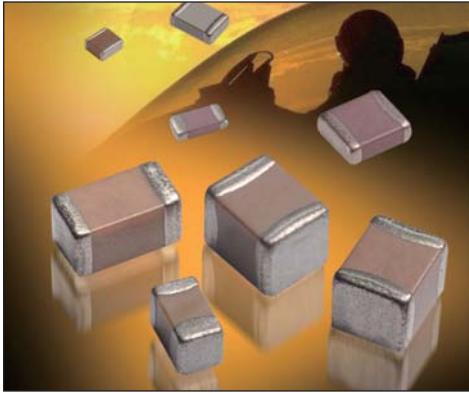


# MIL-PRF-123/Chips



AVX's M123 series MIL-qualified ceramic capacitors are designed for high performance application in BX voltage temperature characteristics for general purpose dielectric and in BP voltage temperature characteristics for temperature stable dielectric.

M123 series capacitors offer design and component engineers a proven technology for SMD processing and applications requiring space-level reliability. They are designed for use in timing circuits and critical frequency applications where absolute stability of capacitance is required (BP), as well as in applications where a wider capacitance variation with temperature and voltage can be tolerated (BX)

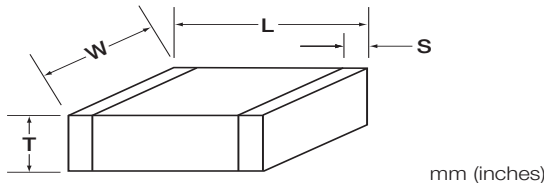
## HOW TO ORDER

**Military Type Designation: Capacitors, Fixed, Ceramic Dielectric, (Temperature Stable and General Purpose), High Reliability**

**Not RoHS Compliant**

<b>M123</b>	<b>A</b>	<b>10</b>	<b>BX</b>	<b>B</b>	<b>103</b>	<b>K</b>	<b>S</b>									
<b>Mil-Spec Number</b>	<b>Modification Spec.</b>	<b>Slash Sheet Number</b>	<b>Temperature Characteristic</b>	<b>Voltage</b> B = 50V C = 100V	<b>Capacitance Code</b>	<b>Capacitance Tolerance</b> C = ±0.25pF D = ±0.5pF F = ±1% J = ±5% K = ±10% M = ±20%	<b>Termination</b> G = Silver - Nickel - Gold M = Palladium/Silver S = Silver - Nickel - Solder Coated Z = Silver - Nickel - Solder Plated (tin/lead alloy with a minimum of 4 percent lead)									
			Capacitance change with reference to 25°C over temperature range -55°C to +125°C													
			<table border="1"> <thead> <tr> <th>Symbol</th> <th>Without Voltage</th> <th>With Rated DC Voltage</th> </tr> </thead> <tbody> <tr> <td>BP</td> <td>0 ± 30 ppm/°C</td> <td>0 ± 30 ppm/°C</td> </tr> <tr> <td>BX</td> <td>+15, -15%</td> <td>+15, -25%</td> </tr> </tbody> </table>	Symbol	Without Voltage	With Rated DC Voltage	BP	0 ± 30 ppm/°C	0 ± 30 ppm/°C	BX	+15, -15%	+15, -25%				
Symbol	Without Voltage	With Rated DC Voltage														
BP	0 ± 30 ppm/°C	0 ± 30 ppm/°C														
BX	+15, -15%	+15, -25%														

## DIMENSIONS



(L) Length	(W) Width	(T) Thickness	(S) Termination Band
<b>CKS51, /10, 0805 Size Chip</b>			
2.03 (0.080) ± 0.381 (0.015)	1.27 (0.050) ± 0.381 (0.015)	0.508 (0.020) Min. 1.40 (0.055) Max.	0.508 (0.020) ± 0.254 (0.010)
<b>CKS52, /11, 1210 Size Chip</b>			
3.05 (0.120) ± 0.381 (0.015)	2.54 (0.100) ± 0.381 (0.015)	0.508 (0.020) Min. 1.65 (0.065) Max.	0.508 (0.020) ± 0.254 (0.010)
<b>CKS53, /12, 1808 Size Chip</b>			
4.57 (0.180) ± 0.381 (0.015)	2.03 (0.080) ± 0.381 (0.015)	0.508 (0.020) Min. 1.65 (0.065) Max.	0.508 (0.020) ± 0.254 (0.010)
<b>CKS54, /13, 2225 Size Chip</b>			
5.59 (0.220) ± 0.381 (0.015)	6.35 (0.250) ± 0.381 (0.015)	0.508 (0.020) Min. 1.78 (0.070) Max.	0.508 (0.020) ± 0.254 (0.010)
<b>CKS55, /21, 1206 Size Chip</b>			
3.05 (0.120) ± 0.381 (0.015)	1.52 (0.060) ± 0.381 (0.015)	0.508 (0.020) Min. 1.65 (0.065) Max.	0.508 (0.020) ± 0.254 (0.010)
<b>CKS56, /22, 1812 Size Chip</b>			
4.57 (0.180) ± 0.381 (0.015)	3.18 (0.125) ± 0.381 (0.015)	0.508 (0.020) Min. 2.03 (0.080) Max.	0.508 (0.020) ± 0.254 (0.010)
<b>CKS57, /23, 1825 Size Chip</b>			
4.57 (0.180) ± 0.381 (0.015)	6.35 (0.250) ± 0.381 (0.015)	0.508 (0.020) Min. 2.03 (0.080) Max.	0.508 (0.020) ± 0.254 (0.010)

Slash Sheet	Case Size	Dielectric	Cap Range (pF)
10	0805	BP	1.0-680
		BX	330-18,000
11	1210	BP	300-3,300
		BX	5,600-100,000
12	1808	BP	300-1,000
		BX	5,600-100,000
13	2225	BP	1,100-10,000
		BX	120,000-1,000,000
21	1206	BP	1.0-2,200
		BX	4,700-39,000
22	1812	BP	1,200-10,000
		BX	27,000-180,000
23	1825	BP	3,900-22,000
		BX	56,000-470,000



Performance of SMPS capacitors can be simulated by downloading SpiCalci software program - <http://www.avx.com/SpiApps/default.asp#spicalci>

# MIL-PRF-123/Chips

## MIL-PRF-123/STYLE CKS51, -/10

Part Number 1/ (0805 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A10BP_1R0_	1.0	C,D	BP	50,100
M123A10BP_1R1_	1.1	↓	BP	↓
M123A10BP_1R2_	1.2			
M123A10BP_1R3_	1.3			
M123A10BP_1R5_	1.5			
M123A10BP_1R6_	1.6			
M123A10BP_1R8_	1.8	↓	BP	↓
M123A10BP_2R0_	2.0			
M123A10BP_2R2_	2.2			
M123A10BP_2R4_	2.4			
M123A10BP_2R7_	2.7			
M123A10BP_3R0_	3.0	↓	BP	↓
M123A10BP_3R3_	3.3			
M123A10BP_3R6_	3.6			
M123A10BP_3R9_	3.9			
M123A10BP_4R3_	4.3			
M123A10BP_4R7_	4.7	↓	BP	↓
M123A10BP_5R1_	5.1			
M123A10BP_5R6_	5.6			
M123A10BP_6R2_	6.2			
M123A10BP_6R8_	6.8			
M123A10BP_7R5_	7.5	↓	BP	↓
M123A10BP_8R2_	8.2			
M123A10BP_9R1_	9.1			
M123A10BP_100_	10			
M123A10BP_110_	11			
M123A10BP_120_	12	↓	BP	↓
M123A10BP_130_	13			
M123A10BP_150_	15			
M123A10BP_160_	16			
M123A10BP_180_	18			
M123A10BP_200_	20	↓	BP	↓
M123A10BP_220_	22			
M123A10BP_240_	24			
M123A10BP_270_	27			
M123A10BP_300_	30			
M123A10BP_330_	33	↓	BP	↓
M123A10BP_360_	36			
M123A10BP_390_	39			
M123A10BP_430_	43			
M123A10BP_470_	47			
M123A10BP_510_	51	↓	BP	↓
M123A10BP_560_	56			
M123A10BP_620_	62			
M123A10BP_680_	68			
M123A10BP_750_	75			

Part Number 1/ (0805 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A10BP_820_	82	F, J, K	BP	50,100
M123A10BP_910_	91	↓	BP	↓
M123A10BP_101_	100			
M123A10BP_111_	110			
M123A10BP_121_	120			
M123A10BP_131_	130			
M123A10BP_151_	150	↓	BP	↓
M123A10BP_161_	160			
M123A10BP_181_	180			
M123A10BP_201_	200			
M123A10BP_221_	220			
M123A10BP_241_	240	↓	BP	↓
M123A10BP_271_	270			
M123A10BP_301_	300			
M123A10BP_331_	330			
M123A10BP_361_	360			
M123A10BP_391_	390	↓	BP	↓
M123A10BP_431_	430			
M123A10BP_471_	470			
M123A10BPB511_	510			
M123A10BPB561_	560			
M123A10BPB621_	620	↓	BP	↓
M123A10BPB681_	680			
M123A10BX_331K_	330			
M123A10BX_391K_	390			
M123A10BX_471K_	470			
M123A10BX_561K_	560	↓	BX	↓
M123A10BX_681K_	680			
M123A10BX_821K_	820			
M123A10BX_102K_	1,000			
M123A10BX_122K_	1,200			
M123A10BX_152K_	1,500	↓	BX	↓
M123A10BX_182K_	1,800			
M123A10BX_222K_	2,200			
M123A10BX_272K_	2,700			
M123A10BX_332K_	3,300			
M123A10BX_392K_	3,900	↓	BX	↓
M123A10BX_472K_	4,700			
M123A10XB562K_	5,600			
M123A10XB682K_	6,800			
M123A10XB822K_	8,200			
M123A10XB103K_	10,000	↓	BX	↓
M123A10XB123K_	12,000			
M123A10XB153K_	15,000			
M123A10XB183K_	18,000			

# MIL-PRF-123/Chips

## MIL-PRF-123/STYLE CKS52, -/11

Part Number 1/ (1210 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A11BP_301_	300	F, J, K	BP	50,100
M123A11BP_331_	330	↓	↓	↓
M123A11BP_361_	360			
M123A11BP_391_	390			
M123A11BP_431_	430			
M123A11BP_471_	470			
M123A11BP_511_	510			
M123A11BP_561_	560			
M123A11BP_621_	620			
M123A11BP_681_	680			
M123A11BP_751_	750			
M123A11BP_821_	820			
M123A11BP_911_	910			
M123A11BP_102_	1,000			
M123A11BP_112_	1,100			
M123A11BP_122_	1,200			
M123A11BP_132_	1,300			
M123A11BP_152_	1,500			
M123A11BP_162_	1,600			
M123A11BP_182_	1,800			
M123A11BP_202_	2,000			
M123A11BP_222_	2,200			
		F, J, K	BP	50,100

Part Number 1/ (1210 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A11BPB242_	2,400	F, J, K	BP	50
M123A11BPB272_	2,700	↓	↓	↓
M123A11BPB302_	3,000			
M123A11BPB332_	3,300	F, J, K	BP	50
M123A11BX_562_	5,600	K, M	BX	50,100
M123A11BX_682_	6,800	↓	↓	↓
M123A11BX_822_	8,200			
M123A11BX_103_	10,000			
M123A11BX_123_	12,000			
M123A11BX_153_	15,000	↓	↓	↓
M123A11BX_183_	18,000			
M123A11BX_223_	22,000			
M123A11BX_273_	27,000			
M123A11BXB333_	33,000	K, M	BX	50
M123A11BXB393_	39,000	↓	↓	↓
M123A11BXB473_	47,000			
M123A11BXB563_	56,000			
M123A11BXB683_	68,000			
M123A11BXB823_	82,000	↓	↓	↓
M123A11BXB104_	100,000			
		K, M	BX	50

## MIL-PRF-123/STYLE CKS53, -/12

Part Number 1/ (1808 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A12BP_301_	300	F, J, K	BP	50,100
M123A12BP_331_	330	↓	↓	↓
M123A12BP_361_	360			
M123A12BP_391_	390			
M123A12BP_431_	430			
M123A12BP_471_	470			
M123A12BP_511_	510			
M123A12BP_561_	560			
M123A12BP_621_	620			
M123A12BP_681_	680			
M123A12BP_751_	750			
M123A12BP_821_	820			
M123A12BP_911_	910			
M123A12BP_102_	1,000			
		F, J, K	BP	50,100

Part Number 1/ (1808 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A12BX_562K_	5,600	K	BX	50,100
M123A12BX_682K_	6,800	↓	↓	↓
M123A12BX_822K_	8,200			
M123A12BX_103K_	10,000			
M123A12BX_123K_	12,000			
M123A12BX_153K_	15,000	↓	↓	↓
M123A12BX_183K_	18,000			
M123A12BX_223K_	22,000			
M123A12BX_273K_	27,000			
M123A12BX_333K_	33,000	K	BX	50,100
M123A12BXB393K_	39,000	↓	↓	↓
M123A12BXB473K_	47,000			
M123A12BXB563K_	56,000			
M123A12BXB683K_	68,000			
M123A12BXB823K_	82,000			
M123A12BXB104K_	100,000	K	BX	50

## MIL-PRF-123/STYLE CKS54, -/13

Part Number 1/ (2225 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A13BPB112_	1,100	F, J, K	BP	50
M123A13BPB122_	1,200	↓	↓	↓
M123A13BPB132_	1,300			
M123A13BPB152_	1,500			
M123A13BPB162_	1,600			
M123A13BPB182_	1,800			
M123A13BPB202_	2,000			
M123A13BPB222_	2,200			
M123A13BPB242_	2,400			
M123A13BPB272_	2,700			
M123A13BPB302_	3,000			
M123A13BPB332_	3,300			
M123A13BPB362_	3,600			
M123A13BPB392_	3,900			
M123A13BPB432_	4,300			
M123A13BPB472_	4,700			
M123A13BPB512_	5,100			
		F, J, K	BP	50

Part Number 1/ (2225 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A13BPB562_	5,600	F, J, K	BP	50
M123A13BPB622_	6,200	↓	↓	↓
M123A13BPB682_	6,800			
M123A13BPB752_	7,500			
M123A13BPB822_	8,200	↓	↓	↓
M123A13BPB912_	9,100			
M123A13BPB103_	10,000			
M123A13BXB124K_	120,000	↓	↓	↓
M123A13BXB154K_	150,000			
M123A13BXB184K_	180,000			
M123A13BXB224K_	220,000			
M123A13BXB274K_	270,000			
M123A13BXB334K_	330,000	↓	↓	↓
M123A13BXB394K_	394,000			
M123A13BXB474K_	474,000			
M123A13BXB105K_	1,000,000			

# MIL-PRF-123/Chips

## MIL-PRF-123/STYLE CKS55, -/21

Part Number 1/ (1206 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A21BPC1R0__	1.0	B, C	BP	100
M123A21BPC1R1__	1.1	↓	↓	↓
M123A21BPC1R2__	1.2			
M123A21BPC1R3__	1.3			
M123A21BPC1R5__	1.5			
M123A21BPC1R6__	1.6			
M123A21BPC1R8__	1.8			
M123A21BPC2R0__	2.0	↓	↓	↓
M123A21BPC2R2__	2.2			
M123A21BPC2R4__	2.4			
M123A21BPC2R7__	2.7			
M123A21BPC3R0__	3.0	↓	↓	↓
M123A21BPC3R3__	3.3			
M123A21BPC3R6__	3.6			
M123A21BPC3R9__	3.9			
M123A21BPC4R3__	4.3			
M123A21BPC4R7__	4.7	↓	↓	↓
M123A21BPC5R1__	5.1			
M123A21BPC5R6__	5.6			
M123A21BPC6R2__	6.2			
M123A21BPC6R8__	6.8			
M123A21BPC7R5__	7.5			
M123A21BPC8R2__	8.2			
M123A21BPC9R1__	9.1			
		B, C, D	BP	100

Part Number 1/ (1206 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A21BPC100__	10	↓	↓	↓
M123A21BPC110__	11			
M123A21BPC120__	12			
M123A21BPC130__	13			
M123A21BPC150__	15			
M123A21BPC160__	16			
M123A21BPC180__	18			
M123A21BPC200__	20			
M123A21BPC240__	24			
M123A21BPC270__	27			
M123A21BPC330__	33			
M123A21BPC360__	36			
M123A21BPC390__	39			
M123A21BPC430__	43			
M123A21BPC470__	47			
M123A21BPC510__	51			
M123A21BPC560__	56			
M123A21BPC620__	62			
M123A21BPC680__	68			
M123A21BPC750__	75			
M123A21BPC820__	82			
M123A21BPC910__	91			
M123A21BPC101__	100	F, J, K	BP	100

## MIL-PRF-123/STYLE CKS55, -/21

Part Number 1/ (1206 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A21BPC111__	110	↓	↓	↓
M123A21BPC121__	120			
M123A21BPC131__	130			
M123A21BPC151__	150			
M123A21BPC161__	160			
M123A21BPC181__	180			
M123A21BPC201__	200	↓	↓	↓
M123A21BPC221__	220			
M123A21BPC241__	240			
M123A21BPC271__	270			
M123A21BPC301__	300			
M123A21BPC331__	330			
M123A21BPC361__	360			
M123A21BPC391__	390			
M123A21BPC431__	430			
M123A21BPC471__	470	↓	↓	↓
M123A21BPC511__	510			
M123A21BPC561__	560			
M123A21BPC621__	620			
M123A21BPC681__	680			
M123A21BPC751__	750			
M123A21BPC821__	820			
M123A21BPC911__	910			
M123A21BPC102__	1,000			

Part Number 1/ (1206 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A21BPB112__	1,100	↓	↓	↓
M123A21BPB122__	1,200			
M123A21BPB132__	1,300			
M123A21BPB152__	1,500			
M123A21BPB162__	1,600			
M123A21BPB182__	1,800			
M123A21BPB202__	2,000	↓	↓	↓
M123A21BPB222__	2,200			
M123A21BXC472__	4,700	↓	↓	↓
M123A21BXC562__	5,600			
M123A21BXC682__	6,800			
M123A21BXC822__	8,200			
M123A21BXC103__	10,000			
M123A21BXC123__	12,000	↓	↓	↓
M123A21BXC153__	15,000			
M123A21BXB183__	18,000	↓	↓	↓
M123A21BXB223__	22,000			
M123A21BXB273__	27,000			
M123A21BXB333__	33,000			
M123A21BXB393__	39,000			
		K, M	BX	50

# MIL-PRF-123/Chips

## MIL-PRF-123/STYLE CKS56, -/22

Part Number 1/ (1812 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A22BPC122__	1,200	F, J, K	BP	100
M123A22BPC152__	1,500	↓	↓	↓
M123A22BPC182__	1,800	↓	↓	↓
M123A22BPC222__	2,200	↓	↓	↓
M123A22BPC242__	2,400	↓	↓	↓
M123A22BPC272__	2,700	↓	↓	↓
M123A22BPC302__	3,000	↓	↓	↓
M123A22BPC332__	3,300	↓	↓	↓
M123A22BPC362__	3,600	↓	↓	↓
M123A22BPC392__	3,900	↓	↓	↓
M123A22BPC432__	4,300	↓	↓	↓
M123A22BPC472__	4,700	F, J, K	BP	100
M123A22BPB512__	5,100	F, J, K	BP	50
M123A22BPB562__	5,600	↓	↓	↓
M123A22BPB622__	6,200	↓	↓	↓
M123A22BPB682__	6,800	↓	↓	↓
M123A22BPB752__	7,500	↓	↓	↓
M123A22BPB822__	8,200	↓	↓	↓
M123A22BPB912__	9,100	↓	↓	↓
M123A22BPB103__	10,000	F, J, K	BP	50

Part Number 1/ (1812 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A22BXC273__	27,000	K, M	BX	100
M123A22BXC333__	33,000	↓	↓	↓
M123A22BXC393__	39,000	↓	↓	↓
M123A22BXC473__	47,000	↓	↓	↓
M123A22BXC563__	56,000	K, M	BX	100
M123A22BXC823__	82,000	K, M	BX	50
M123A22BXC104__	100,000	↓	↓	↓
M123A22BXC124__	120,000	↓	↓	↓
M123A22BXC154__	150,000	↓	↓	↓
M123A22BXC184__	180,000	K, M	BX	50

## MIL-PRF-123/STYLE CKS57, -/23

Part Number 1/ (1825 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A23BPC392__	3,900	F, J, K	BP	100
M123A23BPC472__	4,700	↓	↓	↓
M123A23BPC512__	5,100	↓	↓	↓
M123A23BPC562__	5,600	↓	↓	↓
M123A23BPC622__	6,200	↓	↓	↓
M123A23BPC682__	6,800	↓	↓	↓
M123A23BPC752__	7,500	↓	↓	↓
M123A23BPC822__	8,200	↓	↓	↓
M123A23BPC912__	9,100	↓	↓	↓
M123A23BPC103__	10,000	F, J, K	BP	100
M123A23BPB113__	11,000	F, J, K	BP	50
M123A23BPB123__	12,000	↓	↓	↓
M123A23BPB133__	13,000	↓	↓	↓
M123A23BPB153__	15,000	↓	↓	↓
M123A23BPB163__	16,000	↓	↓	↓
M123A23BPB183__	18,000	↓	↓	↓
M123A23BPB203__	20,000	↓	↓	↓
M123A23BPB223__	22,000	F, J, K	BP	50

Part Number 1/ (1825 Size Chip)	Capacitance pF	Capacitance Tolerance	Voltage- Temperature Limits	Rated Voltage
M123A23BXC563__	56,000	K, M	BX	100
M123A23BXC683__	68,000	↓	↓	↓
M123A23BXC823__	82,000	↓	↓	↓
M123A23BXC104__	100,000	↓	↓	↓
M123A23BXC124__	120,000	↓	↓	↓
M123A23BXC154__	150,000	K, M	BX	100
M123A23BXC184__	180,000	K, M	BX	50
M123A23BXC224__	220,000	↓	↓	↓
M123A23BXC274__	270,000	↓	↓	↓
M123A23BXC334__	330,000	↓	↓	↓
M123A23BXC394__	390,000	↓	↓	↓
M123A23BXC474__	470,000	K, M	BX	50