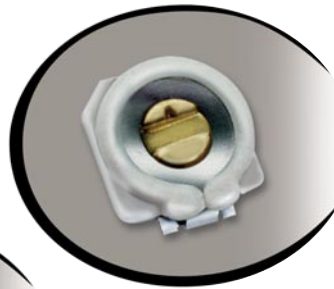


# Ceramic Chip Trimmer Capacitors

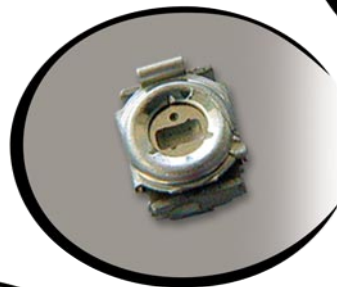
**J Series  
Outperforms  
All Other Similar  
Trimmers**



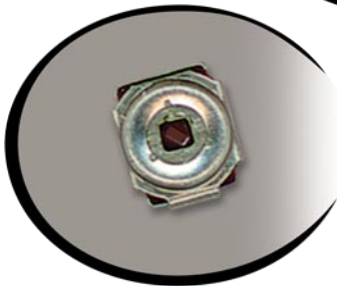
**JZ  
Series**



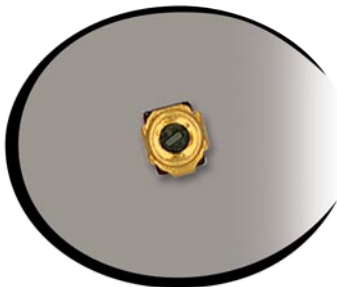
**JR  
Series**



**JV  
Series**



**JQ  
Series**



**JN  
Series**

## Most Stable Over Time

- <1% Capacitance Drift
- High Q Performance
- Tape & Reel Format
- In Stock and Ready to Ship

**Introducing the JZ\_HV and JR\_HV Series:  
High Voltage in a small package design!**





2250 Northwood Drive  
Salisbury, Maryland 21801  
Phone: 410.749.2424  
www.voltronicscorp.com

We now offer our JZ and JR series in a High-Voltage package: the JZ\_HV and JR\_HV. See pages 3 and 5 respectively for further details and be sure to order your engineering kits today!

Dear Valued Customer:

Voltronics has been offering high-performance, high Q, half-turn trimmer capacitors for over two decades. The J-Series is a proven performer that delivers uncompromising stability for even the most demanding applications, such as RFID, medical devices, cellular technologies, and much more.

*In years prior, we offered the J-Series exclusively to the United States but through recent acquisition as the manufacturer, we now supply the entire line worldwide.*

As indicated in the pages of this brochure, we offer the series in a variety of packages and specifications. Some additional information about the J-Series includes the following:

- We have sold tens of millions of J-Series components.
- They are the component of choice in thousands of designs worldwide.
- We offer direct-cross replacements for Sanshin part numbers.
- We offer engineering kits for all our J-Series components.

When your design demands indiscriminate performance, and when reliability becomes a high priority, choose the very best, which is the Voltronics J-Series ceramic chip trimmer capacitors.

Sincere regards,

The Voltronics Team



**World-Class Technology  
Worldwide Availability**

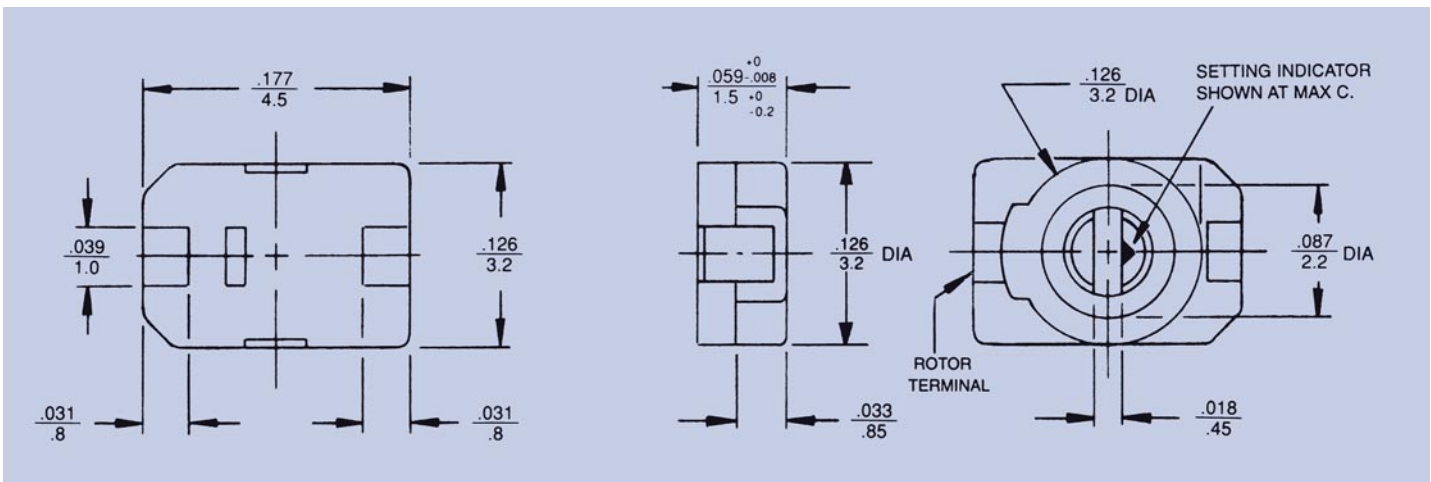
# Product Selection Guide

Product Line	Actual Size Length x Width x Height	Part Number	Cap. Range		Temperature Coefficient	SRF GHz	Mounting	Page
			Min.	Max. pF				
JZ and JZ_HV*		JZ030	1.5	– 3.0	0±200	2.1	Surface	2 & 3
		JZ060	2.0	– 6.0	0±300	1.5		
	.177 x .126 x .059 in	JZ080	3.0	– 8.0	–750±500	1.25		
	4.5 x 3.2 x 1.5 mm	JZ100	2.0	– 10.0	0±300	1.16		
		JZ150	3.0	– 15.0	0±300	0.92		
		JZ200	4.5	– 20.0	0±500	0.81		
		JZ300	5.5	– 30.0	–750±500	0.7		
		JZ400	8.0	– 40.0	–750±500	0.6		
* Note: We now offer the series in a HIGH VOLTAGE VERSION. The JZ_HV series specifications are identical to the specifications listed above with this important exception: <b>DC Working Voltage 350DC, Withstanding Voltage 750.</b>								
JR and JR_HV*		JR030	1.5	– 3.0	0±200	2.9	Surface	4 & 5
		JR060	2.0	– 6.0	0±300	2.05		
	.138 x .122 x .045 in	JR080	3.0	– 8.0	–750±500	1.8		
	3.5 x 3.1 x 1.15 mm	JR100	2.0	– 10.0	0±300	1.6		
		JR150	3.0	– 15.0	0±500	1.3		
		JR200	4.5	– 20.0	0±500	1.15		
		JR300	5.5	– 30.0	–750±500	0.92		
		JR400	8.0	– 40.0	–750±500	0.84		
* Note: We now offer the series in a HIGH VOLTAGE VERSION. The JR_HV series specifications are identical to the specifications listed above with this important exception: <b>DC Working Voltage 350DC, Withstanding Voltage 750.</b>								
JV		JV010	0.5	– 1.0	0±300	4.6	Surface	6
		JV025	0.65	– 2.5	0±300	2.9		
	.126 x .098 x .049 in	JV030	1.5	– 3.0	0±300	2.6		
	3.2 x 2.5 x 1.25 mm	JV060	2.5	– 6.0	0±300	1.9		
		JV100	3.0	– 10.0	0±300	1.4		
		JV200	4.5	– 20.0	–750±500	1.0		
		JV250	5.5	– 25.0	–750±500	0.9		
		JV450	8.0	– 45.0	–1000±500	0.6		
JQ		JQ060	3.0	– 6.0	0±300	1.6	Surface	7
	.106 x .087 x .04 in	JQ100	3.5	– 10.0	0±300	1.2		
	2.7 x 2.2 x 1.0 mm	JQ200	7.0	– 20.0	–750±500	0.9		
JN		JN010	0.55	– 1.0	0±300	6.0	Surface	8
		JN015	0.7	– 1.5	0±300	4.8		
	.067 x .059 x .035 in	JN040	1.5	– 4.0	0±500	2.7		
	1.7 x 1.5 x 0.9 mm	JN080	3.0	– 8.0	–750±500	1.8		
Engineering Kits and Q Data Charts								9

# JZ SERIES - Ceramic Chip Trimmer Capacitors

## General Specifications

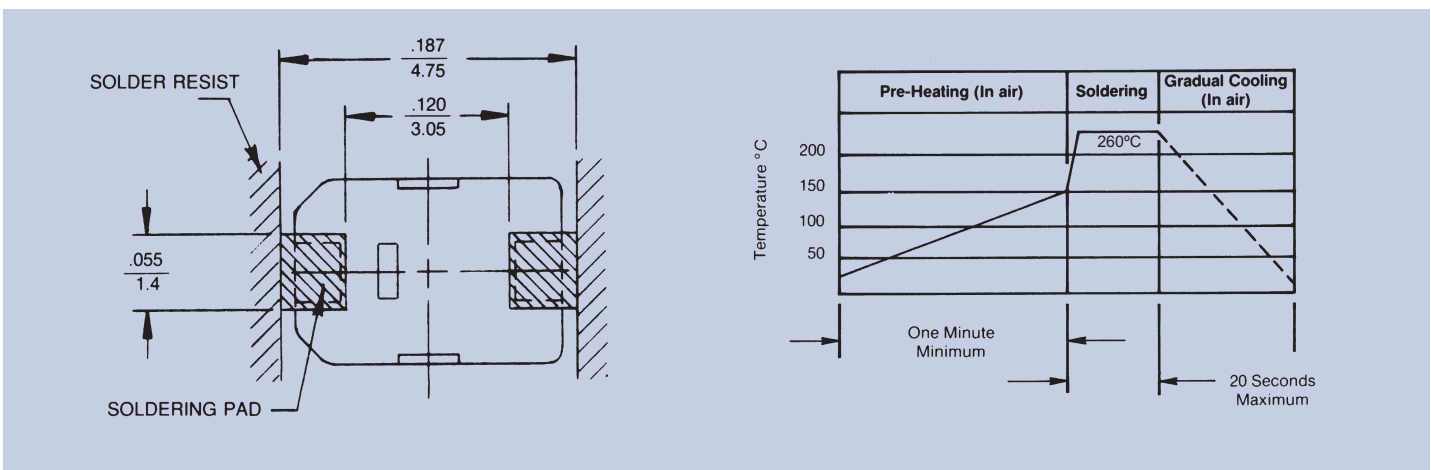
Part Number	JZ030	JZ060	JZ080	JZ100	JZ150	JZ200	JZ300	JZ400
Capacitance (pF)	1.5	2.0	3.0	2.0	3.0	4.5	5.5	8.0
Minimum	1.5	2.0	3.0	2.0	3.0	4.5	5.5	8.0
Maximum	3.0 <sup>+50%</sup> <sub>-0%</sub>	6.0 <sup>+50%</sup> <sub>-0%</sub>	8.0 <sup>+50%</sup> <sub>-0%</sub>	10.0 <sup>+100%</sup> <sub>-0%</sub>	15.0 <sup>+100%</sup> <sub>-0%</sub>	20.0 <sup>+100%</sup> <sub>-0%</sub>	30.0 <sup>+100%</sup> <sub>-0%</sub>	40.0 <sup>+100%</sup> <sub>-0%</sub>
Marking Color	Black	Blue	Violet	White	Pink	Red	Orange	Yellow
DC Working Voltage	125	125	125	125	125	125	125	125
DC Withstanding Voltage	250	250	250	250	250	250	250	250
Temperature Coefficient (ppm/°C)	0 ± 200	0 ± 300	-750 ± 500	0 ± 300	0 ± 300	0 ± 500	-750 ± 500	-750 ± 500
Q (min.) at 1 MHz	500	1000	1500	1500	1500	1500	1500	1500
Self Resonant Frequency at Maximum Rated Capacitance	2.1 GHz	1.5 GHz	1.25 GHz	1.16 GHz	0.92 GHz	0.81 GHz	0.70 GHz	0.60 GHz
Insulation Resistance	10 <sup>4</sup> megohms							
Operating Temperature	-40°C to +85°C							
Torque	0.14 to 1.0 in-oz							
Packaging	All parts furnished on 12mm tape and reel. 1,000 pcs. per reel.							



Drawing tolerances where not specified  $\pm 0.008$  in.  
 $\pm 0.200$  mm

## SOLDER PAD LAYOUT

## RECOMMENDED REFLOW SOLDER TEMPERATURE PROFILE FOR ALL J-SERIES TRIMMER CAPACITORS

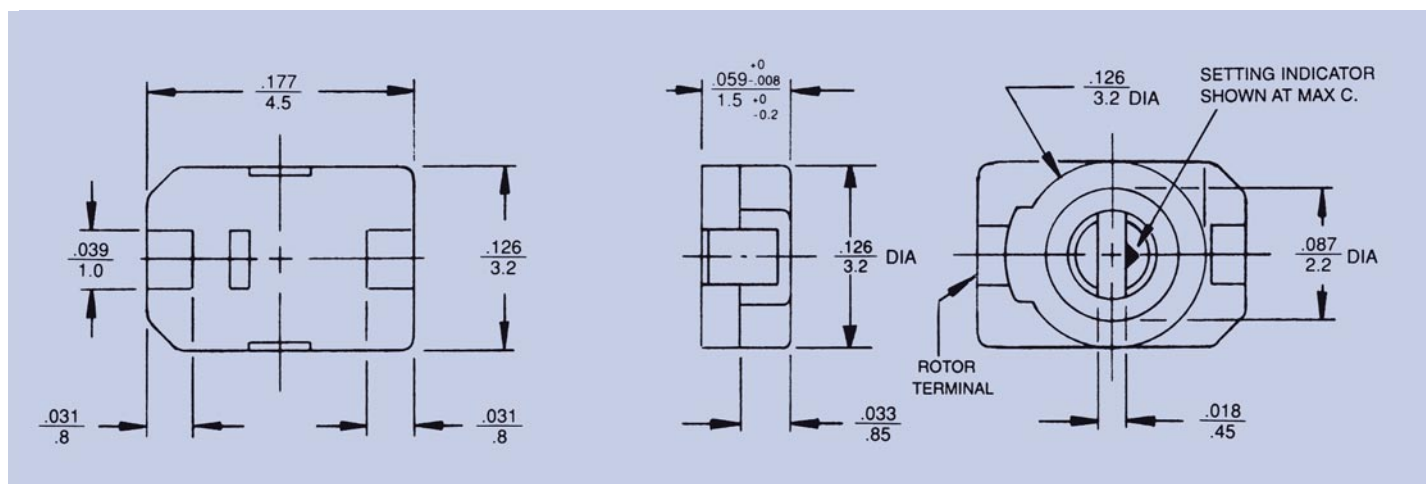


Recommended thickness of solder paste 0.15mm

# JZ\_HV SERIES - Ceramic Chip Trimmer Capacitors

## General Specifications

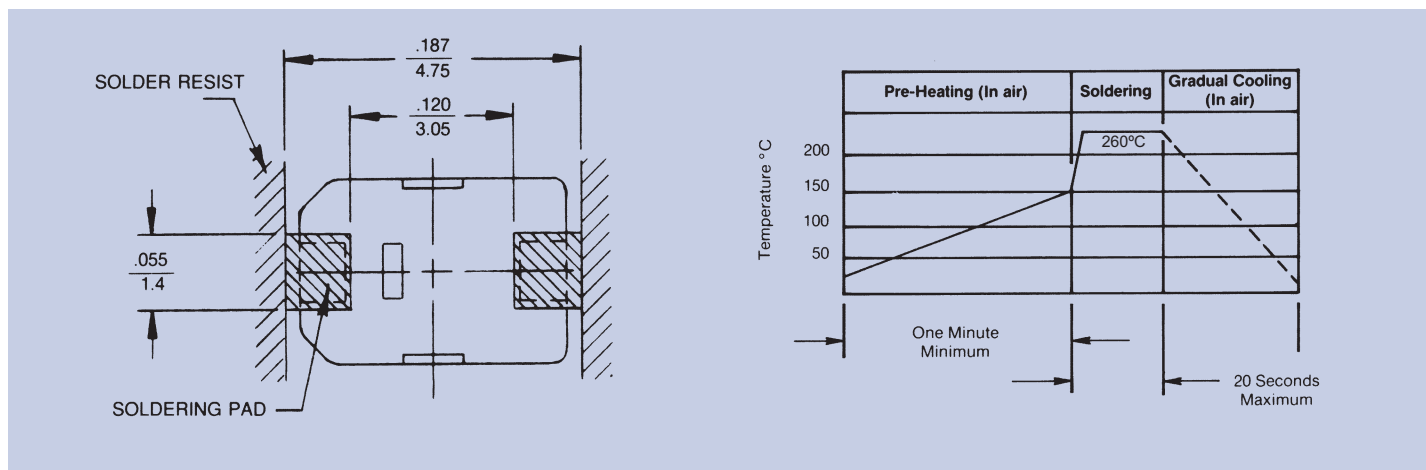
Part Number	JZ030	JZ060	JZ080	JZ100	JZ150	JZ200	JZ300	JZ400	
Capacitance (pF)	Minimum	1.5	2.0	3.0	2.0	3.0	4.5	5.5	8.0
	Maximum	3.0 <sup>+50%</sup> <sub>-0%</sub>	6.0 <sup>+50%</sup> <sub>-0%</sub>	8.0 <sup>+50%</sup> <sub>-0%</sub>	10.0 <sup>+100%</sup> <sub>-0%</sub>	15.0 <sup>+100%</sup> <sub>-0%</sub>	20.0 <sup>+100%</sup> <sub>-0%</sub>	30.0 <sup>+100%</sup> <sub>-0%</sub>	40.0 <sup>+100%</sup> <sub>-0%</sub>
Marking Color	Black	Blue	Violet	White	Pink	Red	Orange	Yellow	
DC Working Voltage	350	350	350	350	350	350	350	350	
DC Withstanding Voltage	750	750	750	750	750	750	750	750	
Temperature Coefficient (ppm/°C)	0 ± 200	0 ± 300	-750 ± 500	0 ± 300	0 ± 300	0 ± 500	-750 ± 500	-750 ± 500	
Q (min.) at 1 MHz	500	1000	1500	1500	1500	1500	1500	1500	
Self Resonant Frequency at Maximum Rated Capacitance	2.1 GHz	1.5 GHz	1.25 GHz	1.16 GHz	0.92 GHz	0.81 GHz	0.70 GHz	0.60 GHz	
Insulation Resistance	10 <sup>4</sup> megohms								
Operating Temperature	-40°C to +85°C								
Torque	0.14 to 1.0 in-oz								
Packaging	All parts furnished on 12mm tape and reel. 1,000 pcs. per reel.								



Drawing tolerances where not specified  $\pm 0.008$  in.  
0.200 mm

## SOLDER PAD LAYOUT

## RECOMMENDED REFLOW SOLDER TEMPERATURE PROFILE FOR ALL J-SERIES TRIMMER CAPACITORS

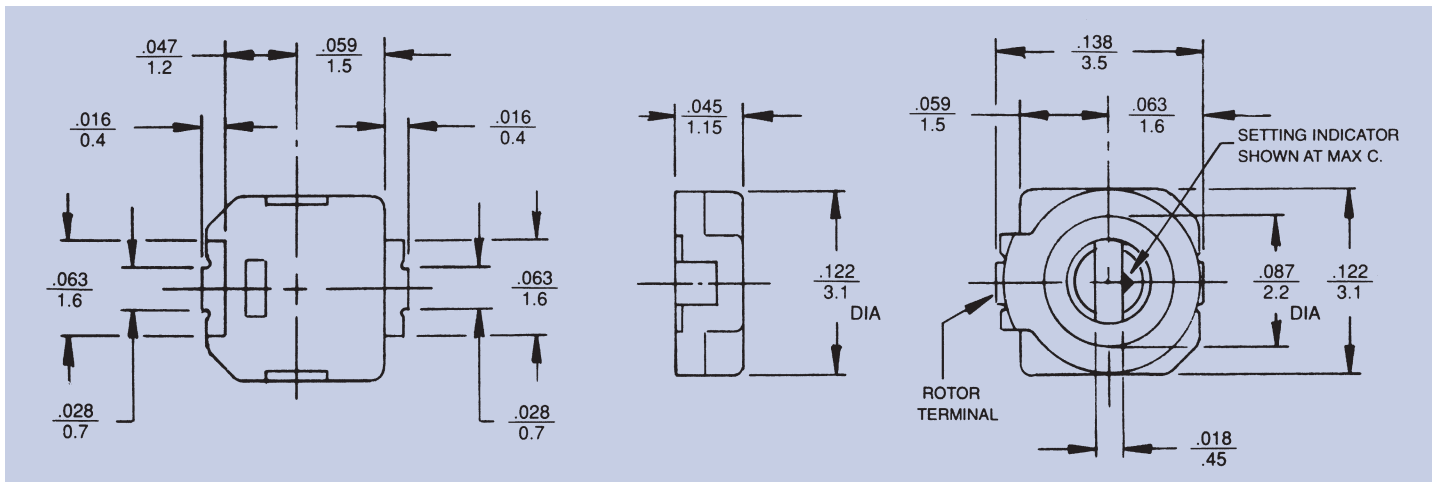


Recommended thickness of solder paste 0.15mm

# JR SERIES - Ceramic Chip Trimmer Capacitors

## General Specifications

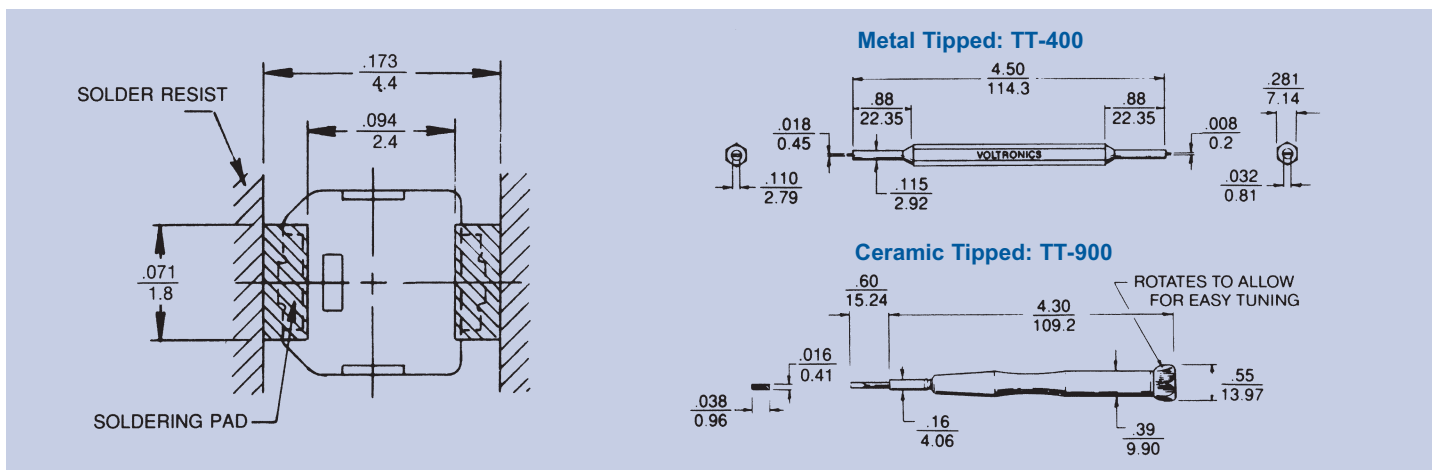
Part Number	JR030	JR060	JR080	JR100	JR150	JR200	JR300	JR400	
Capacitance (pF)	Minimum	1.5	2.0	3.0	2.0	3.0	4.5	5.5	8.0
	Maximum	3.0 <sup>+50%</sup> <sub>-0%</sub>	6.0 <sup>+50%</sup> <sub>-0%</sub>	8.0 <sup>+50%</sup> <sub>-0%</sub>	10.0 <sup>+100%</sup> <sub>-0%</sub>	15.0 <sup>+100%</sup> <sub>-0%</sub>	20.0 <sup>+100%</sup> <sub>-0%</sub>	30.0 <sup>+100%</sup> <sub>-0%</sub>	40.0 <sup>+100%</sup> <sub>-0%</sub>
Marking Color	Black	Blue	Violet	None	Pink	Red	Orange	Yellow	
DC Working Voltage	125	125	125	125	125	125	125	125	
DC Withstanding Voltage	250	250	250	250	250	250	250	250	
Temperature Coefficient (ppm/°C)	0 ± 200	0 ± 300	-750 ± 500	0 ± 300	0 ± 500	0 ± 500	-750 ± 500	-750 ± 500	
Q (min.) at 1 MHz	500	1000	1500	1500	1500	1500	1500	1500	
Self Resonant Frequency at Maximum Rated Capacitance	2.9 GHz	2.05 GHz	1.8 GHz	1.6 GHz	1.3 GHz	1.15 GHz	0.92 GHz	0.84 GHz	
Insulation Resistance	10 <sup>4</sup> megohms								
Operating Temperature	-40°C to +85°C								
Torque	0.6 in-oz max.								
Packaging	All parts furnished on 12mm tape and reel. 1,000 pcs. per reel.								



Drawing tolerances where not specified  $\pm 0.008$  in.  
 $\pm 0.200$  mm

## SOLDER PAD LAYOUT

## RECOMMENDED TUNING TOOLS FOR JZ AND JR SERIES

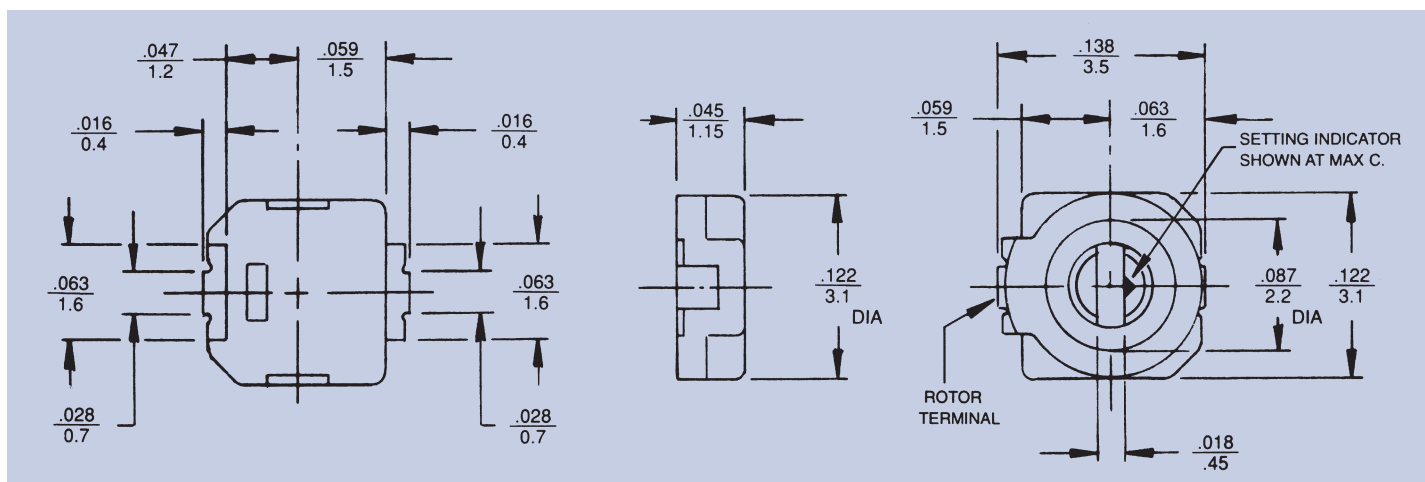


Recommended thickness of solder paste 0.15mm

# JR\_HV SERIES - Ceramic Chip Trimmer Capacitors

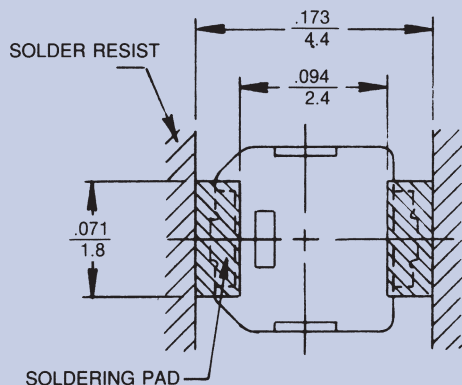
## General Specifications

Part Number	JR030	JR060	JR080	JR100	JR150	JR200	JR300	JR400	
Capacitance (pF)	Minimum	1.5	2.0	3.0	2.0	3.0	4.5	5.5	8.0
	Maximum	3.0 <sup>+50%</sup> <sub>-0%</sub>	6.0 <sup>+50%</sup> <sub>-0%</sub>	8.0 <sup>+50%</sup> <sub>-0%</sub>	10.0 <sup>+100%</sup> <sub>-0%</sub>	15.0 <sup>+100%</sup> <sub>-0%</sub>	20.0 <sup>+100%</sup> <sub>-0%</sub>	30.0 <sup>+100%</sup> <sub>-0%</sub>	40.0 <sup>+100%</sup> <sub>-0%</sub>
Marking Color	Black	Blue	Violet	None	Pink	Red	Orange	Yellow	
DC Working Voltage	350	350	350	350	350	350	350	350	
DC Withstanding Voltage	750	750	750	750	750	750	750	750	
Temperature Coefficient (ppm/°C)	0 ± 200	0 ± 300	-750 ± 500	0 ± 300	0 ± 500	0 ± 500	-750 ± 500	-750 ± 500	
Q (min.) at 1 MHz	500	1000	1500	1500	1500	1500	1500	1500	
Self Resonant Frequency at Maximum Rated Capacitance	2.9 GHz	2.05 GHz	1.8 GHz	1.6 GHz	1.3 GHz	1.15 GHz	0.92 GHz	0.84 GHz	
Insulation Resistance	10 <sup>4</sup> megohms								
Operating Temperature	-40°C to +85°C								
Torque	0.6 in-oz max.								
Packaging	All parts furnished on 12mm tape and reel. 1,000 pcs. per reel.								

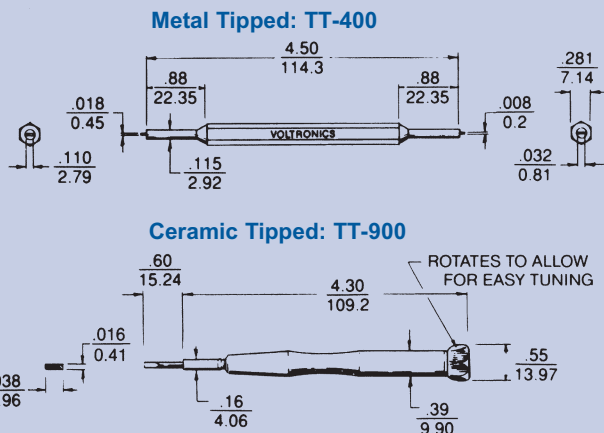


Drawing tolerances where not specified  $\pm 0.008$  in.  
 $\pm 0.200$  mm

## SOLDER PAD LAYOUT



## RECOMMENDED TUNING TOOLS FOR JZ AND JR SERIES

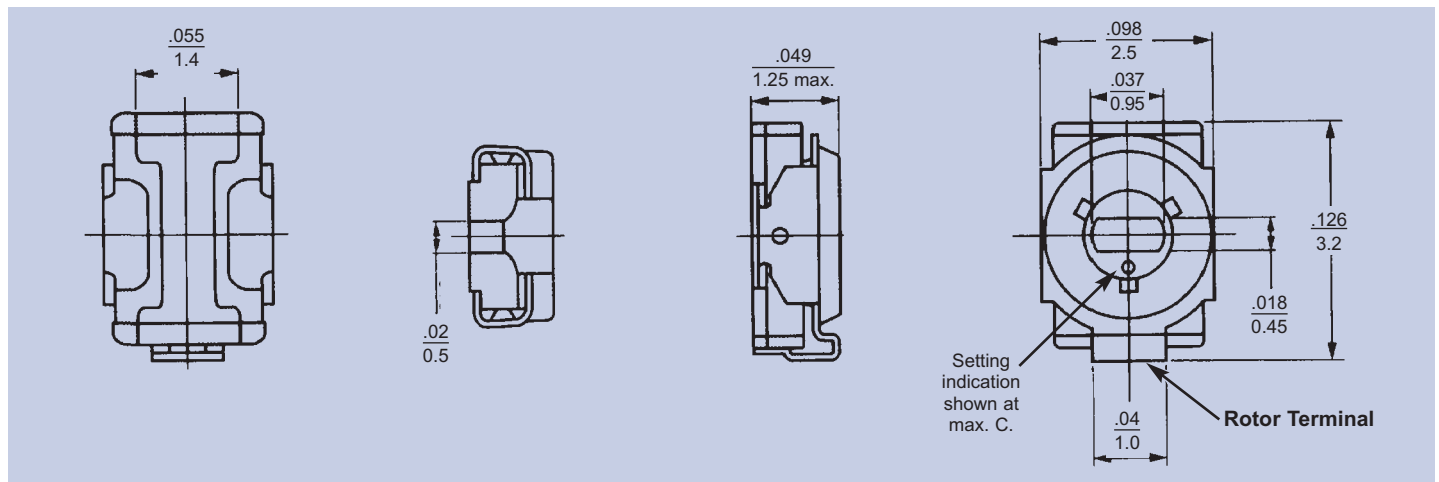


Recommended thickness of solder paste 0.15mm

# JV SERIES - Ceramic Chip Trimmer Capacitors

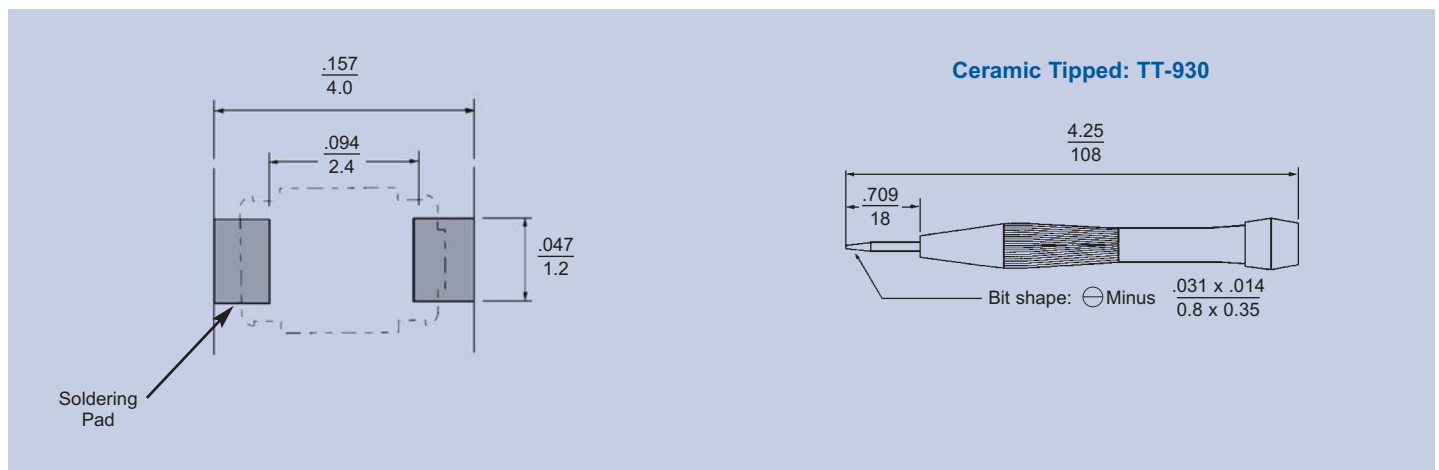
## General Specifications

Part Number	JV010	JV025	JV030	JV060	JV100	JV200	JV250	JV450
Capacitance (pF)	0.5	0.65	1.5	2.5	3.0	4.5	5.5	8.0
Minimum	0.5	0.65	1.5	2.5	3.0	4.5	5.5	8.0
Maximum	1.0 <sup>+100%</sup> / <sub>0%</sub>	2.5 <sup>+100%</sup> / <sub>0%</sub>	3.0 <sup>+100%</sup> / <sub>0%</sub>	6.0 <sup>+100%</sup> / <sub>0%</sub>	10.0 <sup>+100%</sup> / <sub>0%</sub>	20.0 <sup>+100%</sup> / <sub>0%</sub>	25.0 <sup>+100%</sup> / <sub>0%</sub>	45.0 <sup>+100%</sup> / <sub>0%</sub>
Marking Color	None	None	None	None	None	None	None	None
DC Working Voltage	25	25	25	25	25	25	25	25
DC Withstanding Voltage	55	55	55	55	55	55	55	55
Temperature Coefficient (ppm/°C)	0±300	0±300	0±300	0±300	0±300	-750±500	-750±500	-1000±500
Q (min.) at 1 MHz	500	500	500	500	500	500	300	300
Self Resonant Frequency at Maximum Rated Capacitance	4.6 GHz	2.9 GHz	2.6 GHz	1.9 GHz	1.4 GHz	1.0 GHz	0.9 GHz	0.6 GHz
Insulation Resistance	10 <sup>4</sup> megohms							
Operating Temperature	-25°C to +85°C							
Torque	0.6 in-oz max.							
Packaging	All parts furnished on 8mm tape and reel. 2,000 pcs. per reel.							



Drawing tolerances where not specified  $\pm 0.020$  in.  
 $\pm 0.500$  mm

## SOLDER PAD LAYOUT



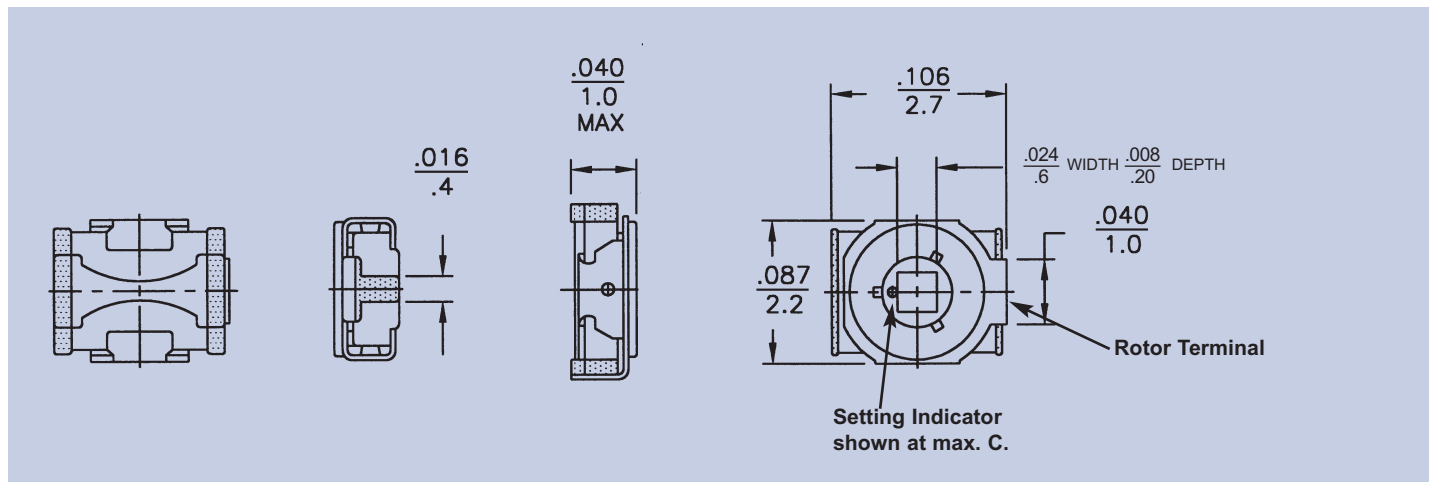
Recommended thickness of solder paste 0.15mm



# JQ SERIES - Ceramic Chip Trimmer Capacitors

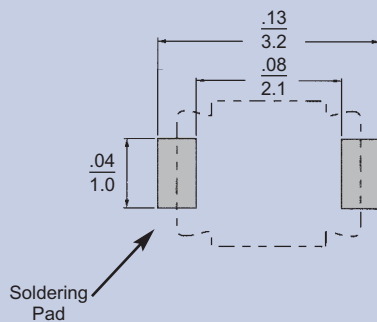
## General Specifications

Part Number	JQ060	JQ100	JQ200
Capacitance (pF) Minimum	3.0	3.5	7.0
Capacitance (pF) Maximum	6.0 <sup>+100%</sup> <sub>-0%</sub>	10.0 <sup>+100%</sup> <sub>-0%</sub>	20.0 <sup>+100%</sup> <sub>-0%</sub>
Marking Color	None	None	None
DC Working Voltage	25	25	25
DC Withstanding Voltage	55	55	55
Temperature Coefficient (ppm/°C)	0 ± 300	0 ± 300	-750 ± 500
Q (min.) at 1 MHz	500	500	500
Self Resonant Frequency at Maximum Rated Capacitance	1.6 GHz	1.2 GHz	0.9 GHz
Insulation Resistance	10 <sup>4</sup> megohms		
Operating Temperature	-25°C to +85°C		
Torque	.07 to 7.0 in-oz		
Packaging	All parts furnished on 8mm tape and reel. 3,000 pcs. per reel.		



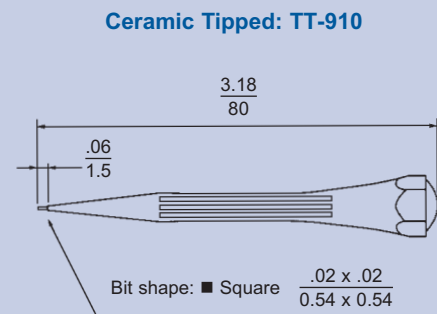
Drawing tolerances where not specified ± 0.020 in.  
± 0.500 mm

## SOLDER PAD LAYOUT



Recommended thickness of solder paste 0.15mm

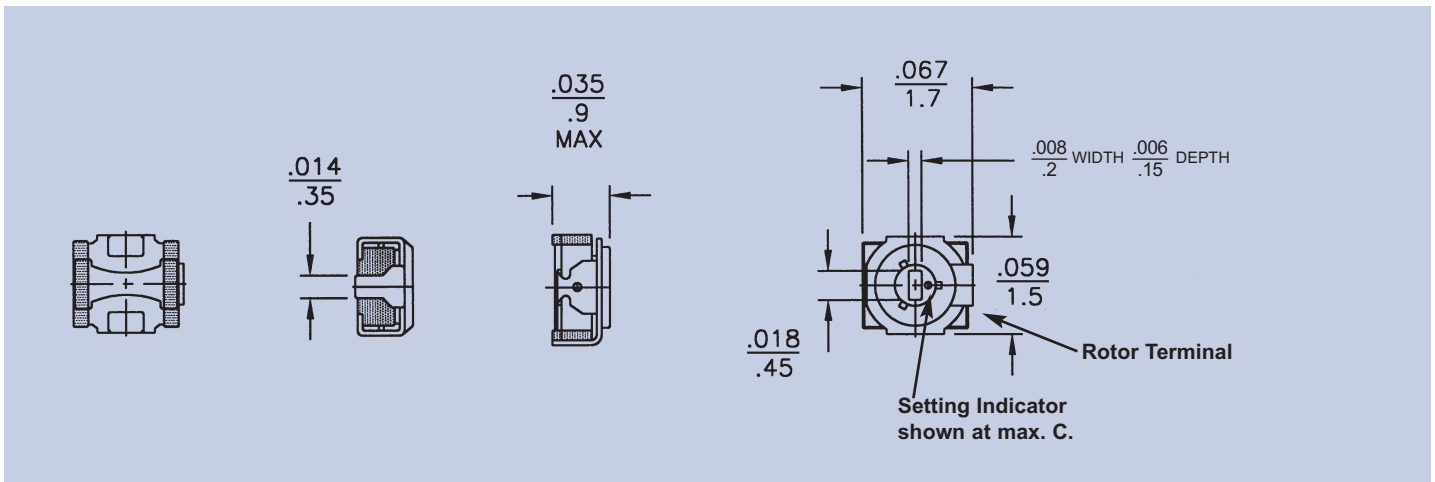
## RECOMMENDED TUNING TOOL FOR JQ SERIES



# JN SERIES - Ceramic Chip Trimmer Capacitors

## General Specifications

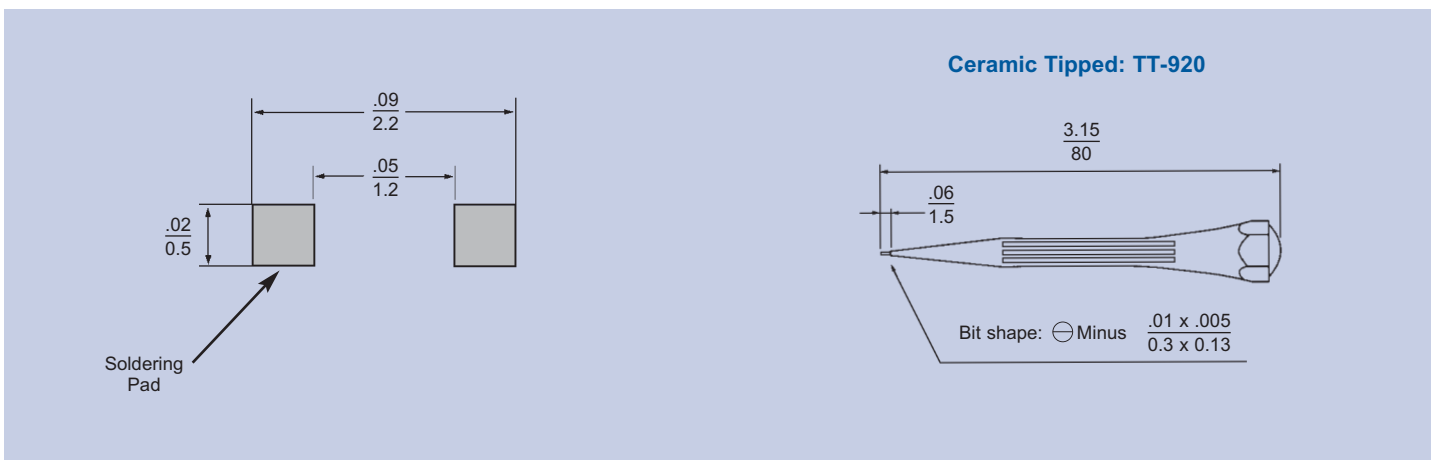
Part Number	JN010	JN015	JN040	JN080
Capacitance (pF)	0.55	0.7	1.5	3.0
Minimum				
Maximum	1.0 <sup>+100%</sup> <sub>-0%</sub>	1.5 <sup>+100%</sup> <sub>-0%</sub>	4.0 <sup>+100%</sup> <sub>-0%</sub>	8.0 <sup>+100%</sup> <sub>-0%</sub>
Marking Color	None	None	None	None
DC Working Voltage	25	25	25	25
DC Withstanding Voltage	55	55	55	55
Temperature Coefficient (ppm/°C)	0 ± 300	0 ± 300	0 ± 500	-750 ± 500
Q (min.) at 1 MHz	500	500	300	300
Self Resonant Frequency at Maximum Rated Capacitance	6.0 GHz	4.8 GHz	2.7 GHz	1.8 GHz
Insulation Resistance	10 <sup>4</sup> megohms			
Operating Temperature	-25°C to +85°C			
Torque	.014 to .14 in-oz			
Packaging	All parts furnished on 8mm tape and reel. 3,000 pcs. per reel.			



Drawing tolerances where not specified  $\pm 0.020$  in.  
 $\pm 0.500$  mm

## SOLDER PAD LAYOUT

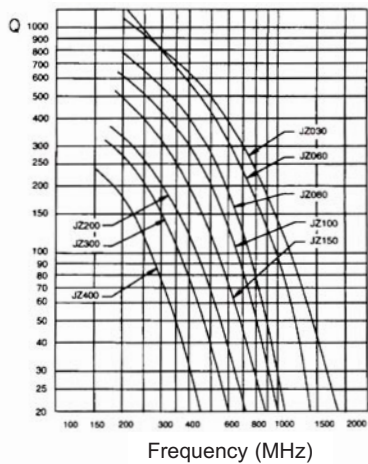
## RECOMMENDED TUNING TOOL FOR JN SERIES



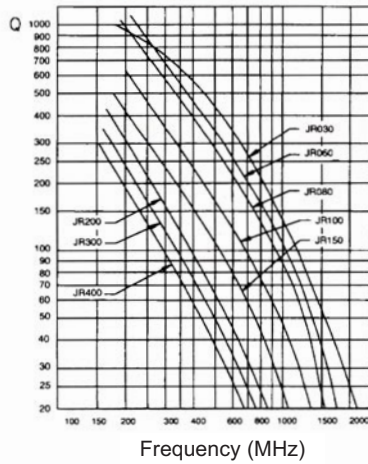
Recommended thickness of solder paste 0.15mm

# Q DATA CHARTS & ENGINEERING KITS

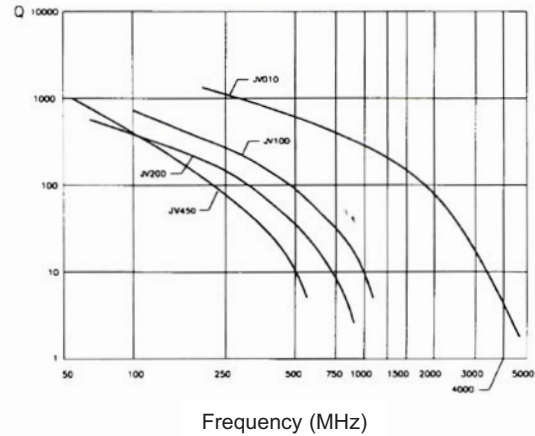
**Quality Factor (Q)  
of "JZ" Series Capacitors**



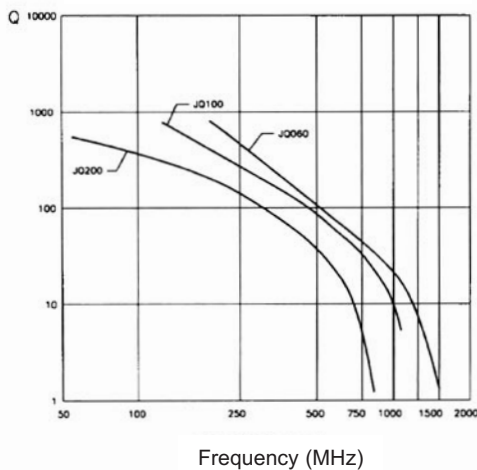
**Quality Factor (Q)  
of "JR" Series Capacitors**



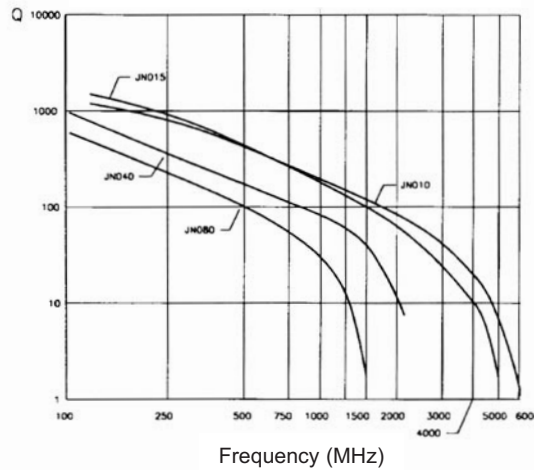
**Quality Factor (Q)  
of "JV" Series Capacitors**



**Quality Factor (Q)  
of "JQ" Series Capacitors**



**Quality Factor (Q)  
of "JN" Series Capacitors**



## Engineering Kits

Kit #	Quantity	Description
JZ Kit*	4	Each Capacitance Range
JZ-HV Kit*		
JR Kit*	4	
JR-HV Kit*	4	
JV Kit**	5	
JQ Kit**	5	
JN Kit**	5	

J-Series engineering kits are a great way to become familiar with our products. Each kit contains 4 or 5 units of every value. Please be sure to inquire about tuning tools when ordering.  
\* Tuning tools are included with this kit.  
\*\* Tuning tools are not included with this kit. Please inquire about tuning tools when ordering.

## Washing Instructions:

The J-Series trimmer capacitors can withstand cleaning cycles up to 10 PSI and have been used by customers for more than a decade in many diverse environmental conditions. Without knowing your particular washing or cleaning environment, we recommend these basic guidelines:

- 1) Water wash or isopropyl alcohol cleaning agents are acceptable providing that baths are clean and uncontaminated. For maximum effectiveness, the cleaning process should occur immediately after soldering.
- 2) Either brush or spray methods are acceptable.
- 3) \*Drying out components with forced hot air is highly recommended.
- 4) Also, we do recommend turning the tuning screw 3 or 4 complete revolutions prior to arriving at the final "set."

\* If a water wash process is used and water does get inside, we recommend that the parts be heated above 100C for a minimum of 15 minutes, so that the water evaporates. After this, the rotor should be turned 1-2 times to redistribute the internal grease.

**BSC Filters Ltd,**  
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