HH series
High Q & Low ESR capacitor series

Features
» High Q and Low ESR performance at high frequency
» Quality improvement of telephone calls for low power loss and better performance

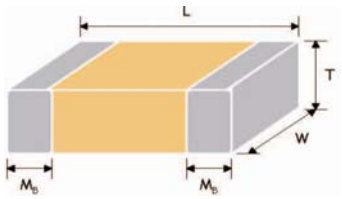
Applications
» Mobile telecommunication: Mobile phone, WLAN
» RF module: Power amplifier, VCO
» Tuners

Part Number

HH	0402	N	100	J	101
Series	Size	Dielectric	Capacitance	Tolerance	Rated voltage
	Inch:	N: NPO	Two significant digits followed by no. of zeros	B=±0.1pF	Two significant digits followed no. of zeros
	0402	(C0G)	and P is in place of decimal point	C=±0.25pF	and V is in place of decimal point
	0603			D=±0.5pF	
	0805		Eg.:	F=±1%	160 = 16 VDC
			0P47 = 0.47pF	G=±2%	250 = 25 VDC
			0P5 = 0.5pF	J=±5%	500 = 50 VDC
			1P0 = 1.0pF		101 = 100 VDC
			100 = $10x10^0$		201 = 200 VDC
			= 10pF		251 = 250 VDC
					501 = 500 VDC
					631 = 630 VDC

External Dimensions

Size	L (mm)	W (mm)	T (mm)	M_B (mm)
0402	1.00±0.05	0.50±0.05	0.50±0.05	0.25 +0.05/-0.10
0603	1.60±0.10	0.80±0.10	0.80±0.07	0.40±0.15
	1.60+0.15/-0.10	0.80+0.15/-0.10	0.80+0.15/-0.10	
0805	2.00±0.15	1.25±0.10	0.60±0.10	0.50±0.20
			0.80±0.10	
			1.25±0.10	



General Electrical Data

Dielectric	NPO
Size	0402, 0603, 0805
Capacitance*	0402: 0.5pF to 470pF 0603: 0.5pF to 3300pF 0805: 0.5pF to 390pF
Capacitance tolerance	Cap≤5pF: B (±0.1pF), C (±0.25pF) 5pF<Cap<10pF: C (±0.25pF), D (±0.5pF) Cap≥10pF: F (±1%), G (±2%), J(±5%)
Rated voltage (WVDC)	16V, 25V, 50V, 100V, 250V, 500V, 630V
Q*	Cap<30pF: Q≥400+20C Cap≥30pF, Q≥1000
Insulation resistance at U_R	≥10GΩ or R x C≥100Ω-F whichever is smaller.
Operating temperature	-55 to +125°C
Capacitance change	±30ppm
Termination	Ni/Sn (lead-free termination)

* Measured at the conditions of 25°C ambient temperature and 30~70% related humidity.
Apply 1.0±0.2Vrms, 1.0MHz±10% for Cap≤1000pF and 1.0±0.2Vrms, 1.0kHz±10% for Cap>1000pF.

** 0402, Capacitance<0.5pF: On request.

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◆ Capacitance Range

Dielectric		NPO (C0G)												
Size		0402			0603				0805					
Rated Voltage		16	25	50	16	25	50	100	50	100	200	250	500	630
Capacitance	0.5pF (0P5)													
	0.6pF (0P6)													
	0.7pF (0P7)													
	0.8pF (0P8)													
	0.9pF (0P9)													
	1.0pF (1P0)													
	1.2pF (1P2)													
	1.5pF (1P5)													
	1.8pF (1P8)													
	2.2pF (2P2)													
	2.7pF (2P7)													
	3.3pF (3P3)													
	3.9pF (3P9)													
	4.7pF (4P7)													
	5.6pF (5P6)													
	6.8pF (6P8)													
	8.2pF (8P2)													
	10pF (100)													
	12pF (120)													
	15pF (150)													
	18pF (180)													
	22pF (220)													
	27pF (270)													
	33pF (330)													
	39pF (390)													
	47pF (470)													
	56pF (560)													
	68pF (680)													
	82pF (820)													
	100pF (101)													
	120pF (121)													
	150pF (151)													
	180pF (181)													
	220pF (221)													
	270pF (271)													
	330pF (331)													
	390pF (391)													
	470pF (471)													
	560pF (561)													
	680pF (681)													
	820pF (821)													
	1000pF (102)													
	1200pF (122)													
	1500pF (152)													
	1800pF (182)													
	2200pF (222)													
	2700pF (272)													
	3300pF (332)													

* 0402, capacitance < 0.5pF: on request

** For more information about product with special capacitance or other data, please contact Faithful Link.

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◆ Electrical Characteristics

Q factor specification vs. Specific frequency

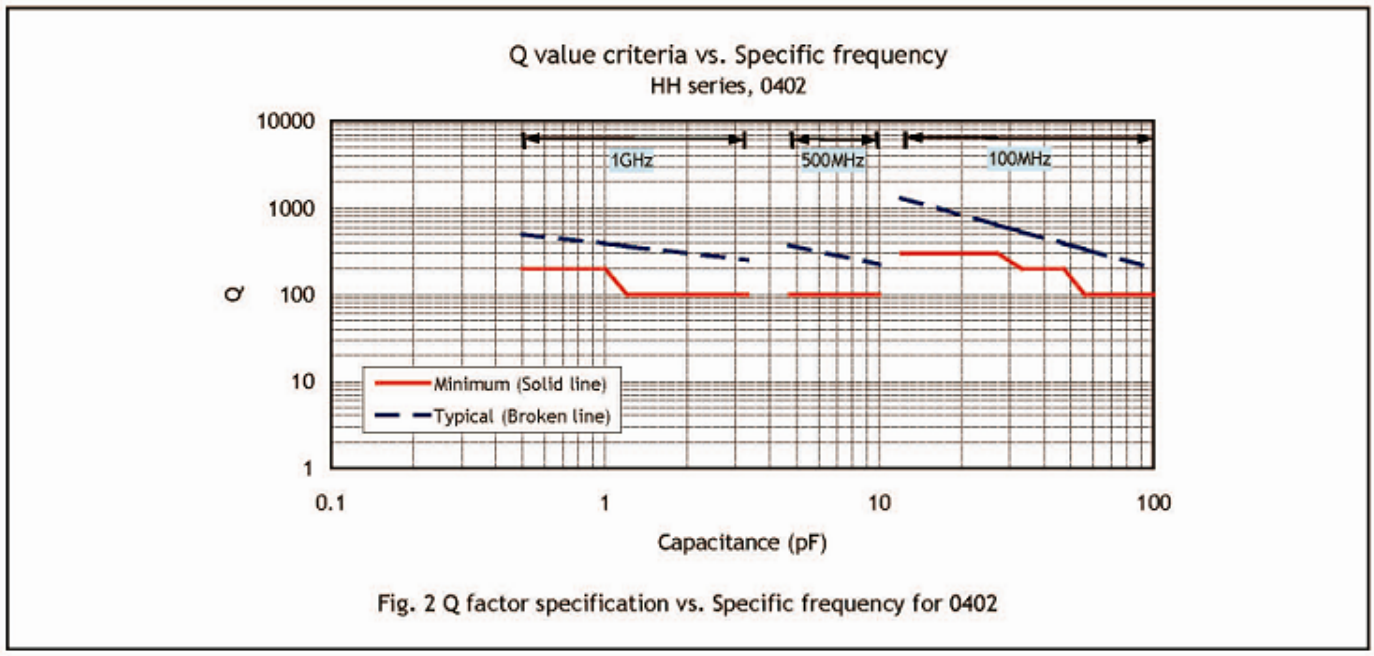

Fig. 2 Q factor specification vs. Specific frequency for 0402

Typical ESR vs. Frequency

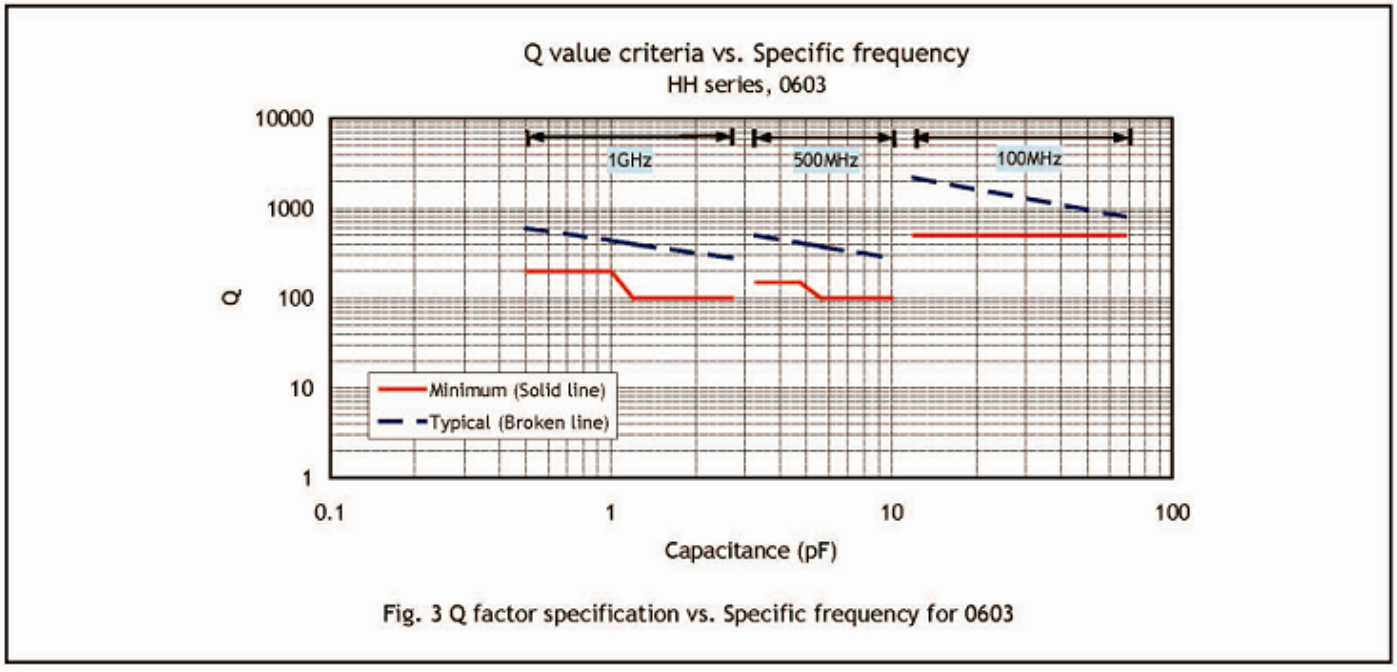

Fig. 3 Q factor specification vs. Specific frequency for 0603

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Typical ESR vs. Frequency

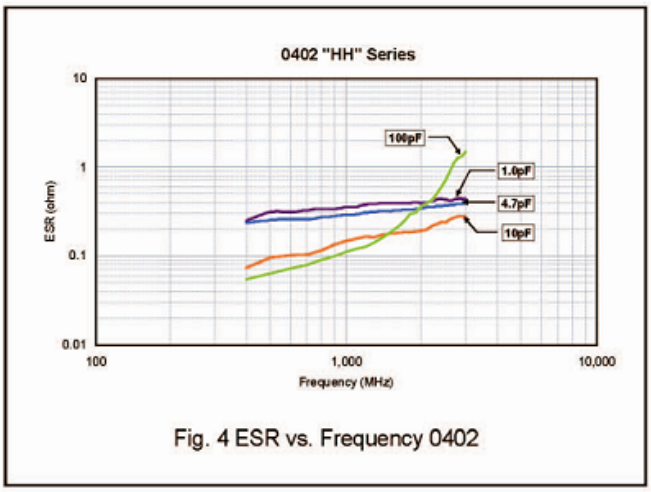

Fig. 4 ESR vs. Frequency 0402

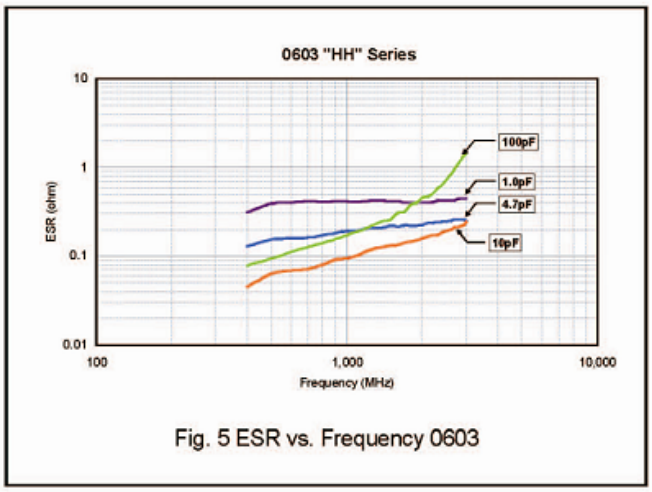

Fig. 5 ESR vs. Frequency 0603

Typical Impedance vs. Frequency

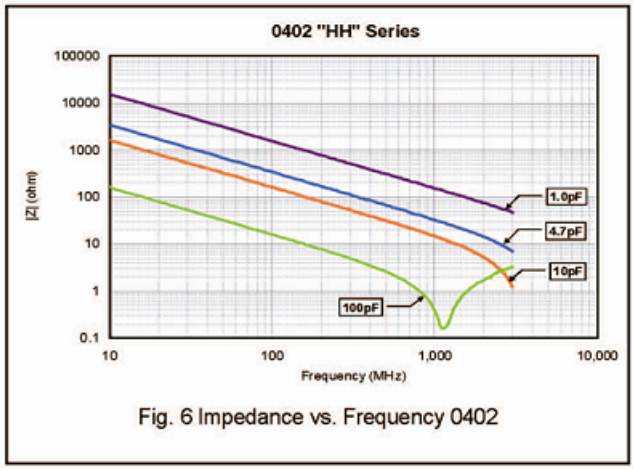

Fig. 6 Impedance vs. Frequency 0402

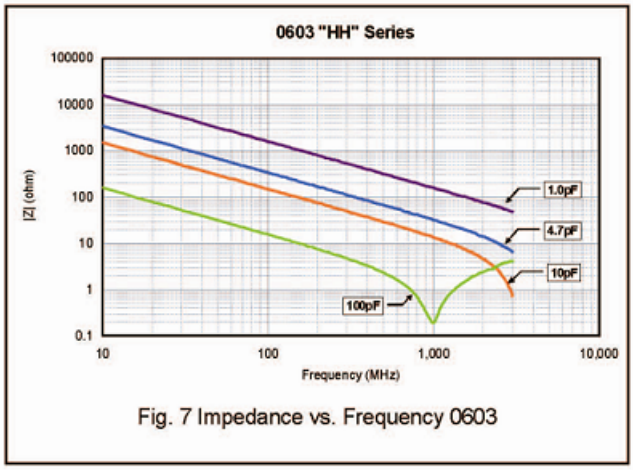

Fig. 7 Impedance vs. Frequency 0603

Typical Impedance vs. Frequency

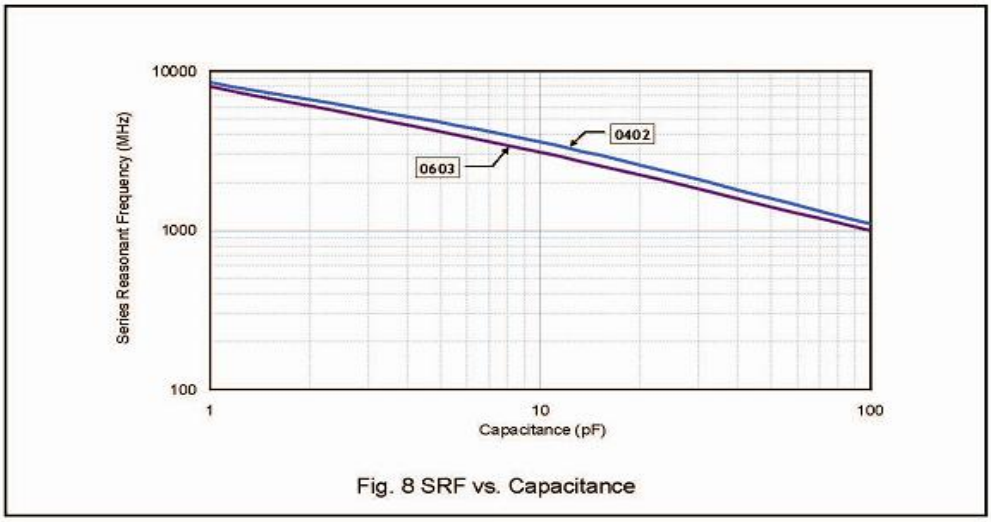

Fig. 8 SRF vs. Capacitance

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