pF	•	•	•	•	•	B, C, D
1R3	1.3 pF	•	•	•	•	•	B, C, D
1R4	1.4 pF	•	•	•	•	•	B, C, D
1R5	1.5 pF	•	•	•	•	•	B, C, D
1R6	1.6 pF	•	•	•	•	•	B, C, D
1R7	1.7 pF	•	•	•	•	•	B, C, D
1R8	1.8 pF	•	•	•	•	•	B, C, D
1R9	1.9 pF	•	•	•	•	•	B, C, D
2R0	2.0 pF	•	•	•	•	•	B, C, D
2R1	2.1 pF	•	•	•	•	•	B, C, D
2R2	2.2 pF	•	•	•	•	•	B, C, D
2R4	2.4 pF	•	•	•	•	•	B, C, D
2R7	2.7 pF	•	•	•	•	•	B, C, D
3R0	3.0 pF	•	•	•	•	•	B, C, D
3R3	3.3 pF	•	•	•	•	•	B, C, D
3R6	3.6 pF	•	•	•	•	•	B, C, D
3R9	3.9 pF	•	•	•	•	•	B, C, D
4R3	4.3 pF	•	•	•	•	•	B, C, D
4R7	4.7 pF	•	•	•	•	•	B, C, D
5R1	5.1 pF	•	•	•	•	•	B, C, D
5R6	5.6 pF	•	•	•	•	•	B, C, D
6R2	6.2 pF	•	•	•	•	•	B, C, D
6R8	6.8 pF	•	•	•	•	•	B, C, D
7R5	7.5 pF	•	•	•	•	•	B, C, D
8R2	8.2 pF	•	•	•	•	•	B, C, D
9R1	9.1 pF	•	•	•	•	•	B, C, D
100	10 pF	•	•	•	•	•	F, G, J, K, M
110	11 pF	•	•	•	•	•	F, G, J, K, M
120	12 pF	•	•	•	•	•	F, G, J, K, M
130	13 pF	•	•	•	•	•	F, G, J, K, M
150	15 pF	•	•	•	•	•	F, G, J, K, M
160	16 pF	•	•	•	•	•	F, G, J, K, M
180	18 pF	•	•	•	•	•	F, G, J, K, M
200	20 pF	•	•	•	•	•	F, G, J, K, M
220	22 pF	•	•	•	•	•	F, G, J, K, M
240	24 pF	•	•	•	•	•	F, G, J, K, M
270	27 pF	•	•	•	•	•	F, G, J, K, M
300	30 pF	•	•	•	•	•	F, G, J, K, M
330	33 pF	•	•	•	•	•	F, G, J, K, M
360	36 pF	•	•	•	•	•	F, G, J, K, M

SELECTION CHART

DIELECTRIC (VISHAY CODE)		C0G (D)					
STYLE		VJ1111					TOLERANCE
CASE SIZE		1111					
VOLTAGE (V_{DC})		50	100	200	300	500	
VOLTAGE CODE		A	B	C	D	E	
CAP. CODE	CAP.						
390	39 pF	•	•	•	•	•	F, G, J, K, M
430	43 pF	•	•	•	•	•	F, G, J, K, M
470	47 pF	•	•	•	•	•	F, G, J, K, M
510	51 pF	•	•	•	•	•	F, G, J, K, M
560	56 pF	•	•	•	•	•	F, G, J, K, M
620	62 pF	•	•	•	•	•	F, G, J, K, M
680	68 pF	•	•	•	•	•	F, G, J, K, M
750	75 pF	•	•	•	•	•	F, G, J, K, M
820	82 pF	•	•	•	•	•	F, G, J, K, M
910	91 pF	•	•	•	•	•	F, G, J, K, M
101	100 pF	•	•	•	•	•	F, G, J, K, M
111	110 pF	•	•	•	•	•	F, G, J, K, M
121	120 pF	•	•	•	•	•	F, G, J, K, M
131	130 pF	•	•	•	•	•	F, G, J, K, M
151	150 pF	•	•	•	•	•	F, G, J, K, M
161	160 pF	•	•	•	•	•	F, G, J, K, M
181	180 pF	•	•	•	•	•	F, G, J, K, M
201	200 pF	•	•	•	•	•	F, G, J, K, M
221	220 pF	•	•	•	•	•	F, G, J, K, M
240	240 pF	•	•	•	•	•	F, G, J, K, M
271	270 pF	•	•	•	•	•	F, G, J, K, M
301	300 pF	•	•	•	•	•	F, G, J, K, M
331	330 pF	•	•	•	•	•	F, G, J, K, M
361	360 pF	•	•	•	•	•	F, G, J, K, M
391	390 pF	•	•	•	•	•	F, G, J, K, M
431	430 pF	•	•	•	•		F, G, J, K, M
471	470 pF	•	•	•	•		F, G, J, K, M
511	510 pF	•	•	•	•		F, G, J, K, M
561	560 pF	•	•	•			F, G, J, K, M
621	620 pF	•	•	•			F, G, J, K, M
751	750 pF	•	•	•			F, G, J, K, M
821	820 pF	•	•	•			F, G, J, K, M
911	910 pF	•	•	•			F, G, J, K, M
102	1000 pF	•	•	•			F, G, J, K, M
112	1100 pF	•	•				F, G, J, K, M
122	1200 pF	•	•				F, G, J, K, M
132	1300 pF	•	•				F, G, J, K, M
152	1500 pF	•	•				F, G, J, K, M
162	1600 pF	•	•				F, G, J, K, M
182	1800 pF	•	•				F, G, J, K, M
202	2000 pF	•	•				F, G, J, K, M
222	2200 pF	•					F, G, J, K, M
242	2400 pF	•					F, G, J, K, M
272	2700 pF	•					F, G, J, K, M
302	3000 pF	•					F, G, J, K, M
332	3300 pF	•					F, G, J, K, M

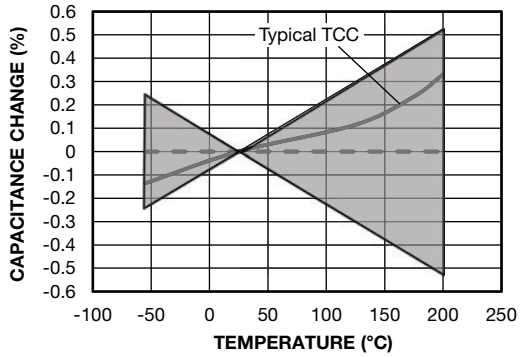
Notes

Green product except for L termination (nickel barrier with lead plating finish)

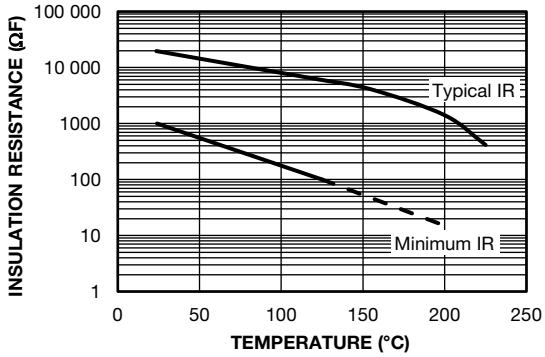
• Plastic carrier tape

HIGH FREQ HT DIELECTRIC - TYPICAL PARAMETERS

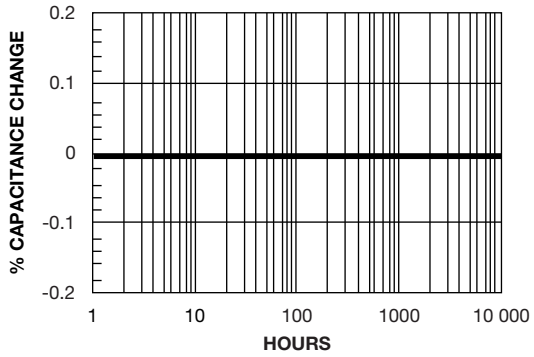
TEMPERATURE COEFFICIENT OF CAPACITANCE



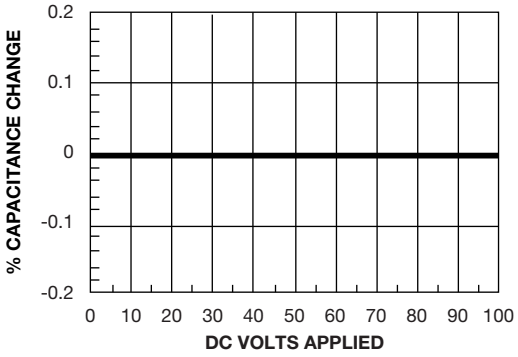
INSULATION RESISTANCE VS. TEMPERATURE



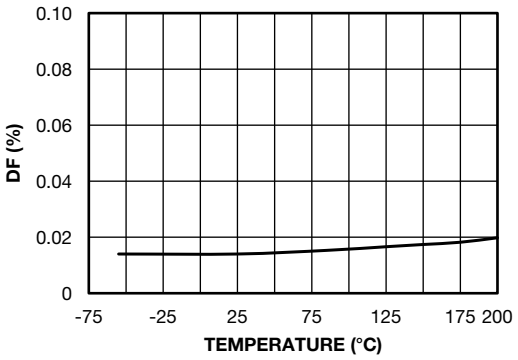
AGING RATE



VOLTAGE COEFFICIENT OF CAPACITANCE

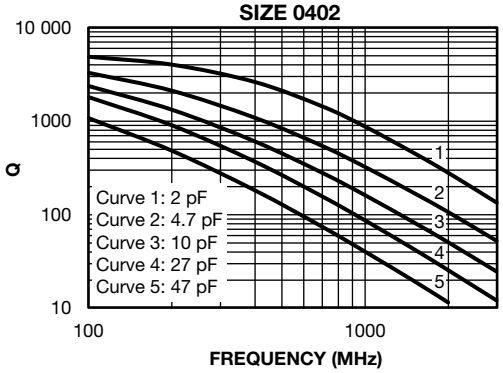


TYPICAL DISSIPATION FACTOR

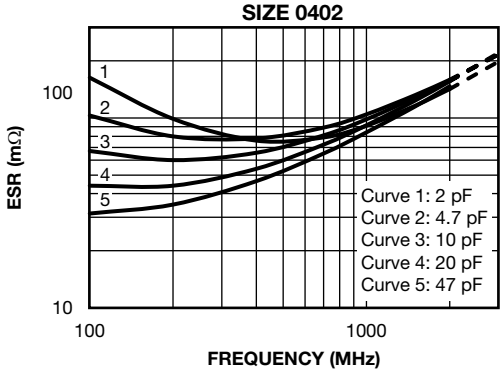


HIGH FREQ HT DIELECTRIC - TYPICAL PARAMETERS

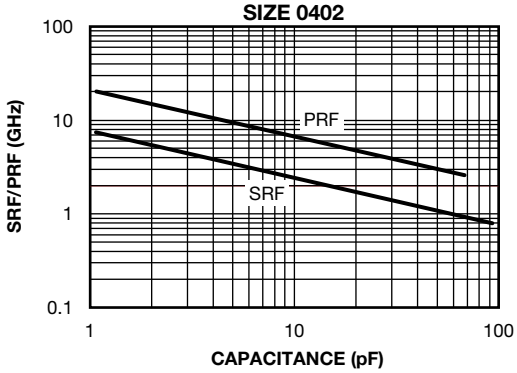
TYPICAL Q VALUE VS. FREQUENCY
SIZE 0402



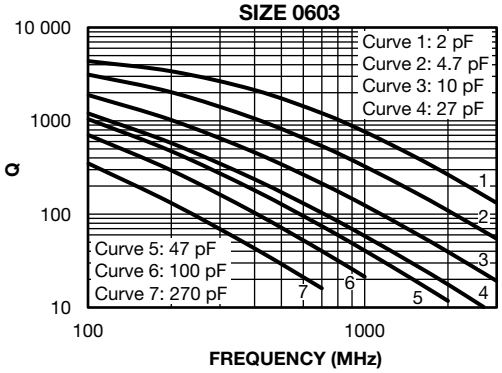
TYPICAL ESR VS. FREQUENCY
SIZE 0402



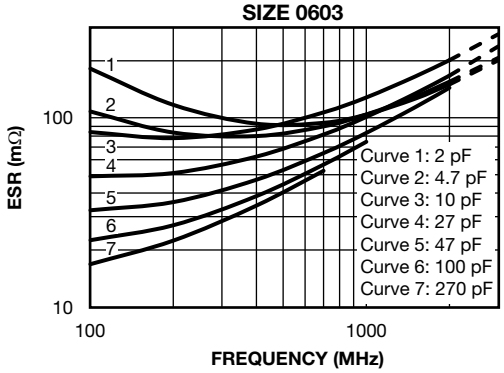
TYPICAL SRF/PRF VS. CAPACITANCE
SIZE 0402



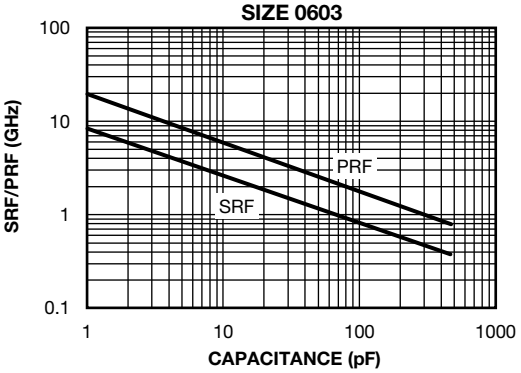
TYPICAL Q VALUE VS. FREQUENCY
SIZE 0603



TYPICAL ESR VS. FREQUENCY
SIZE 0603

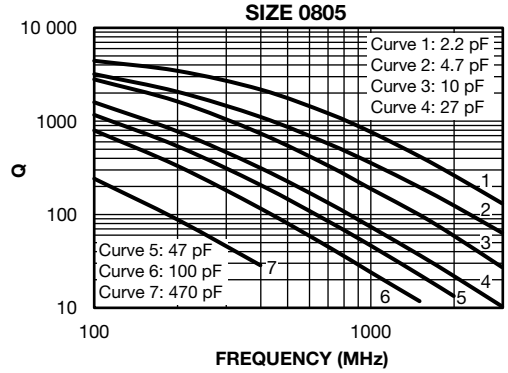


TYPICAL SRF/PRF VS. CAPACITANCE
SIZE 0603

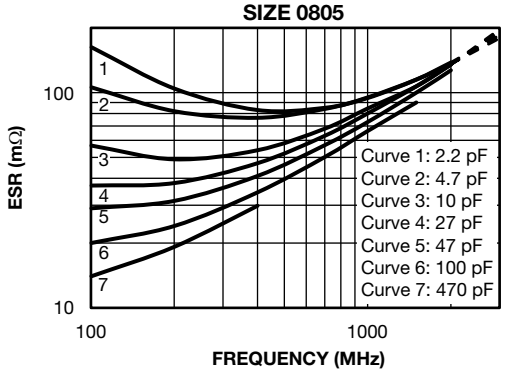


HIGH FREQ HT DIELECTRIC - TYPICAL PARAMETERS

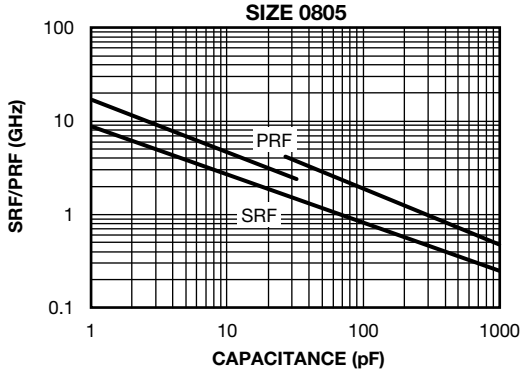
TYPICAL Q VALUE VS. FREQUENCY
SIZE 0805



TYPICAL ESR VS. FREQUENCY
SIZE 0805



TYPICAL SRF/PRF VS. CAPACITANCE
SIZE 0805



STANDARD PACKAGING QUANTITIES (1)(2)(3)

CASE CODE	TAPE SIZE	7" REEL QUANTITIES			11 1/4" AND 13" REEL QUANTITIES	
		PAPER TAPE PACKAGING CODE "C" / "O"	PLASTIC TAPE PACKAGING CODE "T"	LOW QUANTITY "J" (5)	PAPER TAPE PACKAGING CODE "P" / "I"	PLASTIC TAPE PACKAGING CODE "R"
0402	8 mm	5000	n/a	1000	10 000	n/a
0603 (4)	8 mm	4000	4000	1000	10 000	10 000
0805 (4)	8 mm	3000	3000	1000	10 000	10 000
1111	8 mm	n/a	2500	1000	n/a	9000

Notes
(1) Vishay Vitramon uses embossed plastic carrier tape
(2) REFERENCE: EIA standard RS 481 - "Taping of Surface Mount Components for Automatic Placement"
(3) n/a = not available
(4) Packaging "C" / "P" / "O" / "I" and "T" / "R" or lower quantities can depend from product thickness
(5) Paper/plastic tape used by availability

STORAGE AND HANDLING CONDITIONS

(1) Store the components at 5 °C to +40 °C ambient temperature and ≤ 70 % relative humidity conditions.
(2) The product is recommended to be used within a time-frame of 2 years after shipment.
Check solderability in case extended shelf life beyond the expiry date is needed.

Precautions:
a. Do not store products in an environment containing corrosive elements, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are present. This may cause corrosion or oxidization of the terminations, which can easily lead to poor soldering.
b. Store products on the shelf and avoid exposure to moisture or dust.
c. Do not expose products to excessive shock, vibration, direct sunlight and so on.

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