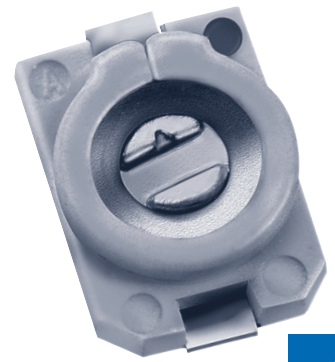




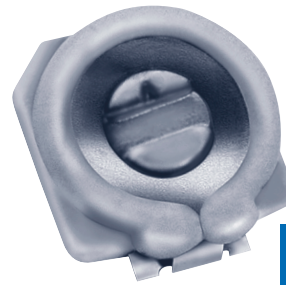
# THE DATASHEET OF JR400



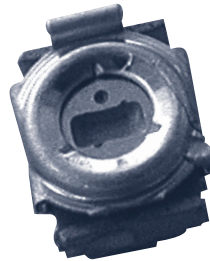
# Ceramic Chip Trimmer Capacitors



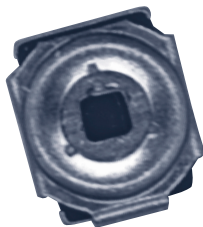
JZ Series



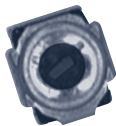
JR Series



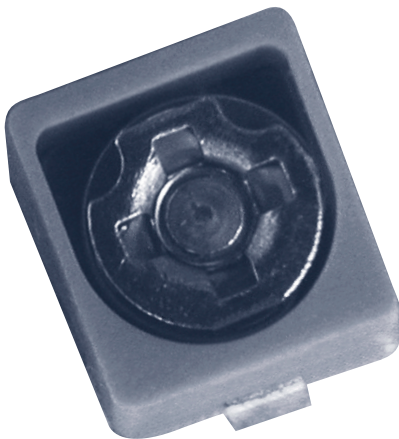
JV Series



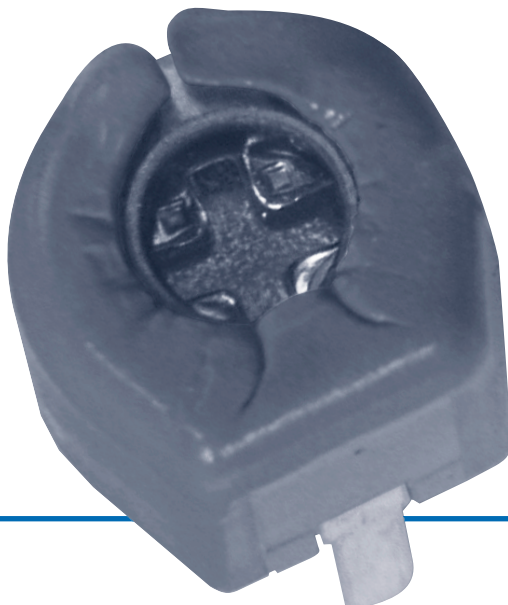
JQ Series



JN Series



JT Series



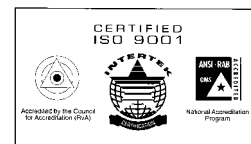
JB Series

## J Series Outperforms All Other Similar Trimmers



## Most Stable Over Time

- Lowest Capacitance Drift
- Up To 50% Higher Q
- Usable To Over 1 GHz
- Tape and Reel
- No Exposed Metal Mechanism Under JZ & JR Series



**Voltronics**   
INTERNATIONAL CORPORATION  
*The Trimmer Capacitor Company*

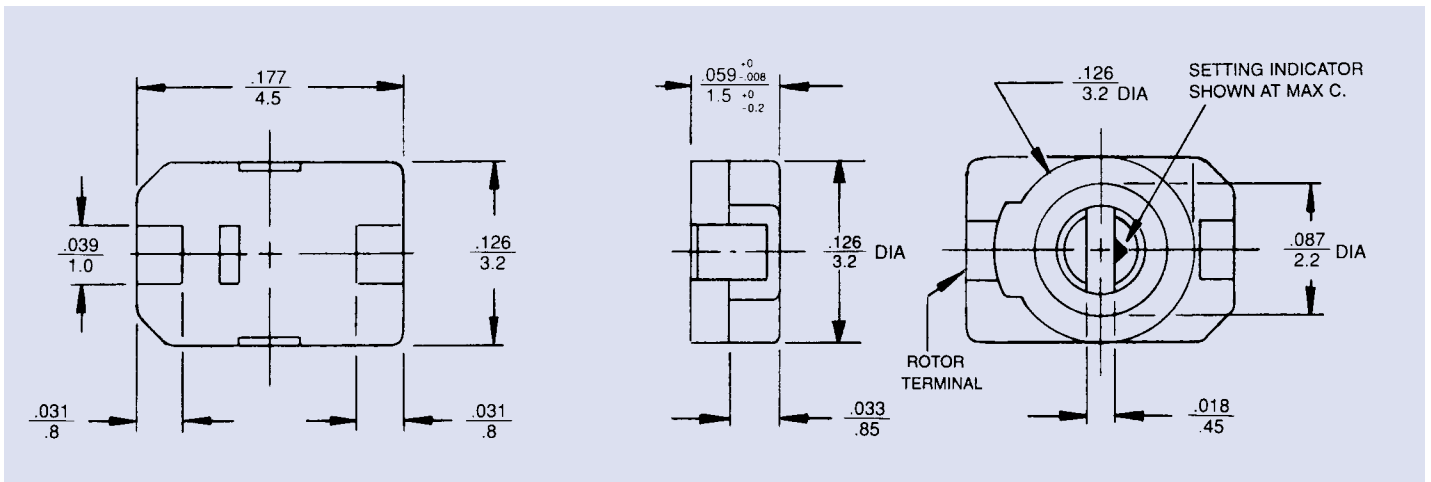
# Product Selection Guide

Product Line	Actual Size			Part Number	Cap. Range		Temperature Coefficient	SRF GHz	Mounting	Page
	Length	Width	Height		Min.	Max.				
JZ	.177 x .126 x .059 in 4.5 x 3.2 x 1.5 mm			JZ030	1.5 – 3.0		0±200	2.1	Surface	1
				JZ060	2.0 – 6.0		0±300	1.5		
				JZ080	3.0 – 8.0		-750±500	1.25		
				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		
JR	.138 x .122 x .045 in 3.5 x 3.1 x 1.15 mm			JR030	1.5 – 3.0		0±200	2.9	Surface	2
				JR060	2.0 – 6.0		0±300	2.05		
				JR080	3.0 – 8.0		-750±500	1.8		
				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		
JV	.126 x .098 x .049 in 3.2 x 2.5 x 1.25 mm			JV010	0.5 – 1.0		0±300	4.6	Surface	3
				JV025	0.65 – 2.5		0±300	2.9		
				JV030	1.5 – 3.0		0±300	2.6		
				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	.106 x .087 x .04 in 2.7 x 2.2 x 1.0 mm			JQ060	3.0 – 6.0		0±300	1.6	Surface	4
				JQ100	3.5 – 10.0		0±300	1.2		
				JQ200	7.0 – 20.0		-750±500	0.9		
JN	.067 x .059 x .035 in 1.7 x 1.5 x 0.9 mm			JN010	0.55 – 1.0		0±300	6.0	Surface	5
				JN015	0.7 – 1.5		0±300	4.8		
				JN040	1.5 – 4.0		0±500	2.7		
				JN080	3.0 – 8.0		-750±500	1.8		
JT	.177 x .155 x .118 in 4.5 x 4.0 x 3.0 mm			JT_030	1.4 – 3.0		0±200	1.9	Surface and PCB	6-7
				JT_060	2.0 – 6.0		0±200	1.3		
				JT_100	3.0 – 10.0		0±300	1.0		
				JT_200	4.5 – 20.0		-750±300	0.75		
				JT_250	4.0 – 25.0		0±300	0.65		
				JT_300	6.5 – 30.0		-1200±500	0.6		
				JT_400	8.5 – 40.0		-1200±500	0.5		
				JT_500	7.0 – 50.0		-750±300	0.4		
JB	.236 x .236 x .189 in 6.0 x 6.0 x 4.8 mm			JB_023	1.25 – 2.3		0±200	1.4	Surface and PCB	8-9
				JB_050	1.5 – 5.0		0±200	0.9		
				JB_070	2.0 – 7.0		0±200	0.7		
				JB_100	2.7 – 10.0		0±200	0.6		
				JB_101	2.1 – 10.0		-200±200	0.6		
				JB_110	3.0 – 11.0		-450±300	0.6		
				JB_200	4.2 – 20.0		-450±300	0.45		
				JB_201	4.2 – 20.0		-750±300	0.45		
				JB_300	5.2 – 30.0		-750±300	0.36		
				JB_450	6.8 – 45.0		-1200±500	0.28		
				JB_500	6.0 – 50.0		0±300	0.27		
				JB_600	9.8 – 60.0		-1200±500	0.25		
				JB_900	9.0 – 90.0		-750±300	0.2		
				JB_1200	10.0 – 120.0		-750±300	0.17		

# JZ SERIES - Ceramic Chip Trimmer Capacitors

## GENERAL SPECIFICATIONS

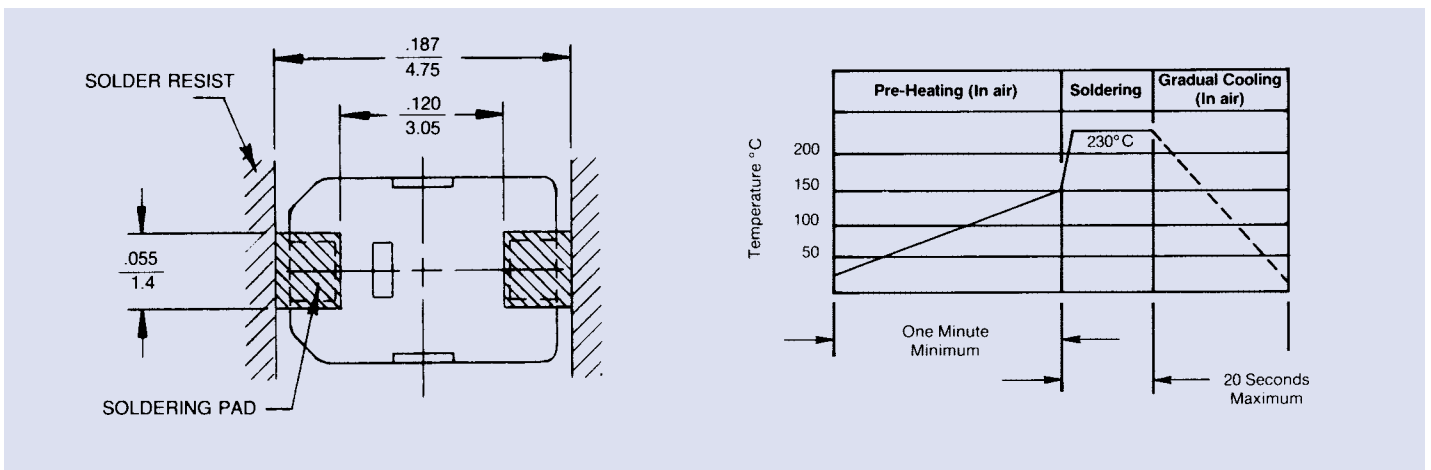
Part Number		JZ030	JZ060	JZ080	JZ100	JZ150	JZ200	JZ300	JZ400
Capacitance (pF)	Minimum	1.5	2.0	3.0	2.0	3.0	4.5	5.5	8.0
	Maximum	3.0 <sup>+50%</sup> <sub>-0%</sub>	6.0 <sup>+50%</sup> <sub>-0%</sub>	8.0 <sup>+50%</sup> <sub>-0%</sub>	10.0 <sup>+100%</sup> <sub>-0%</sub>	15.0 <sup>+100%</sup> <sub>-0%</sub>	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		100	100	100	100	100	100	100	100
DC Withstanding Voltage		220	220	220	220	220	220	220	220
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>9</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.  
0.2 mm

## SOLDER PAD LAYOUT

## RECOMMENDED REFLOW SOLDER TEMPERATURE PROFILE FOR JZ, JR, JV, JQ AND JN SERIES

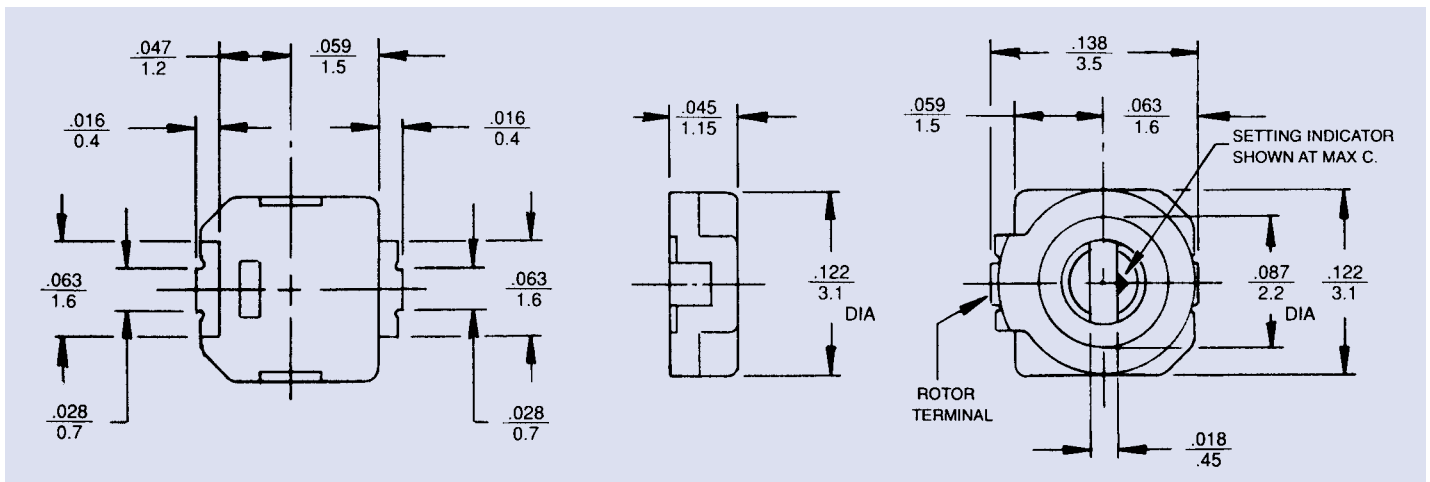


Recommended thickness of solder paste 0.15mm

# JR SERIES - Ceramic Chip Trimmer Capacitors

## GENERAL SPECIFICATIONS

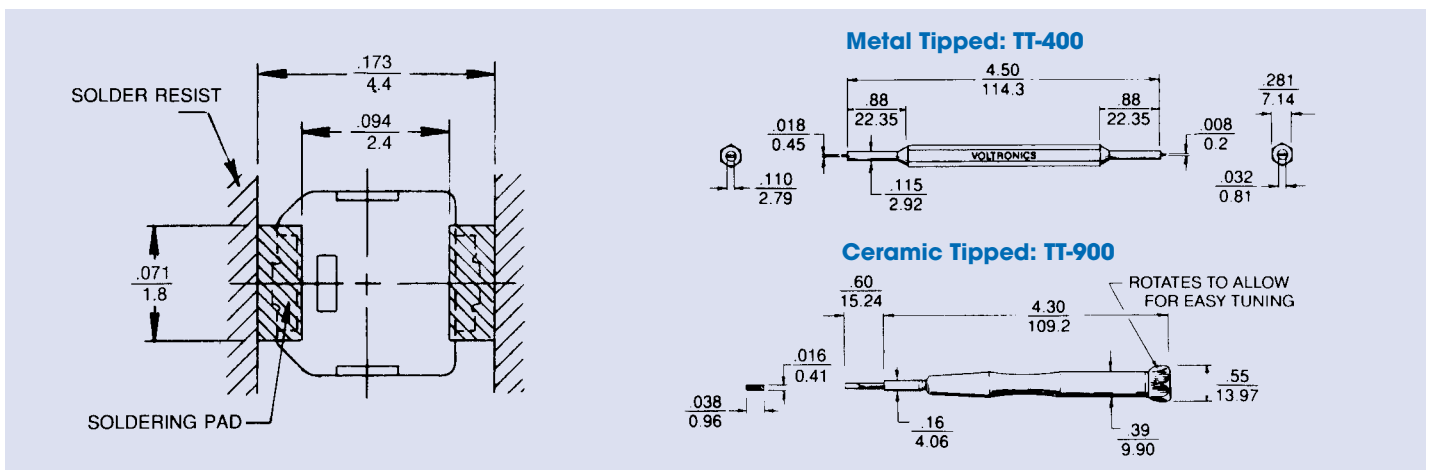
Part Number		JR030	JR060	JR080	JR100	JR150	JR200	JR300	JR400
Capacitance (pF)	Minimum	1.5	2.0	3.0	2.0	3.0	4.5	5.5	8.0
	Maximum	3.0 $\pm 50\%$ 0%	6.0 $\pm 50\%$ 0%	8.0 $\pm 50\%$ 0%	10.0 $\pm 100\%$ 0%	15.0 $\pm 100\%$ 0%	20.0 $\pm 100\%$ 0%	30.0 $\pm 100\%$ 0%	40.0 $\pm 100\%$ 0%
Marking Color		Black	Blue	Violet	None	Pink	Red	Orange	Yellow
DC Working Voltage		100	100	100	100	100	100	100	100
DC Withstanding Voltage		220	220	220	220	220	220	220	220
Temperature Coefficient (ppm/°C)		0 $\pm$ 200	0 $\pm$ 300	-750 $\pm$ 500	0 $\pm$ 300	0 $\pm$ 500	0 $\pm$ 500	-750 $\pm$ 500	-750 $\pm$ 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.  
 $\pm 0.2$  mm

## SOLDER PAD LAYOUT

## RECOMMENDED TUNING TOOLS FOR JZ AND JR SERIES

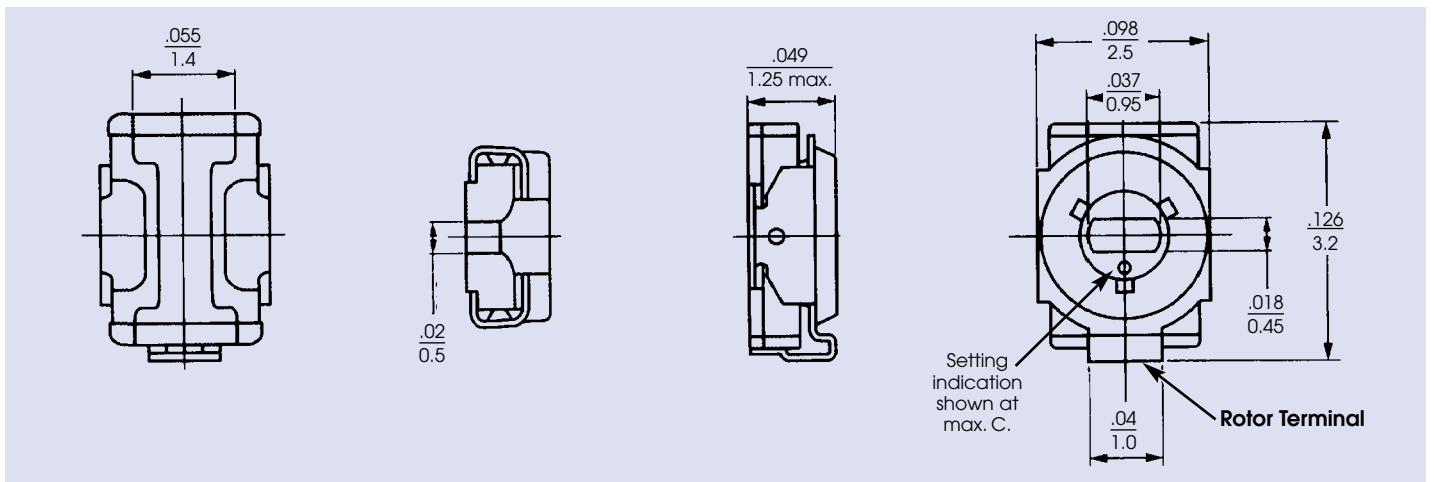


Recommended thickness of solder paste 0.15mm

# JV SERIES - Ceramic Chip Trimmer Capacitors

## GENERAL SPECIFICATIONS

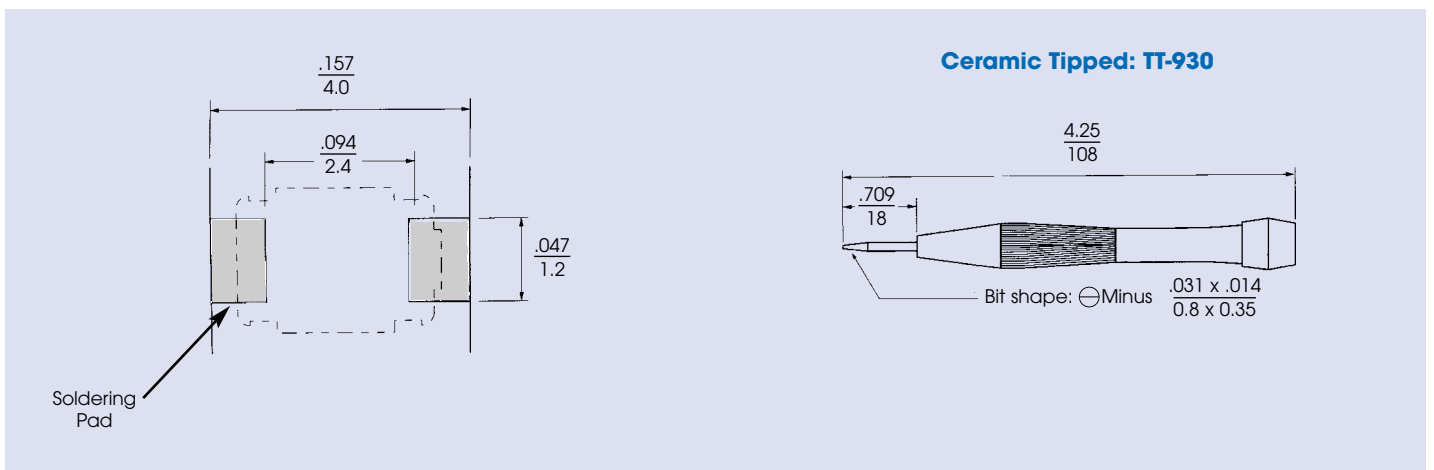
Part Number		JV010	JV025	JV030	JV060	JV100	JV200	JV250	JV450
Capacitance (pF)	Minimum	0.5	0.65	1.5	2.5	3.0	4.5	5.5	8.0
	Maximum	1.0 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$	2.5 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$	3.0 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$	6.0 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$	10.0 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$	20.0 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$	25.0 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$	45.0 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$
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>9</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.  
 $\pm 0.5$  mm

## SOLDER PAD LAYOUT

## RECOMMENDED TUNING TOOL FOR JV SERIES

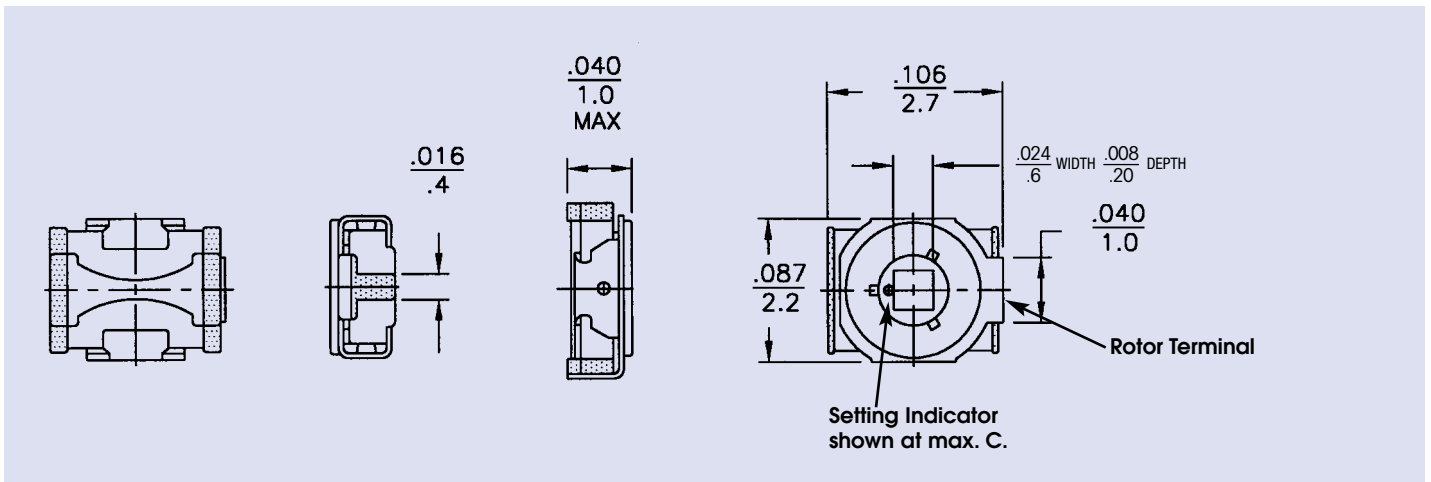


Recommended thickness of solder paste 0.15mm

# JQ SERIES - Ceramic Chip Trimmer Capacitors

## GENERAL SPECIFICATIONS

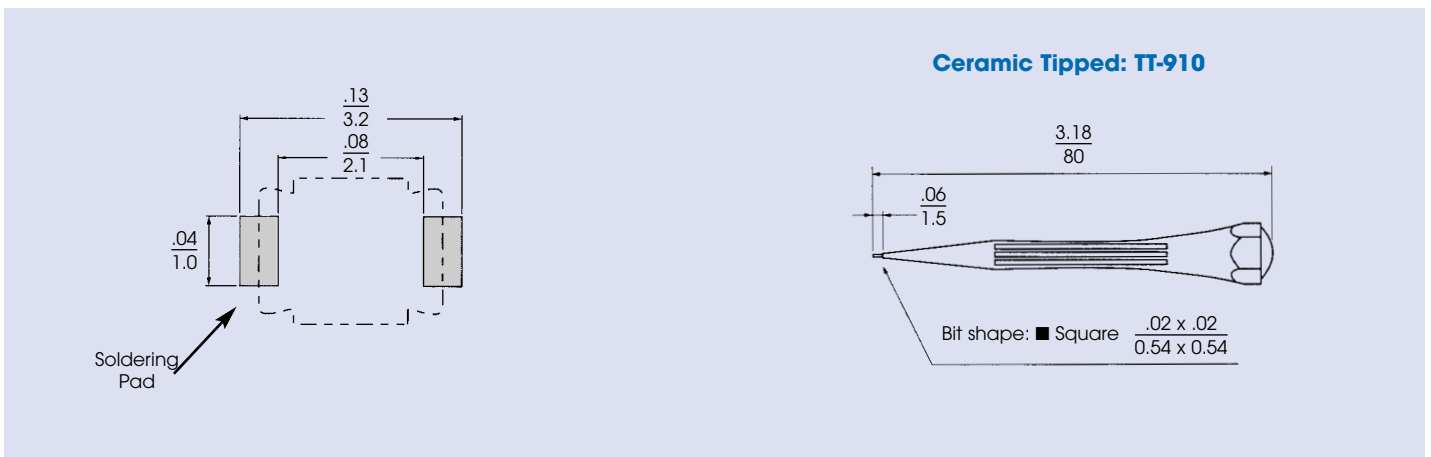
Part Number		JQ060	JQ100	JQ200
Capacitance (pF)	Minimum	3.0	3.5	7.0
	Maximum	6.0 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$	10.0 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$	20.0 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$
Marking Color		None	None	None
DC Working Voltage		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  $\pm 0.020$  in.  
 $\pm 0.5$  mm

## SOLDER PAD LAYOUT

## RECOMMENDED TUNING TOOL FOR JQ SERIES

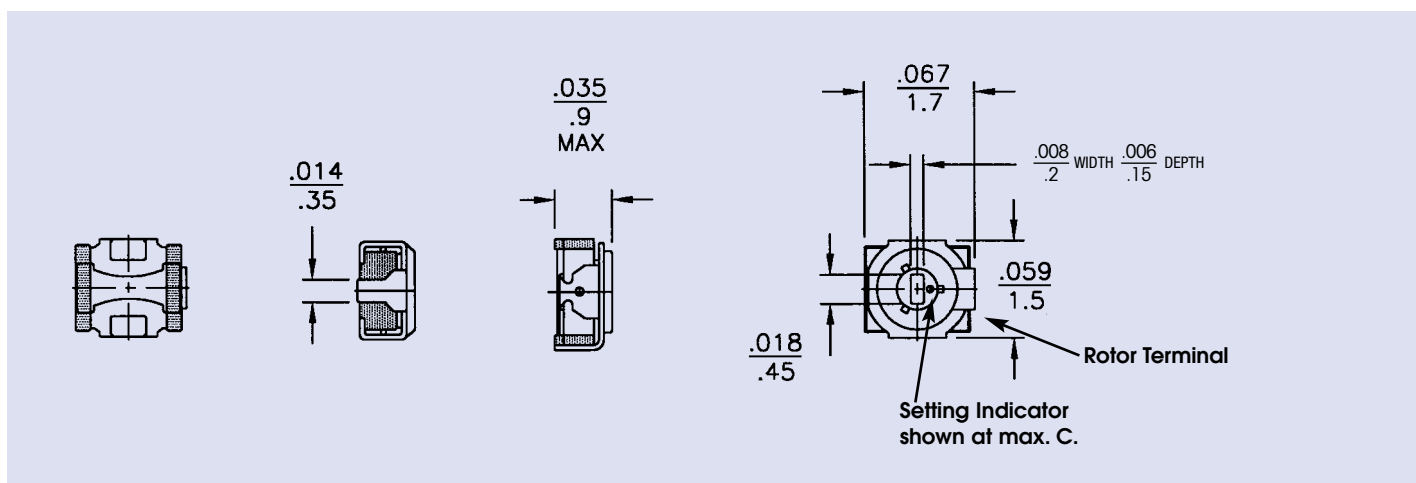


Recommended thickness of solder paste 0.15mm

# JN SERIES - Ceramic Chip Trimmer Capacitors

## GENERAL SPECIFICATIONS

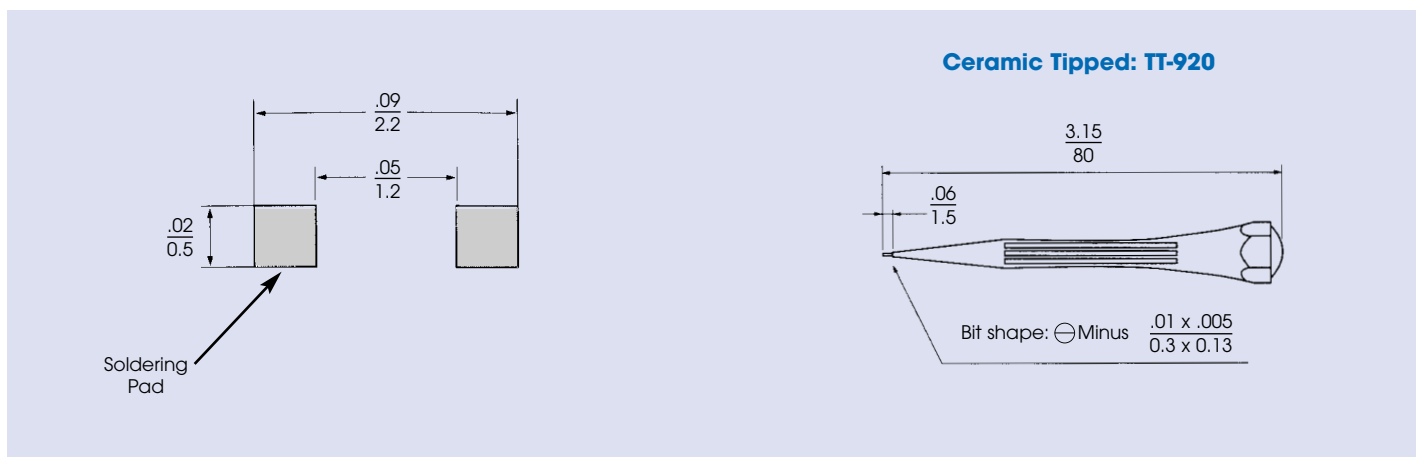
Part Number		JN010	JN015	JN040	JN080
Capacitance (pF)	Minimum	0.55	0.7	1.5	3.0
	Maximum	1.0 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$	1.5 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$	4.0 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$	8.0 $\begin{smallmatrix} +100\% \\ -0\% \end{smallmatrix}$
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>9</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  $\pm \frac{0.020 \text{ in.}}{0.5 \text{ mm}}$

## SOLDER PAD LAYOUT

## RECOMMENDED TUNING TOOL FOR JN SERIES



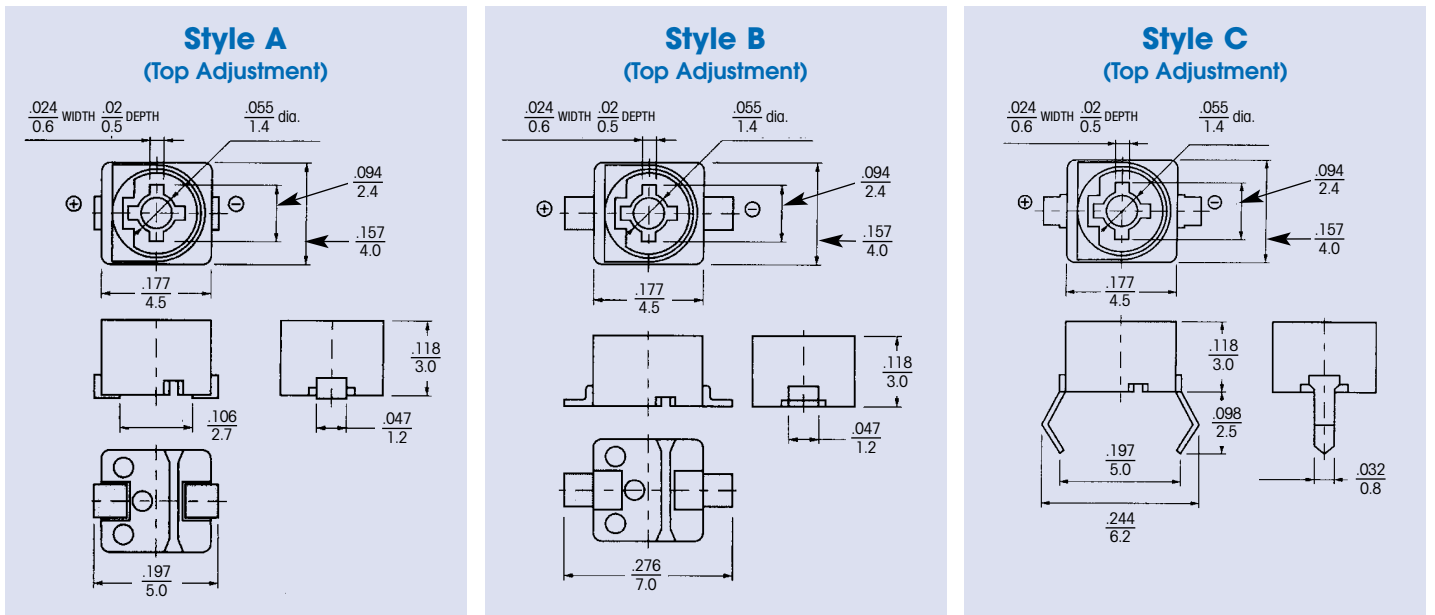
**Recommended thickness of solder paste 0.15mm**

# JT SERIES - Ceramic Chip Trimmer Capacitors

## GENERAL SPECIFICATIONS

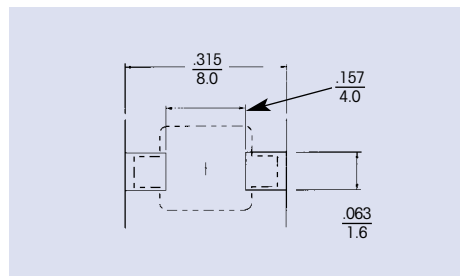
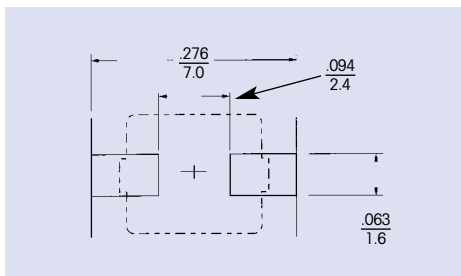
Part Number		JT_030	JT_060	JT_100	JT_200	JT_250	JT_300	JT_400	JT_500
Capacitance (pF)	Minimum	1.4	2.0	3.0	4.5	4.0	6.5	8.5	7.0
	Maximum	3.0 $\pm 50\%$	6.0 $\pm 50\%$	10.0 $\pm 50\%$	20.0 $\pm 50\%$	25.0 $\pm 100\%$	30.0 $\pm 50\%$	40.0 $\pm 50\%$	50.0 $\pm 100\%$
Marking Color		Brown	Blue	White	Red	Black	Green	Yellow	Black
DC Working Voltage		100	100	100	100	50	100	100	50
DC Withstanding Voltage		220	220	220	220	110	220	220	110
Temperature Coefficient (ppm/°C)		0 $\pm 200$	0 $\pm 200$	0 $\pm 300$	-750 $\pm 300$	0 $\pm 300$	-1200 $\pm 500$	-1200 $\pm 500$	-750 $\pm 300$
Q (min.) at 1 MHz		300	500	500	500	300	300	300	300
Self Resonant Frequency at Maximum Rated Capacitance		1.9 GHz	1.3 GHz	1.0 GHz	0.75 GHz	0.65 GHz	0.60 GHz	0.50 GHz	0.40 GHz
Insulation Resistance		10 <sup>9</sup> megohms							
Operating Temperature		-25°C to +85°C							
Torque		.21 to 1.4 in-oz							
Packaging		JTA, JTB & JTE parts furnished on 8mm tape and reel. 500 pcs. per reel. • JTC & JTD parts furnished in plastic bag. 500 pcs. per bag.							

**NOTE:** ALL PARTS COVERED WITH MEMBRANE SEAL.

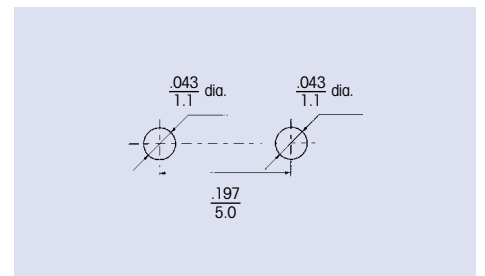


Drawing tolerances where not specified  $\pm 0.020$  in.  
 $\pm 0.5$  mm

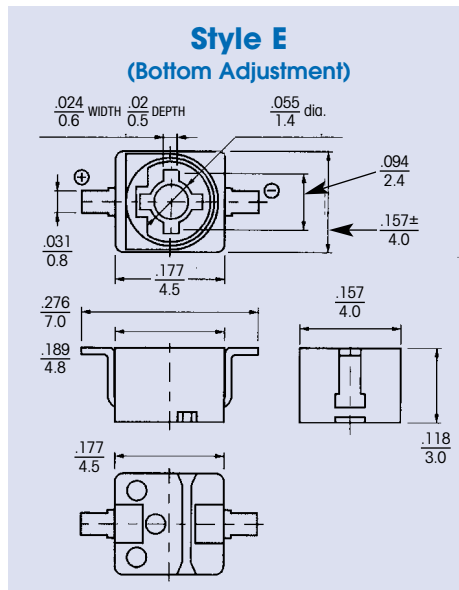
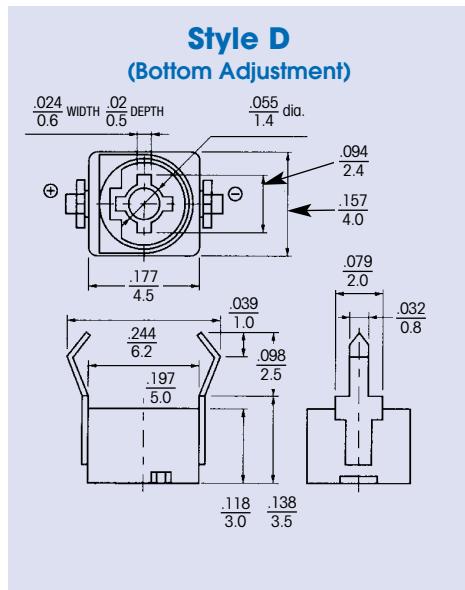
## SOLDER PAD LAYOUTS



## MOUNTING HOLES

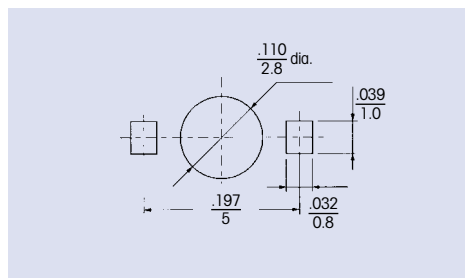


**Recommended thickness of solder paste 0.20mm**

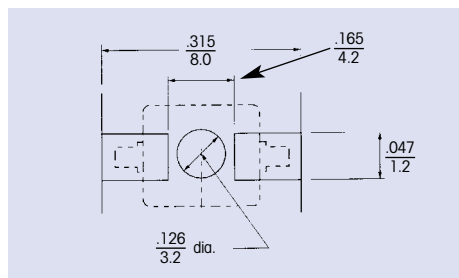


Drawing tolerances where not specified  $\pm \frac{0.020}{0.5}$  in.  
mm

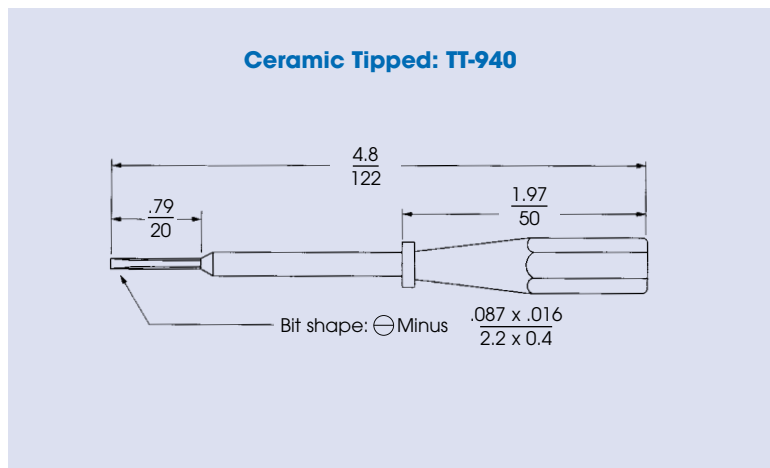
#### MOUNTING HOLES



#### SOLDER PAD LAYOUT



#### RECOMMENDED TUNING TOOL FOR JT SERIES



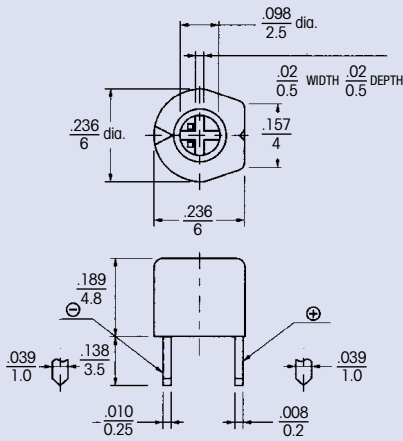
Recommended thickness of solder paste 0.20mm

# JB SERIES - Ceramic Chip Trimmer Capacitors

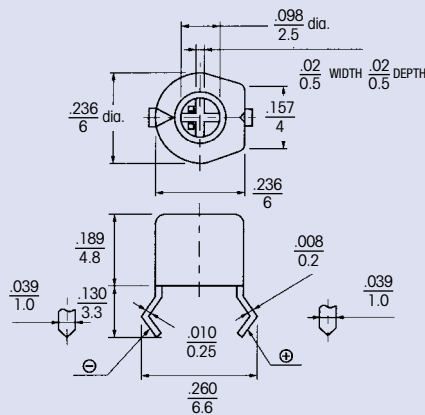
## GENERAL SPECIFICATIONS

Part Number		JB_023	JB_050	JB_070	JB_100	JB_101	JB_110	JB_200
Capacitance (pF)	Minimum	1.25	1.5	2.0	2.7	2.1	3.0	4.2
	Maximum	2.3 <sup>+50%</sup> <sub>-0%</sub>	5.0 <sup>+50%</sup> <sub>-0%</sub>	7.0 <sup>+50%</sup> <sub>-0%</sub>	10.0 <sup>+50%</sup> <sub>-0%</sub>	10.0 <sup>+50%</sup> <sub>-0%</sub>	11.0 <sup>+50%</sup> <sub>-0%</sub>	20.0 <sup>+50%</sup> <sub>-0%</sub>
Marking Color		Black	Blue	Blue	Blue	White	White	Pink
DC Working Voltage		100	100	100	100	100	100	100
DC Withstanding Voltage		220	220	220	220	220	220	220
Temperature Coefficient (ppm/°C)		0±200	0±200	0±200	0±200	-200±200	-450±300	-450±300
Q (min.) at 1 MHz		300	500	500	500	500	500	500
Self Resonant Frequency at Maximum Rated Capacitance		1.4 GHz	0.9 GHz	0.7 GHz	0.6 GHz	0.6 GHz	0.6 GHz	0.45 GHz
Insulation Resistance		10 <sup>4</sup> megohms						
Operating Temperature		-25°C to +85°C						
Torque		.28 to 2.1 in-oz						
Packaging		All parts furnished in plastic bag. 500 pcs. per bag.						

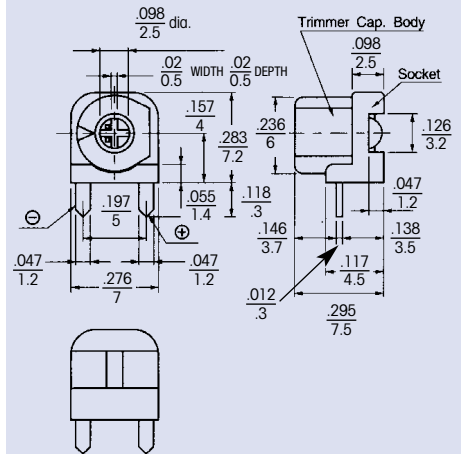
**Style A**  
(Top Adjustment)



**Style B**  
(Top Adjustment)

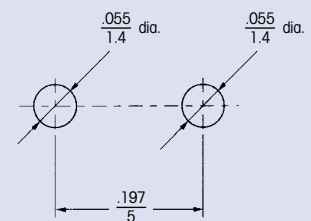
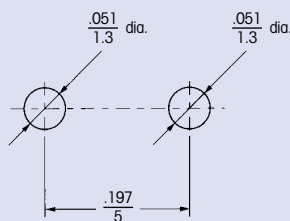
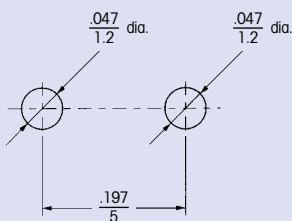


**Style C**  
(Side Adjustment)



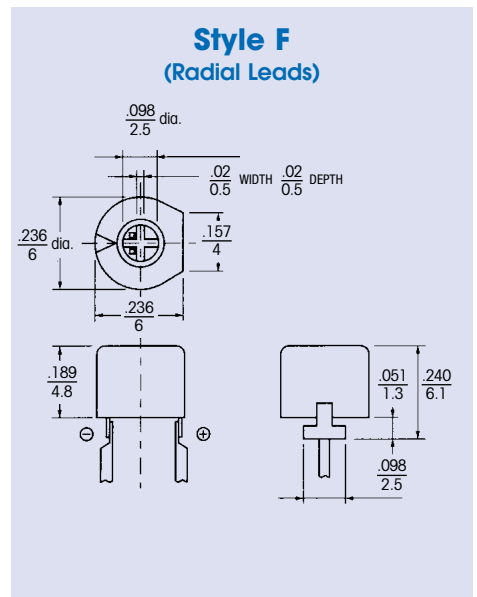
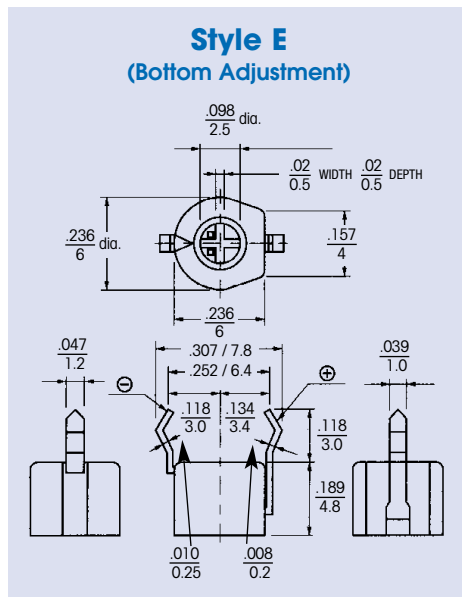
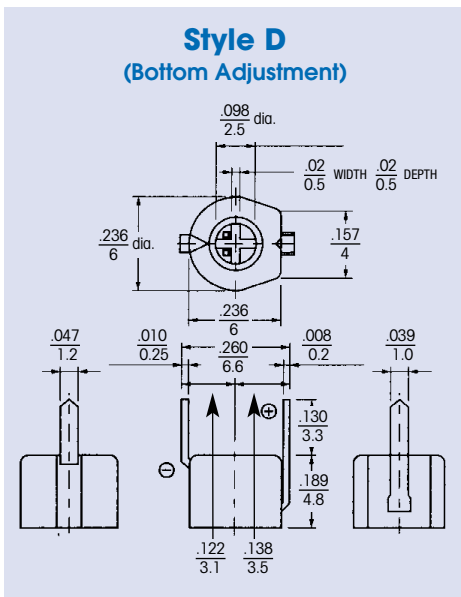
Drawing tolerances where not specified  $\pm \frac{0.020}{0.5}$  in.  
mm

## MOUNTING HOLES



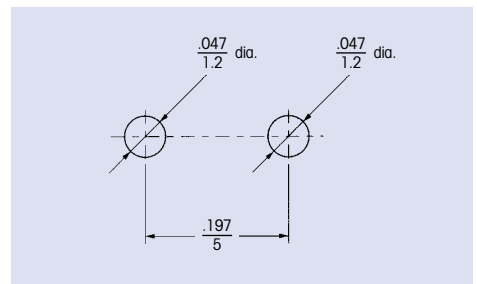
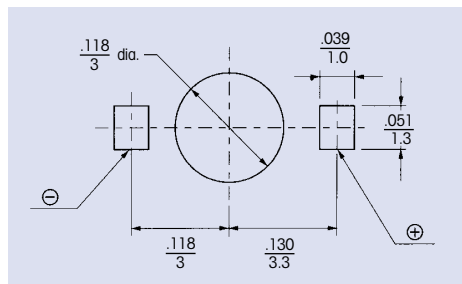
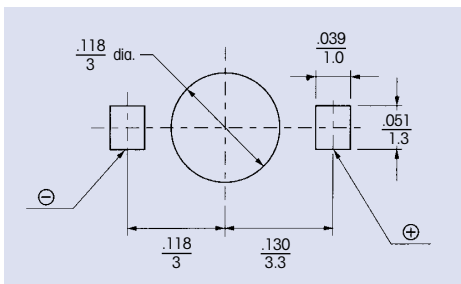
## GENERAL SPECIFICATIONS

Part Number	JB_201	JB_300	JB_450	JB_500	JB_600	JB_900	JB_1200
Capacitance (pF)	Minimum	4.2	5.2	6.8	6	9.8	10
	Maximum	20 <sup>+50%</sup> <sub>-0%</sub>	30 <sup>+50%</sup> <sub>-0%</sub>	45 <sup>+50%</sup> <sub>-0%</sub>	50 <sup>+100%</sup> <sub>-0%</sub>	60 <sup>+50%</sup> <sub>-0%</sub>	90 <sup>+100%</sup> <sub>-0%</sub>
Marking Color	Red	Green	Yellow	Orange	Brown	Black+Dot	Black
DC Working Voltage	100	100	100	50	100	50	50
DC Withstanding Voltage	220	220	220	110	220	110	110
Temperature Coefficient (ppm/°C)	-750±300	-750±300	-1200±500	0±300	-1200±500	-750±300	-750±300
Q (min.) at 1 MHz	500	500	300	300	300	300	300
Self Resonant Frequency at Maximum Rated Capacitance	0.45 GHz	0.36 GHz	0.28 GHz	0.27 GHz	0.25 GHz	0.2 GHz	0.17 GHz
Insulation Resistance	10 <sup>4</sup> megohms						
Operating Temperature	-25°C to +85°C						
Torque	.28 to 2.1 in-oz						
Packaging	All parts furnished in plastic bag. 500 pcs. per bag except style F with 1,000 pcs. on tape.						



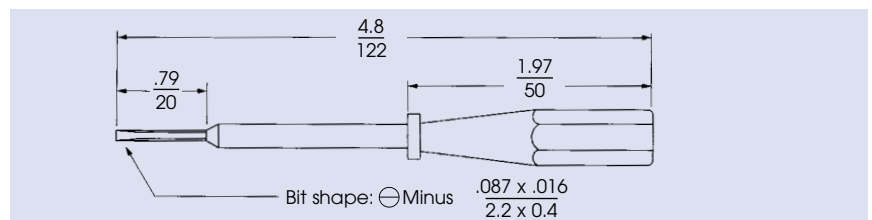
Drawing tolerances where not specified  $\pm 0.020$  in.  
 $\pm 0.5$  mm

## MOUNTING HOLES



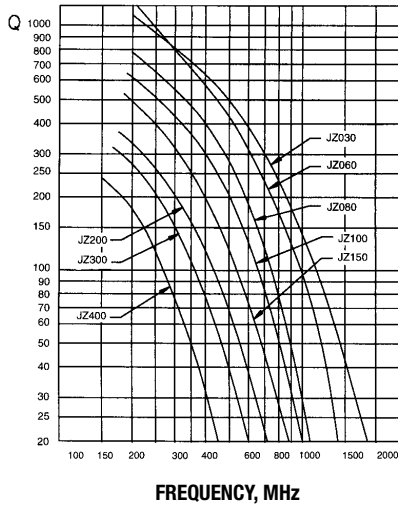
## RECOMMENDED TUNING TOOL FOR JB SERIES

Ceramic Tipped: TT-940

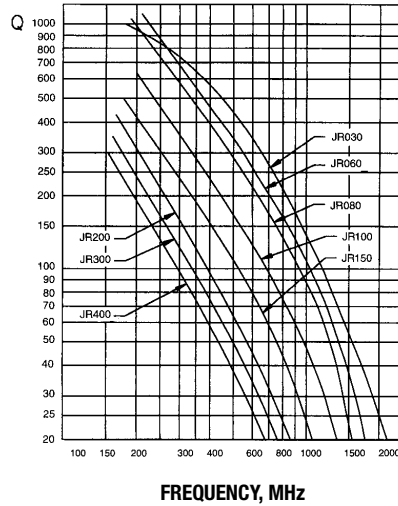


# Q DATA CHARTS & ENGINEERING KITS

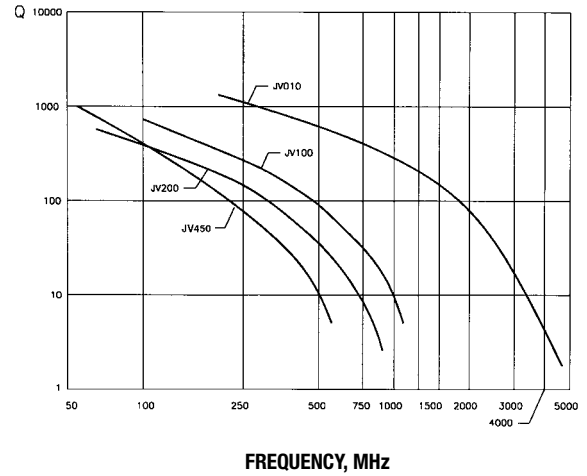
**QUALITY FACTOR (Q)  
OF "JZ" SERIES CAPACITORS**



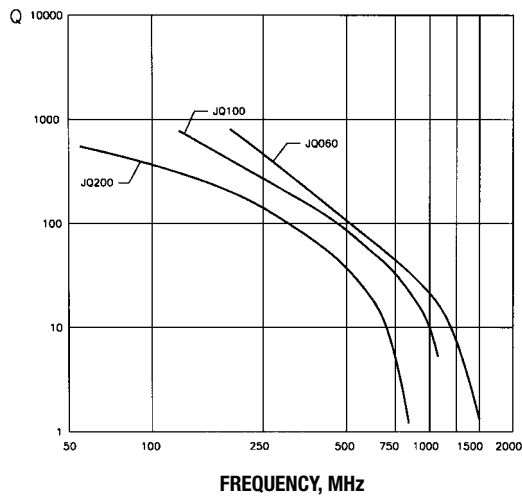
**QUALITY FACTOR (Q)  
OF "JR" SERIES CAPACITORS**



**QUALITY FACTOR (Q)  
OF "JV" SERIES CAPACITORS**



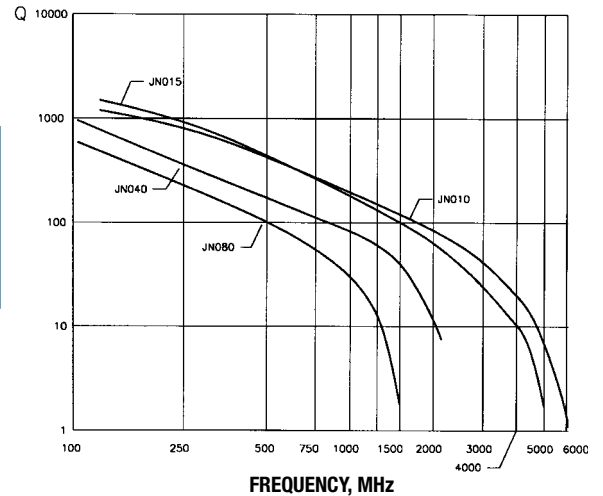
**QUALITY FACTOR (Q)  
OF "JQ" SERIES CAPACITORS**



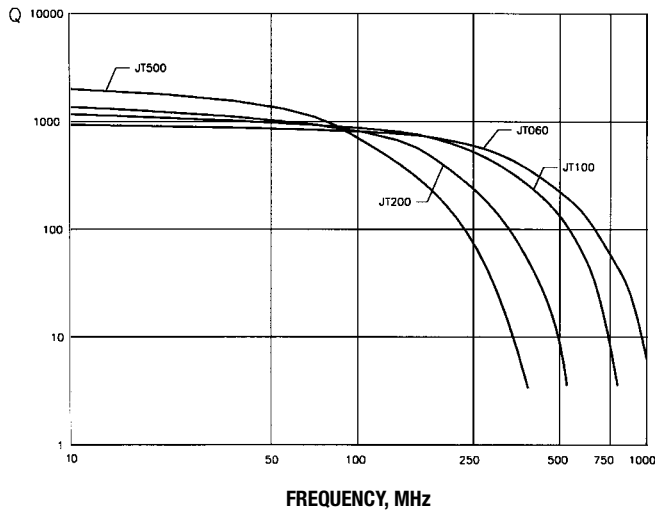
**ENGINEERING KITS**

KIT #	QUANTITY	DESCRIPTION
JZ	4	each capacitance range
JR	4	
JV	5	
JQ	5	
JN	5	

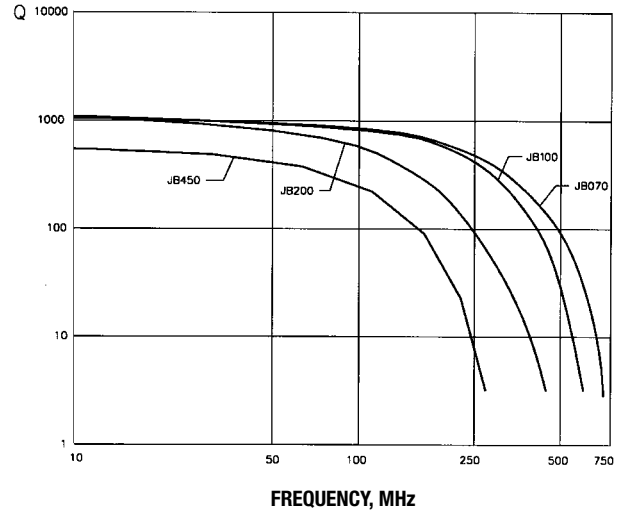
**QUALITY FACTOR (Q)  
OF "JN" SERIES CAPACITORS**



**QUALITY FACTOR (Q)  
OF "JT" SERIES CAPACITORS**



**QUALITY FACTOR (Q)  
OF "JB" SERIES CAPACITORS**



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[JN015](#) [JZ400](#) [JV025](#) [JV200](#) [JQ060](#) [JZ030HV](#) [JZ100HV](#) [JZ200HV](#) [JZ400HV](#) [JZ300HV](#) [JZ060HV](#) [JZ200](#) [JZ080](#)  
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