

# SMD HIGH-Q RF CAPACITOR – JYU

## FEATURES

- Serialized in size, suitable for surface-mounted elements in hybrid integrated circuits and printed circuits
- High Q value, low ESR, high reliability
- Low loss, high capacitance stability, working frequency up to 3GHz
- Applicable for HF circuits, VHF-microwave circuits, RF circuits and amplifier circuits in various devices



## Performance

TEMPERATURE COEFFICIENT	COG: 0±30ppm/°C
CAPACITANCE DRIFT	No more than ±0.2% or ±0.05pF, whichever is larger
QUALITY FACTOR (Q VALUE)	Over 2000 at 1MHz/1KHz
INSULATION RESISTANCE	At 20°C C: ≥10000MΩ
WORKING TEMPERATURE	-55°C~125°C

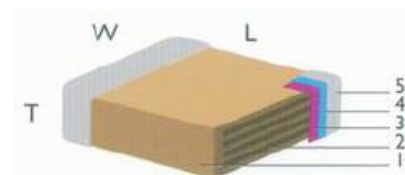
## Outside Dimensions



Model		Size (mm)			
Imperial	Metric	L		W	T max
0603	1608	1.52±0.25		0.76±0.25	1.01
0805	2012	2.00±0.25		1.25±0.25	1.45
0505	1212	1.40	+0.38 -0.25	1.40±0.38	1.45
1111	2828	2.79	+0.51 -0.25	2.79±0.38	2.59
2525	6363	5.84	+0.51 -0.25	6.35±0.38	3.68
3838	9696	9.65	+0.38 -0.25	8.89±0.25	4.50

Note: Products can be customized according to special requirements.

SN	Name
1	Ceramic dielectric
2	Inner electrode
3	Outer electrode
4	Nickel layer
5	Tin layer



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## Capacitance Range

**0603 Capacitance Table**

Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)
0.1	±0.10pF, ±0.25pF	250	1.7	±0.10pF, ±0.25pF, ±0.50pF	250	6.2	±0.10pF, ±0.25pF, ±0.50pF	250	30	±1.0%, ±2.0%, ±5.0%, ±10%, ±20%	250
0.2			1.8			6.8			33		
0.3			1.9			7.5			36		
0.4			2.0			8.2			39		
0.5			2.1			9.1			43		
0.6	2.2		10			47					
0.7	2.4		11			51					
0.8	2.7		12			56					
0.9	3.0		13			62					
1.0	3.3		15			68					
1.1	3.6		16			75					
1.2	3.9		18			82					
1.3	4.3		20			91					
1.4	4.7		22			100					
1.5	5.1		24			120					
1.6	5.6	27									

**0805 Capacitance Table**

Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)
0.2	±0.10pF, ±0.25pF	250	1.9	±0.10pF, ±0.25pF, ±0.50pF	250	9.1	±0.10pF, ±0.25pF	250	51	±1.0%, ±2.0%, ±5.0%, ±10%, ±20%	250
0.3			2.0			10			56		
0.4			2.1			11			62		
0.5			2.2			12			68		
0.6			2.4			13			75		
0.7	2.7		15			82					
0.8	3.0		16			91					
0.9	3.3		18			100					
1.0	3.6		20			110					
1.1	3.9		22			120					
1.2	4.3		24			130					
1.3	4.7		27			150					
1.4	5.1		30			160					
1.5	5.6		33			180					
1.6	6.2		36			200					
1.7	6.8		39			220					
1.8	7.5		43			240					
	8.2		47								

**0505 Capacitance Table**

Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)
0.2	±0.10pF, ±0.25pF	250	1.9	±0.10pF, ±0.25pF, ±0.50pF	250	9.1	±0.10pF, ±0.25pF	250	51	±1.0%, ±2.0%, ±5.0%, ±10%, ±20%	250
0.3			2.0			10			56		
0.4			2.1			11			62		
0.5			2.2			12			68		
0.6			2.4			13			75		
0.7	2.7		15			82					
0.8	3.0		16			91					
0.9	3.3		18			100					
1.0	3.6		20			110					
1.1	3.9		22			120					
1.2	4.3		24			130					
1.3	4.7		27			150					
1.4	5.1		30			160					
1.5	5.6		33			180					
1.6	6.2		36			200					
1.7	6.8		39			220					
1.8	7.5		43								
	8.2		47								

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## Capacitance Range

**1111 Capacitance Table**

Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)		
0.2	±0.10pF, ±0.25pF	1500	2.4	±0.10pF, ±0.25pF, ±0.50pF	1500	20	±1.0%, ±2.0%, ±5.0%, ±10%, ±20%	1500	150	±1.0%, ±2.0%, ±5.0%, ±10%, ±20%	500		
0.3			2.7			22			160				
0.4	3.0		24			180							
0.5	3.3		27			200							
0.6	3.6		30			220							
0.7	3.9		33			240							
0.8	4.3		36			270							
0.9	4.7		39			300							
1.0	5.1		43			330							
1.1	5.6		47			360							
1.2	6.2		51	390									
1.3	±0.10pF, ±0.25pF, ±0.50pF		56	430		1000			470			±1.0%, ±2.0%, ±5.0%, ±10%, ±20%	250
1.4			7.5	62					510				
1.5			8.2	68					560				
1.6			9.1	75					620				
1.7		10	82	680									
1.8	11	91	750	500	820	150							
1.9	12	100	910										
2.0	13	110	120	500	1000	100							
2.1	15	120	130										
2.2	16	18	130										

**2525 Capacitance Table**

Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)		
1.0	±0.10pF, ±0.25pF	3600	5.1	±0.10pF, ±0.25pF, ±0.50pF	3600	36	±1.0%, ±2.0%, ±5.0%, ±10%, ±20%	3600	240	±1.0%, ±2.0%, ±5.0%, ±10%, ±20%	2000		
1.1			5.6			39			270				
1.2			6.2			43			300				
1.3	6.8		47			330							
1.4	7.5		51			360							
1.5	8.2		56	390									
1.6	9.1		62	430		2000			470			±1.0%, ±2.0%, ±5.0%, ±10%, ±20%	1000
1.7	10		68	510									
1.8	11		75	560									
1.9	12		82	620									
2.0	13		91	680									
2.1	±0.10pF, ±0.25pF, ±0.50pF		15	100		2000			750			±1.0%, ±2.0%, ±5.0%, ±10%, ±20%	500
2.2			16	110					820				
2.4			18	120					910				
2.7			20	130					1000				
3.0		22	150	1100									
3.3		24	160	1200									
3.6		27	180	1500									
3.9		30	200	1800									
4.3		33	33	220									
4.7													

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## Capacitance Range

3838 Capacitance Table

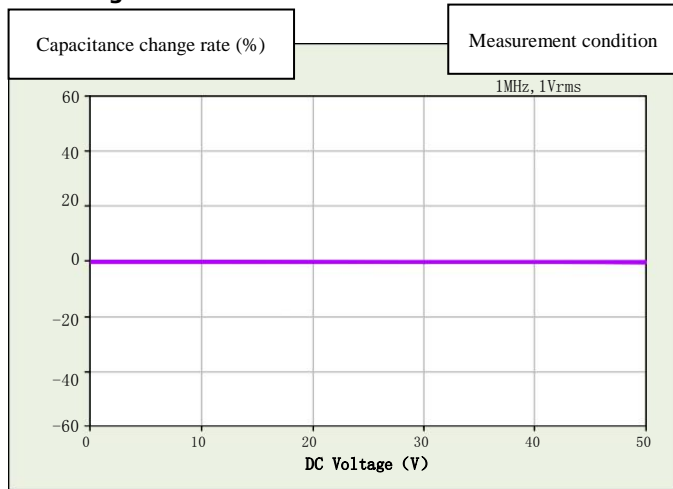
Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)	Cap. (pF)	Accuracy	Max. DC working voltage (V)
1.0	±0.10pF, ±0.25pF	7200	8.2	±0.10pF,	7200	91	±1.0%, ±2.0%, ±5.0%, ±20%	3600	1100	±1.0%, ±2.0%, ±5.0%, ±10%, ±20%	1000
1.1			9.1	±0.25pF, ±0.50pF		100			1200		
1.2			10			110			1500		
1.3			11			120			1800		
1.4	±0.10pF, ±0.25pF, ±0.50pF		12			130			2000	250	
1.5			13			150			2200		
1.6			15			160			2400		
1.7			16			180			2700		
1.8			18			200			3000		
1.9			20			220			3300		
2.0			22			240			3600		
2.1			24			270			3900		
2.2		27	±1.0%,	300	4300	±2.0%,					
2.4		30	±2.0%,	330	4700	±5.0%,					
2.7		33	±5.0%,	360	5100	±10%,					
3.0		36	±10%,	390	5600	±20%					
3.3	39	±20%	430	6200	1500						
3.6	43		470	6800							
3.9	47		510								
4.3	51		560								
4.7	56		620								
5.1	62		680								
5.6	68		750								
6.2	75		820								
6.8	82		910								
7.5			1000								

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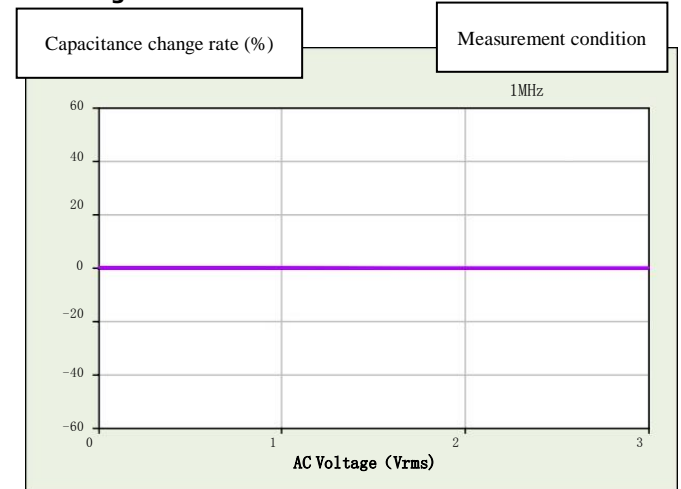
# SMD HIGH-Q RF CAPACITOR – JYU

## Characteristic Curve

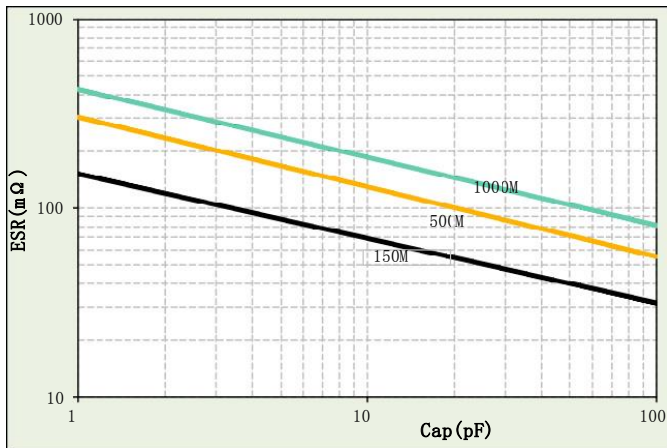
**DC Voltage Characteristic**



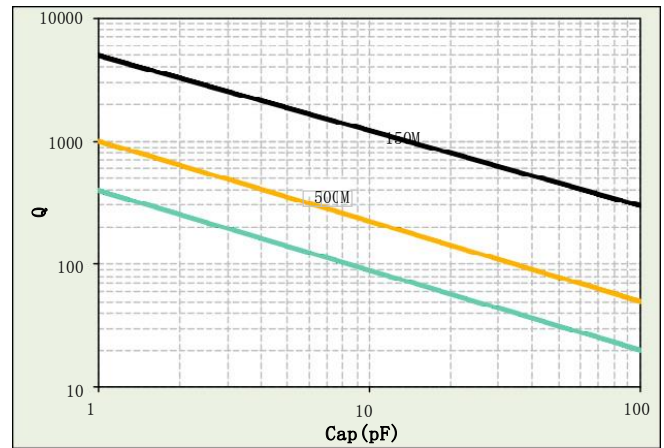
**AC voltage characteristic**



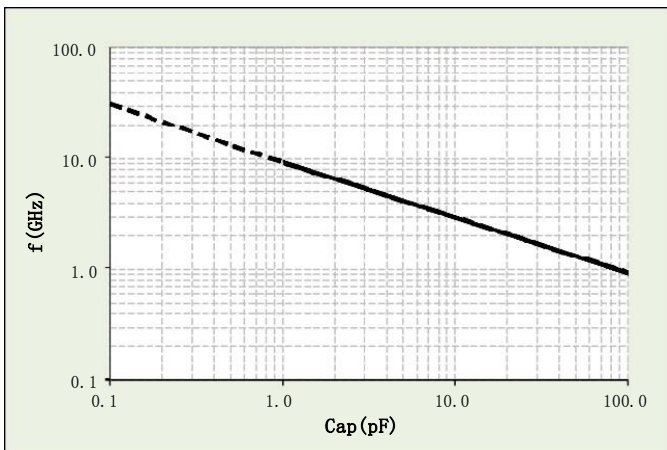
**Relation between ESR and capacitance value**



**Relation between Q value and capacitance value**



**Relation between series resonance and capacitance**



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