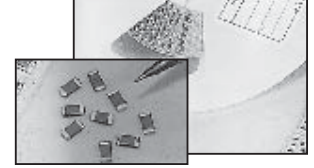


FEATURES

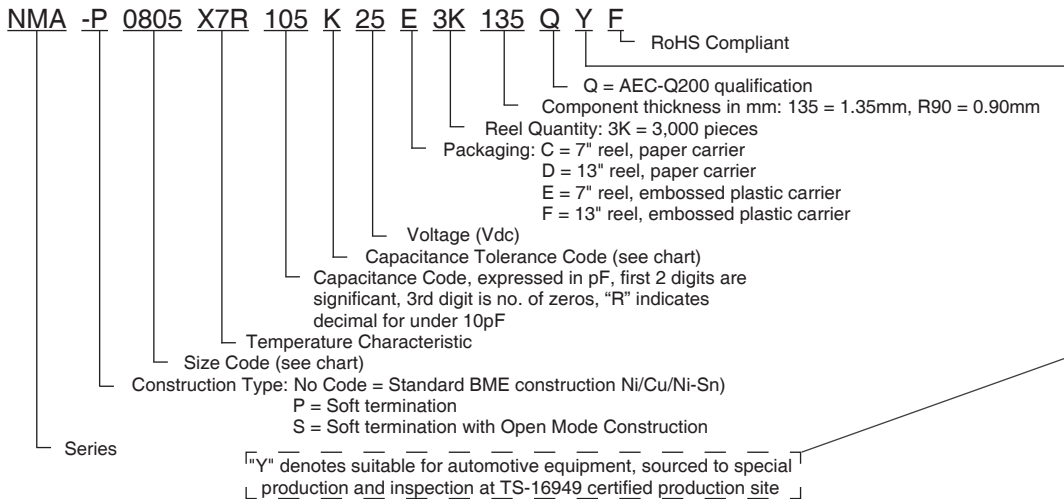
- MANUFACTURED AT ISO/TS 16949 PRODUCTION FACILITY
- AEC-Q200 QUALIFIED
- SURFACE MOUNT CASE SIZES 0402, 0603, 0805 & 1206
- AVAILABLE IN NPO & X7R DIELECTRICS
- AVAILABLE WITH FLEX TERMINATIONS & OPEN MODE CONSTRUCTION



CHARACTERISTICS

Type	NPO	X7R
Capacitance Range	4.7pF ~ 0.01μF	220pF ~ 4.7μF
Capacitance Tolerance	<5pF: C (±0.25pF), 5pF ~ <10pF: D (±0.5pF), >10pF: J (±5%)	±10% (K)
Operating Temperature Range	-55°C ~ +125°C	-55°C ~ +125°C
Temperature Characteristics	0±30 ppm/°C	±15%
Rated Voltages	50V & 100V	16V, 25V, 50V & 100V
Q Factor	Cap. ≤30pF: Q = 1,000 min. Cap. >30pF: Q = 400 +20xC	-
Dissipation Factor	-	3.5% max.
Insulation Resistance @ 25°C @ ≤ Rated Voltage for 60 Sec.	100,000MΩ or 1,000MΩ • μF Whichever is less	10,000MΩ or 500MΩ • μF Whichever is less
Insulation Resistance @ 125°C @ ≤ Rated Voltage for 60 Sec.	10,000MΩ or 100MΩ • μF Whichever is less	1,000MΩ or 10MΩ • μF Whichever is less
Dielectric Withstanding Voltage	250% of rated voltage for 1~5 sec, 50mA current maximum	
Test Conditions (EIA-198-2E)	≤1000pF (1MHz±10%), 0.5~5Vrms >1000pF (1KHz ±10%), 1.0Vrms ± 0.2Vrms	1KHz, 1.0V ±0.2Vrms

PART NUMBER SYSTEM

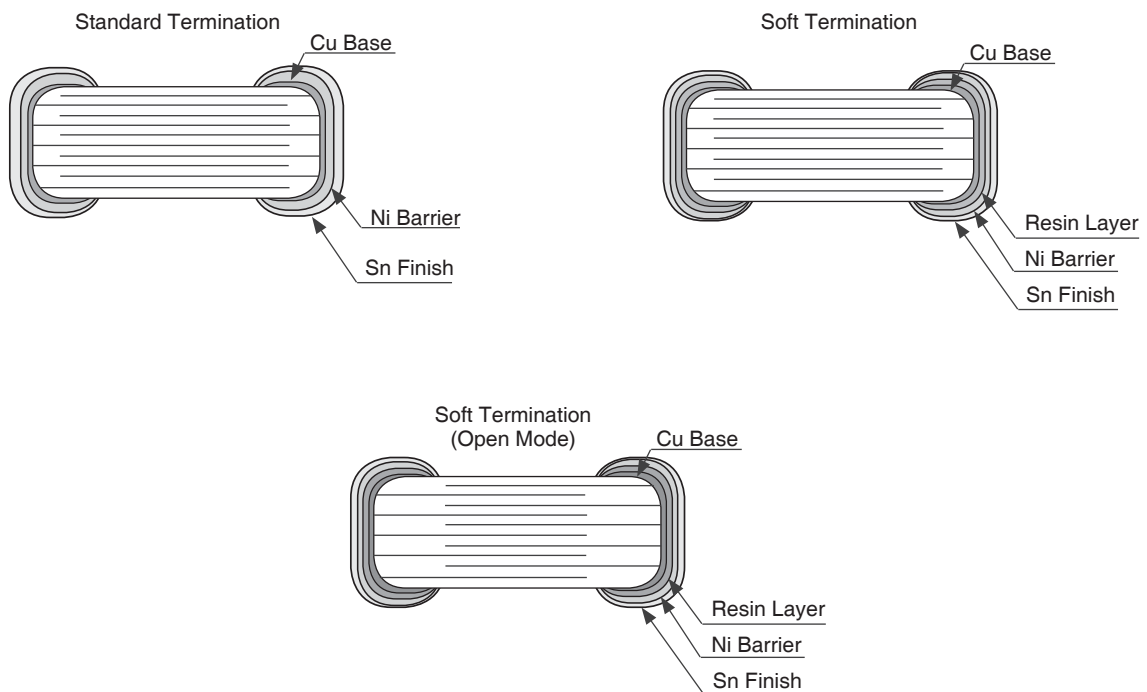


AVAILABLE TERMINATION TYPES

Case Size	NPO	X7R
0402	Standard	Soft
0603	Standard	Soft & Soft (Open Mode)
0805	Standard	Soft & Soft (Open Mode)
1206	n/a	Soft & Soft (Open Mode)

PCB FLEX SPECIFICATION (AEC Q-200-005)

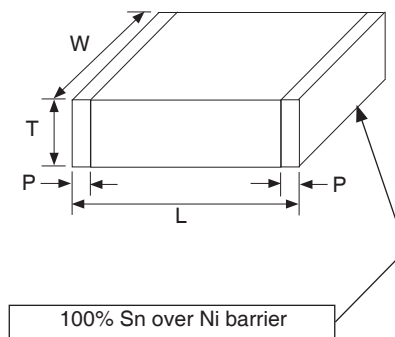
Case Size	NPO (Standard Terminations)	X7R (Soft Terminations)
0402	3mm ($\Delta C \pm 5\%$ or 0.5pF whichever is greater)	2mm ($\Delta C \pm 10 \text{ max.}$)
0603		
0805		
1206	n/a	



0402 NPO Standard Terminations

EIA Case Size	NPO 0402 Standard Terminations			
Length (L)	1.0 ± 0.05			
Width (W)	0.5 ± 0.05			
Termination Width (P)	0.2 +0.15/-0.10			
Part Number	Capacitance (pF)	Voltage (VDC)	Tolerance	Maximum Thickness
NMA0402NPO4R7C50C10KR55QYF	4.7	50V	±0.25pF	0.55
NMA0402NPO6R8D50C10KR55QYF	6.8	50V	±0.5pF	0.55
NMA0402NPO100J50C10KR55QYF	10	50V	±5%	0.55
NMA0402NPO120J50C10KR55QYF	12	50V	±5%	0.55
NMA0402NPO150J50C10KR55QYF	15	50V	±5%	0.55
NMA0402NPO180J50C10KR55QYF	18	50V	±5%	0.55
NMA0402NPO220J50C10KR55QYF	22	50V	±5%	0.55
NMA0402NPO270J50C10KR55QYF	27	50V	±5%	0.55
NMA0402NPO330J50C10KR55QYF	33	50V	±5%	0.55
NMA0402NPO390J50C10KR55QYF	39	50V	±5%	0.55
NMA0402NPO470J50C10KR55QYF	47	50V	±5%	0.55
NMA0402NPO560J50C10KR55QYF	56	50V	±5%	0.55
NMA0402NPO680J50C10KR55QYF	68	50V	±5%	0.55
NMA0402NPO820J50C10KR55QYF	82	50V	±5%	0.55
NMA0402NPO101J50C10KR55QYF	100	50V	±5%	0.55
NMA0402NPO121J50C10KR55QYF	120	50V	±5%	0.55
NMA0402NPO151J50C10KR55QYF	150	50V	±5%	0.55
NMA0402NPO221J50C10KR55QYF	220	50V	±5%	0.55
NMA0402NPO4R7C100C10KR55QYF	4.7	100 V	±0.25pF	0.55
NMA0402NPO6R8D100C10KR55QYF	6.8	100 V	±0.5pF	0.55
NMA0402NPO100J100C10KR55QYF	10	100 V	±5%	0.55
NMA0402NPO120J100C10KR55QYF	12	100 V	±5%	0.55
NMA0402NPO150J100C10KR55QYF	15	100 V	±5%	0.55
NMA0402NPO180J100C10KR55QYF	18	100 V	±5%	0.55
NMA0402NPO220J100C10KR55QYF	22	100 V	±5%	0.55
NMA0402NPO270J100C10KR55QYF	27	100 V	±5%	0.55
NMA0402NPO330J100C10KR55QYF	33	100 V	±5%	0.55
NMA0402NPO390J100C10KR55QYF	39	100 V	±5%	0.55
NMA0402NPO470J100C10KR55QYF	47	100 V	±5%	0.55
NMA0402NPO560J100C10KR55QYF	56	100 V	±5%	0.55
NMA0402NPO680J100C10KR55QYF	68	100 V	±5%	0.55
NMA0402NPO820J100C10KR55QYF	82	100 V	±5%	0.55
NMA0402NPO101J100C10KR55QYF	100	100 V	±5%	0.55

(CONSULT FACTORY FOR CAPACITANCE VALUES NOT LISTED)



0402 X7R Soft Terminations

EIA Case Size	X7R 0402 Soft Termination			
Length (L)	1.0 ± 0.05			
Width (W)	0.5 ± 0.05			
Termination Width (P)	0.2 +0.15/-0.10			
Part Number	Capacitance	Voltage (VDC)	Tolerance	Maximum Thickness
NMA-P0402X7R102K16C10KR55QYF	0.001μF	16 V	±10%	0.55
NMA-P0402X7R152K16C10KR55QYF	0.0015μF	16 V	±10%	0.55
NMA-P0402X7R222K16C10KR55QYF	0.0022μF	16 V	±10%	0.55
NMA-P0402X7R332K16C10KR55QYF	0.0033μF	16 V	±10%	0.55
NMA-P0402X7R472K16C10KR55QYF	0.0047μF	16 V	±10%	0.55
NMA-P0402X7R682K16C10KR55QYF	0.0068μF	16 V	±10%	0.55
NMA-P0402X7R103K16C10KR55QYF	0.01μF	16 V	±10%	0.55
NMA-P0402X7R153K16C10KR55QYF	0.015μF	16 V	±10%	0.55
NMA-P0402X7R223K16C10KR55QYF	0.022μF	16 V	±10%	0.55
NMA-P0402X7R473K16C10KR55QYF	0.047μF	16 V	±10%	0.55
NMA-P0402X7R683K16C10KR55QYF	0.068μF	16 V	±10%	0.55
NMA-P0402X7R104K16C10KR55QYF	0.1μF	16 V	±10%	0.55
NMA-P0402X7R102K25C10KR55QYF	0.001μF	25V	±10%	0.55
NMA-P0402X7R152K25C10KR55QYF	0.0015μF	25V	±10%	0.55
NMA-P0402X7R222K25C10KR55QYF	0.0022μF	25V	±10%	0.55
NMA-P0402X7R332K25C10KR55QYF	0.0033μF	25V	±10%	0.55
NMA-P0402X7R472K25C10KR55QYF	0.0047μF	25V	±10%	0.55
NMA-P0402X7R682K25C10KR55QYF	0.0068μF	25V	±10%	0.55
NMA-P0402X7R103K25C10KR55QYF	0.01μF	25V	±10%	0.55
NMA-P0402X7R153K25C10KR55QYF	0.015μF	25V	±10%	0.55
NMA-P0402X7R223K25C10KR55QYF	0.022μF	25V	±10%	0.55
NMA-P0402X7R331K50C10KR55QYF	330pF	50V	±10%	0.55
NMA-P0402X7R471K50C10KR55QYF	470pF	50V	±10%	0.55
NMA-P0402X7R681K50C10KR55QYF	680pF	50V	±10%	0.55
NMA-P0402X7R102K50C10KR55QYF	0.001μF	50V	±10%	0.55
NMA-P0402X7R152K50C10KR55QYF	0.0015μF	50V	±10%	0.55
NMA-P0402X7R222K50C10KR55QYF	0.0022μF	50V	±10%	0.55
NMA-P0402X7R332K50C10KR55QYF	0.0033μF	50V	±10%	0.55
NMA-P0402X7R472K50C10KR55QYF	0.0047μF	50V	±10%	0.55
NMA-P0402X7R682K50C10KR55QYF	0.0068μF	50V	±10%	0.55
NMA-P0402X7R103K50C10KR55QYF	0.01μF	50V	±10%	0.55
NMA-P0402X7R153K50C10KR55QYF	0.015μF	50V	±10%	0.55
NMA-P0402X7R223K50C10KR55QYF	0.022μF	50V	±10%	0.55

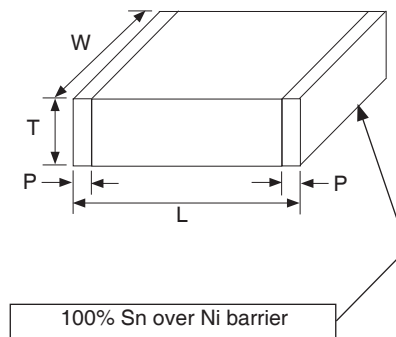
(CONSULT FACTORY FOR CAPACITANCE VALUES NOT LISTED)



0603 NPO Standard Terminations

EIA Case Size	NPO 0603 - Standard Termination			
Length (L)	1.6 ± 0.10			
Width (W)	0.8 ± 0.10			
Termination Width (P)	0.3 ± 0.20			
Part Number	Capacitance	Voltage (VDC)	Tolerance	Maximum Thickness
NMA0603NPO4R7C50C4KR90QYF	4.7pF	50V	±0.25pF	0.90
NMA0603NPO6R8D50C4KR90QYF	6.8pF	50V	±0.5pF	0.90
NMA0603NPO100J50C4KR90QYF	10pF	50V	±5%	0.90
NMA0603NPO120J50C4KR90QYF	12pF	50V	±5%	0.90
NMA0603NPO150J50C4KR90QYF	15pF	50V	±5%	0.90
NMA0603NPO180J50C4KR90QYF	18pF	50V	±5%	0.90
NMA0603NPO220J50C4KR90QYF	22pF	50V	±5%	0.90
NMA0603NPO270J50C4KR90QYF	27pF	50V	±5%	0.90
NMA0603NPO330J50C4KR90QYF	33pF	50V	±5%	0.90
NMA0603NPO390J50C4KR90QYF	39pF	50V	±5%	0.90
NMA0603NPO470J50C4KR90QYF	47pF	50V	±5%	0.90
NMA0603NPO560J50C4KR90QYF	56pF	50V	±5%	0.90
NMA0603NPO680J50C4KR90QYF	68pF	50V	±5%	0.90
NMA0603NPO820J50C4KR90QYF	82pF	50V	±5%	0.90
NMA0603NPO101J50C4KR90QYF	100pF	50V	±5%	0.90
NMA0603NPO121J50C4KR90QYF	120pF	50V	±5%	0.90
NMA0603NPO151J50C4KR90QYF	150pF	50V	±5%	0.90
NMA0603NPO221J50C4KR90QYF	220pF	50V	±5%	0.90
NMA0603NPO271J50C4KR90QYF	270pF	50V	±5%	0.90
NMA0603NPO331J50C4KR90QYF	330pF	50V	±5%	0.90
NMA0603NPO391J50C4KR90QYF	390pF	50V	±5%	0.90
NMA0603NPO471J50C4KR90QYF	470pF	50V	±5%	0.90
NMA0603NPO561J50C4KR90QYF	560pF	50V	±5%	0.90
NMA0603NPO681J50C4KR90QYF	680pF	50V	±5%	0.90
NMA0603NPO821J50C4KR90QYF	820pF	50V	±5%	0.90
NMA0603NPO102J50C4KR90QYF	0.001µF	50V	±5%	0.90
NMA0603NPO4R7C100C4KR90QYF	4.7pF	100 V	±0.25pF	0.90
NMA0603NPO6R8D100C4KR90QYF	6.8pF	100 V	±0.5pF	0.90
NMA0603NPO100J100C4KR90QYF	10pF	100 V	±5%	0.90
NMA0603NPO120J100C4KR90QYF	12pF	100 V	±5%	0.90
NMA0603NPO150J100C4KR90QYF	15pF	100 V	±5%	0.90
NMA0603NPO180J100C4KR90QYF	18pF	100 V	±5%	0.90
NMA0603NPO220J100C4KR90QYF	22pF	100 V	±5%	0.90
NMA0603NPO270J100C4KR90QYF	27pF	100 V	±5%	0.90
NMA0603NPO330J100C4KR90QYF	33pF	100 V	±5%	0.90
NMA0603NPO390J100C4KR90QYF	39pF	100 V	±5%	0.90
NMA0603NPO470J100C4KR90QYF	47pF	100 V	±5%	0.90
NMA0603NPO560J100C4KR90QYF	56pF	100 V	±5%	0.90
NMA0603NPO680J100C4KR90QYF	68pF	100 V	±5%	0.90
NMA0603NPO820J100C4KR90QYF	82pF	100 V	±5%	0.90
NMA0603NPO101J100C4KR90QYF	100pF	100 V	±5%	0.90

(CONSULT FACTORY FOR CAPACITANCE VALUES NOT LISTED)



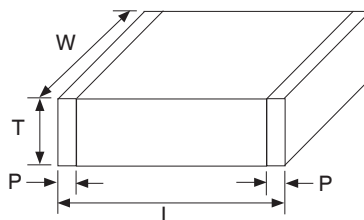
0603 X7R Soft Terminations

EIA Case Size	X7R 0603 - Soft Termination			
Length (L)	1.6 ± 0.10			
Width (W)	0.8 ± 0.10			
Termination Width (P)	0.3 ± 0.20			
Part Number	Capacitance (μF)	Voltage (VDC)	Tolerance	Maximum Thickness (mm)
NMA-P0603X7R154K16C4KR90QYF	0.15	16 V	±10%	0.90
NMA-P0603X7R224K16C4KR90QYF	0.22	16 V	±10%	0.90
NMA-P0603X7R334K16C4KR90QYF	0.33	16 V	±10%	0.90
NMA-P0603X7R474K16C4KR90QYF	0.47	16 V	±10%	0.90
NMA-P0603X7R684K16C4KR90QYF	0.68	16 V	±10%	0.90
NMA-P0603X7R105K16C4KR90QYF	1.0	16 V	±10%	0.90
NMA-P0603X7R154K25C4KR90QYF	0.15	25V	±10%	0.90
NMA-P0603X7R224K25C4KR90QYF	0.22	25V	±10%	0.90
NMA-P0603X7R334K25C4KR90QYF	0.33	25V	±10%	0.90
NMA-P0603X7R474K25C4KR90QYF	0.47	25V	±10%	0.90

0603 X7R Soft Terminations (Open Mode)

EIA Case Size	X7R 0603 - Soft Termination (Open Mode)			
Length (L)	1.6 ± 0.10			
Width (W)	0.8 ± 0.10			
Termination Width (P)	0.3 ± 0.20			
Part Number	Capacitance	Voltage (VDC)	Tolerance	Maximum Thickness (mm)
NMA-S0603X7R473K16C4KR90QYF	0.047μF	16 V	±10%	0.90
NMA-S0603X7R683K16C4KR90QYF	0.068μF	16 V	±10%	0.90
NMA-S0603X7R104K16C4KR90QYF	0.1μF	16 V	±10%	0.90
NMA-S0603X7R103K25C4KR90QYF	0.01μF	25V	±10%	0.90
NMA-S0603X7R153K25C4KR90QYF	0.015μF	25V	±10%	0.90
NMA-S0603X7R223K25C4KR90QYF	0.022μF	25V	±10%	0.90
NMA-S0603X7R333K25C4KR90QYF	0.033μF	25V	±10%	0.90
NMA-S0603X7R473K25C4KR90QYF	0.047μF	25V	±10%	0.90
NMA-S0603X7R683K25C4KR90QYF	0.068μF	25V	±10%	0.90
NMA-S0603X7R104K25C4KR90QYF	0.1μF	25V	±10%	0.90
NMA-S0603X7R221K50C4KR90QYF	220pF	50V	±10%	0.90
NMA-S0603X7R471K50C4KR90QYF	470pF	50V	±10%	0.90
NMA-S0603X7R102K50C4KR90QYF	0.001μF	50V	±10%	0.90
NMA-S0603X7R152K50C4KR90QYF	0.0015μF	50V	±10%	0.90
NMA-S0603X7R222K50C4KR90QYF	0.0022μF	50V	±10%	0.90
NMA-S0603X7R472K50C4KR90QYF	0.0047μF	50V	±10%	0.90
NMA-S0603X7R103K50C4KR90QYF	0.01μF	50V	±10%	0.90
NMA-S0603X7R153K50C4KR90QYF	0.015μF	50V	±10%	0.90
NMA-S0603X7R223K50C4KR90QYF	0.022μF	50V	±10%	0.90
NMA-S0603X7R333K50C4KR90QYF	0.033μF	50V	±10%	0.90
NMA-S0603X7R473K50C4KR90QYF	0.047μF	50V	±10%	0.90
NMA-S0603X7R683K50C4KR90QYF	0.068μF	50V	±10%	0.90
NMA-S0603X7R104K50C4KR90QYF	0.1μF	50V	±10%	0.90
NMA-S0603X7R221K100C4KR90QYF	220pF	100V	±10%	0.90
NMA-S0603X7R471K100C4KR90QYF	470pF	100V	±10%	0.90
NMA-S0603X7R102K100C4KR90QYF	0.001μF	100V	±10%	0.90
NMA-S0603X7R152K100C4KR90QYF	0.0015μF	100V	±10%	0.90
NMA-S0603X7R222K100C4KR90QYF	0.0022μF	100V	±10%	0.90
NMA-S0603X7R332K100C4KR90QYF	0.0033μF	100V	±10%	0.90
NMA-S0603X7R472K100C4KR90QYF	0.0047μF	100V	±10%	0.90
NMA-S0603X7R103K100C4KR90QYF	0.01μF	100V	±10%	0.90

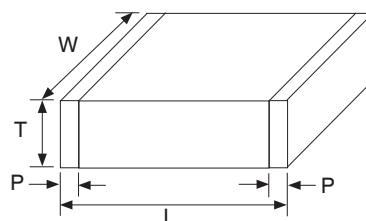
(CONSULT FACTORY FOR CAPACITANCE VALUES NOT LISTED)



0805 NPO Standard Terminations

EIA Case Size	NPO 0805 Standard Termination			
Length (L)	2.0 ± 0.20			
Width (W)	1.25 ± 0.20			
Termination Width (P)	0.5 +0.20/-0.30			
Part Number	Capacitance	Voltage (VDC)	Tolerance	Maximum Thickness (mm)
NMA0805NPO100J50C4KR70QYF	10pF	50	±5%	0.70
NMA0805NPO120J50C4KR70QYF	12pF	50	±5%	0.70
NMA0805NPO150J50C4KR70QYF	15pF	50	±5%	0.70
NMA0805NPO180J50C4KR70QYF	18pF	50	±5%	0.70
NMA0805NPO220J50C4KR70QYF	22pF	50	±5%	0.70
NMA0805NPO330J50C4KR70QYF	33pF	50	±5%	0.70
NMA0805NPO390J50C4KR70QYF	39pF	50	±5%	0.70
NMA0805NPO470J50C4KR70QYF	47pF	50	±5%	0.70
NMA0805NPO560J50C4KR70QYF	56pF	50	±5%	0.70
NMA0805NPO680J50C4KR70QYF	68pF	50	±5%	0.70
NMA0805NPO820J50C4KR70QYF	82pF	50	±5%	0.70
NMA0805NPO101J50C4KR70QYF	100pF	50	±5%	0.70
NMA0805NPO121J50C4KR70QYF	120pF	50	±5%	0.70
NMA0805NPO151J50C4KR70QYF	150pF	50	±5%	0.70
NMA0805NPO221J50C4KR70QYF	220pF	50	±5%	0.70
NMA0805NPO271J50C4KR70QYF	270pF	50	±5%	0.70
NMA0805NPO331J50C4KR70QYF	330pF	50	±5%	0.70
NMA0805NPO471J50C4KR95QYF	470pF	50	±5%	0.95
NMA0805NPO561J50C4KR95QYF	560pF	50	±5%	0.95
NMA0805NPO681J50C4KR95QYF	680pF	50	±5%	0.95
NMA0805NPO821J50C4KR95QYF	820pF	50	±5%	0.95
NMA0805NPO102J50C4KR95QYF	0.001μF	50	±5%	0.95
NMA0805NPO122J50C4KR95QYF	0.0012μF	50	±5%	0.95
NMA0805NPO152J50C4KR95QYF	0.0015μF	50	±5%	0.95
NMA0805NPO182J50C4KR95QYF	0.0018μF	50	±5%	0.95
NMA0805NPO222J50C4KR95QYF	0.0022μF	50	±5%	0.95
NMA0805NPO272J50C4KR95QYF	0.0027μF	50	±5%	0.95
NMA0805NPO332J50C4KR95QYF	0.0033μF	50	±5%	0.95
NMA0805NPO392J50C4KR95QYF	0.0039μF	50	±5%	0.95
NMA0805NPO472J50C4KR95QYF	0.0047μF	50	±5%	0.95
NMA0805NPO562J50C4KR95QYF	0.0056μF	50	±5%	0.95
NMA0805NPO102J50E2K135QYF	0.001μF	50	±5%	1.35
NMA0805NPO122J50E2K135QYF	0.0012μF	50	±5%	1.35
NMA0805NPO152J50E2K135QYF	0.0015μF	50	±5%	1.35
NMA0805NPO182J50E2K135QYF	0.0018μF	50	±5%	1.35
NMA0805NPO222J50E2K135QYF	0.0022μF	50	±5%	1.35
NMA0805NPO272J50E2K135QYF	0.0027μF	50	±5%	1.35
NMA0805NPO332J50E2K135QYF	0.0033μF	50	±5%	1.35
NMA0805NPO392J50E2K135QYF	0.0039μF	50	±5%	1.35
NMA0805NPO472J50E2K135QYF	0.0047μF	50	±5%	1.35
NMA0805NPO562J50E2K135QYF	0.0056μF	50	±5%	1.35
NMA0805NPO682J50E2K135QYF	0.0068μF	50	±5%	1.35
NMA0805NPO822J50E2K135QYF	0.0082μF	50	±5%	1.35
NMA0805NPO103J50E2K135QYF	0.01μF	50	±5%	1.35
NMA0805NPO100J100C4KR70QYF	10pF	100	±5%	0.70
NMA0805NPO120J100C4KR70QYF	12pF	100	±5%	0.70
NMA0805NPO150J100C4KR70QYF	15pF	100	±5%	0.70
NMA0805NPO180J100C4KR70QYF	18pF	100	±5%	0.70

(CONSULT FACTORY FOR CAPACITANCE VALUES NOT LISTED)



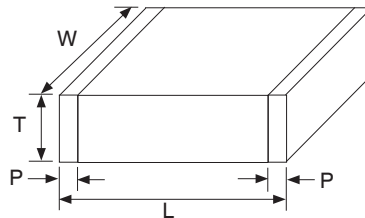
0805 NPO Standard Terminations

EIA Case Size	NPO 0805 Standard Termination			
Length (L)	2.0 ± 0.20			
Width (W)	1.25 ± 0.20			
Termination Width (P)	0.5 +0.20/-0.30			
Part Number	Capacitance (pF)	Voltage (VDC)	Tolerance	Maximum Thickness (mm)
NMA0805NPO220J100C4KR70QYF	22	100	±5%	0.70
NMA0805NPO270J100C4KR70QYF	27	100	±5%	0.70
NMA0805NPO330J100C4KR70QYF	33	100	±5%	0.70
NMA0805NPO390J100C4KR70QYF	39	100	±5%	0.70
NMA0805NPO470J100C4KR70QYF	47	100	±5%	0.70
NMA0805NPO560J100C4KR70QYF	56	100	±5%	0.70
NMA0805NPO680J100C4KR70QYF	68	100	±5%	0.70
NMA0805NPO820J100C4KR70QYF	82	100	±5%	0.70
NMA0805NPO101J100C4KR70QYF	100	100	±5%	0.70
NMA0805NPO121J100C4KR70QYF	120	100	±5%	0.70
NMA0805NPO151J100C4KR70QYF	150	100	±5%	0.70
NMA0805NPO221J100C4KR70QYF	220	100	±5%	0.70
NMA0805NPO271J100C4KR70QYF	270	100	±5%	0.70
NMA0805NPO331J100C4KR70QYF	330	100	±5%	0.70
NMA0805NPO471J100C4KR95QYF	470	100	±5%	0.95
NMA0805NPO561J100C4KR95QYF	560	100	±5%	0.95
NMA0805NPO681J100C4KR95QYF	680	100	±5%	0.95
NMA0805NPO821J100C4KR95QYF	820	100	±5%	0.95
NMA0805NPO102J100C4KR95QYF	1000	100	±5%	0.95
NMA0805NPO102J100E2K135QYF	1000	100	±5%	1.35

0805 X7R Soft Terminations

EIA Case Size	X7R 0805 Soft Termination			
Length (L)	2.0 ± 0.20			
Width (W)	1.25 ± 0.20			
Termination Width (P)	0.5 +0.20/-0.30			
Part Number	Capacitance (µF)	Voltage (VDC)	Tolerance	Maximum Thickness (mm)
NMA-P0805X7R154K16E2K135QYF	0.15	16 V	±10%	1.35
NMA-P0805X7R224K16E2K135QYF	0.22	16 V	±10%	1.35
NMA-P0805X7R334K16E2K135QYF	0.33	16 V	±10%	1.35
NMA-P0805X7R474K16E2K135QYF	0.47	16 V	±10%	1.35
NMA-P0805X7R684K16E2K135QYF	0.68	16 V	±10%	1.35
NMA-P0805X7R105K16E2K135QYF	1.0	16 V	±10%	1.35
NMA-P0805X7R225K16E2K135QYF	2.2	16 V	±10%	1.35
NMA-P0805X7R154K25E2K135QYF	0.15	25V	±10%	1.35
NMA-P0805X7R224K25E2K135QYF	0.22	25V	±10%	1.35
NMA-P0805X7R334K25E2K135QYF	0.33	25V	±10%	1.35
NMA-P0805X7R474K25E2K135QYF	0.47	25V	±10%	1.35
NMA-P0805X7R684K25E2K135QYF	0.68	25V	±10%	1.35
NMA-P0805X7R105K25E2K135QYF	1.0	25V	±10%	1.35
NMA-P0805X7R154K50E2K135QYF	0.15	50V	±10%	1.35
NMA-P0805X7R224K50E2K135QYF	0.22	50V	±10%	1.35
NMA-P0805X7R334K50E2K135QYF	0.33	50V	±10%	1.35
NMA-P0805X7R474K50E2K135QYF	0.47	50V	±10%	1.35

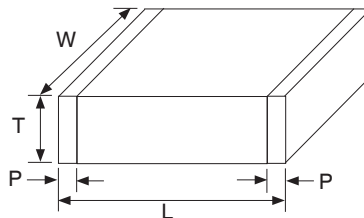
(CONSULT FACTORY FOR CAPACITANCE VALUES NOT LISTED)



0805 X7R Soft Terminations (Open Mode)

EIA Case Size	X7R 0805 Soft Termination (Open Mode)			
Length (L)	2.0 ± 0.20			
Width (W)	1.25 ± 0.20			
Termination Width (P)	0.5 +0.20/-0.30			
Part Number	Capacitance (µF)	Voltage (VDC)	Tolerance	Maximum Thickness (mm)
NMA-S0805X7R104K16C4KR95QYF	0.1	16 V	±10%	0.95
NMA-S0805X7R473K25C4KR95QYF	0.047	25V	±10%	0.95
NMA-S0805X7R683K25C4KR95QYF	0.068	25V	±10%	0.95
NMA-S0805X7R104K25C4KR95QYF	0.1	25V	±10%	0.95
NMA-S0805X7R102K50C4KR70QYF	0.001	50V	±10%	0.70
NMA-S0805X7R222K50C4KR70QYF	0.0022	50V	±10%	0.70
NMA-S0805X7R472K50C4KR70QYF	0.0047	50V	±10%	0.70
NMA-S0805X7R103K50C4KR70QYF	0.01	50V	±10%	0.70
NMA-S0805X7R153K50C4KR70QYF	0.015	50V	±10%	0.70
NMA-S0805X7R223K50C4KR70QYF	0.022	50V	±10%	0.70
NMA-S0805X7R333K50C4KR95QYF	0.033	50V	±10%	0.95
NMA-S0805X7R473K50C4KR95QYF	0.047	50V	±10%	0.95
NMA-S0805X7R683K50C4KR95QYF	0.068	50V	±10%	0.95
NMA-S0805X7R104K50C4KR95QYF	0.1	50V	±10%	0.95
NMA-S0805X7R104K50E2K135QYF	0.1	50V	±10%	1.35
NMA-S0805X7R102K100C4KR70QYF	0.001	100V	±10%	0.70
NMA-S0805X7R222K100C4KR70QYF	0.0022	100V	±10%	0.70
NMA-S0805X7R472K100C4KR70QYF	0.0047	100V	±10%	0.70
NMA-S0805X7R103K100C4KR70QYF	0.01	100V	±10%	0.70
NMA-S0805X7R153K100C4KR70QYF	0.015	100V	±10%	0.70
NMA-S0805X7R223K100C4KR70QYF	0.022	100V	±10%	0.70
NMA-S0805X7R333K100C4KR95QYF	0.033	100V	±10%	0.95
NMA-S0805X7R473K100C4KR95QYF	0.047	100V	±10%	0.95
NMA-S0805X7R683K100C4KR95QYF	0.068	100V	±10%	0.95
NMA-S0805X7R104K100C4KR95QYF	0.1	100V	±10%	0.95
NMA-S0805X7R104K100E2K135QYF	0.1	100V	±10%	1.35

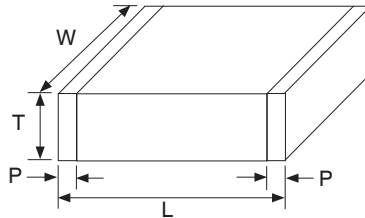
(CONSULT FACTORY FOR CAPACITANCE VALUES NOT LISTED)



1206 X7R Soft Terminations

EIA Case Size	X7R 1206 Soft Termination			
Length (L)	3.20 ± 0.20			
Width (W)	1.60 ± 0.20			
Termination Width (P)	0.5 ± 0.30			
Part Number	Capacitance (μF)	Voltage (VDC)	Tolerance	Maximum Thickness (mm)
NMA-P1206X7R155K16E2K180QYF	1.5	16 V	±10%	1.80
NMA-P1206X7R225K16E2K180QYF	2.2	16 V	±10%	1.80
NMA-P1206X7R335K16E2K180QYF	3.3	16 V	±10%	1.80
NMA-P1206X7R475K16E2K180QYF	4.7	16 V	±10%	1.80
NMA-P1206X7R155K25E2K180QYF	1.5	25V	±10%	1.80
NMA-P1206X7R225K25E2K180QYF	2.2	25V	±10%	1.80
NMA-P1206X7R335K25E2K180QYF	3.3	25V	±10%	1.80
NMA-P1206X7R475K25E2K180QYF	4.7	25V	±10%	1.80
NMA-P1206X7R155K50E2K180QYF	1.5	50V	±10%	1.80
NMA-P1206X7R225K50E2K180QYF	2.2	50V	±10%	1.80

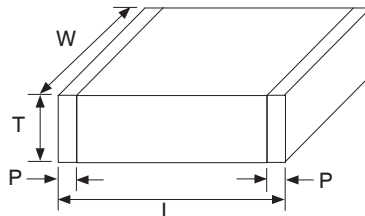
(CONSULT FACTORY FOR CAPACITANCE VALUES NOT LISTED)



1206 X7R Soft Terminations (Open Mode)

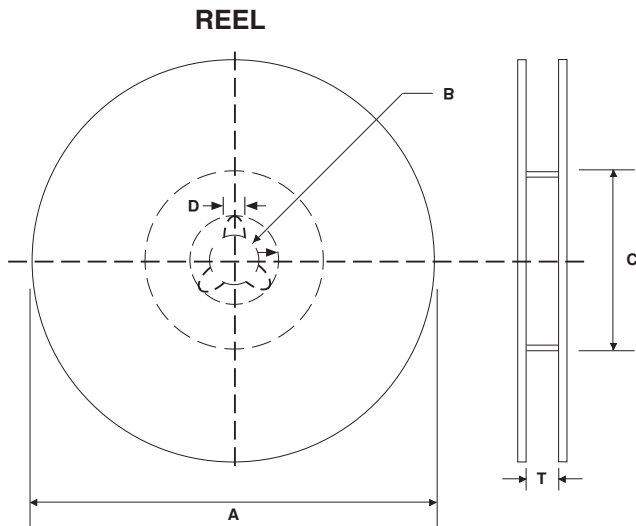
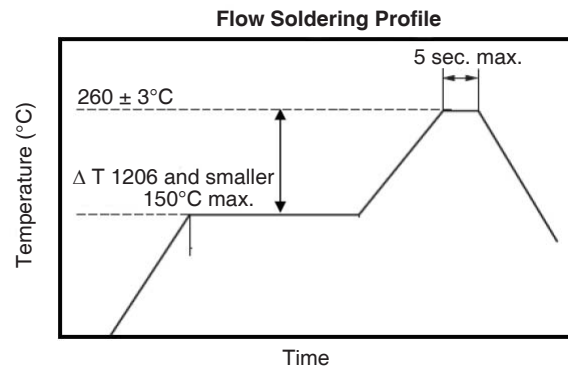
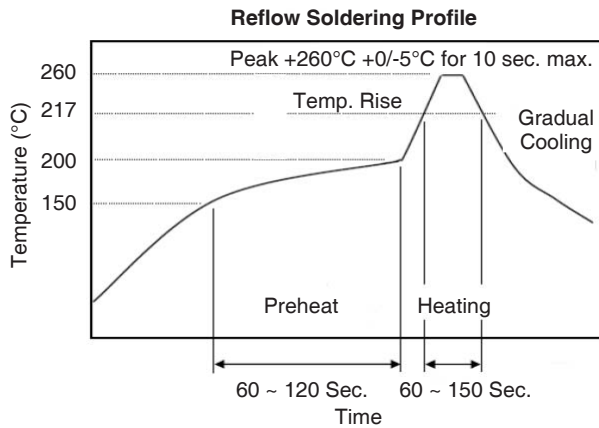
EIA Case Size	X7R 1206 Soft Termination			
Length (L)	3.20 ± 0.20			
Width (W)	1.60 ± 0.20			
Termination Width (P)	0.5 ± 0.30			
Part Number	Capacitance (μF)	Voltage (VDC)	Tolerance	Maximum Thickness (mm)
NMA-S1206X7R105K16E3K125QYF	1.0	16 V	±10%	1.25
NMA-S1206X7R224K25E3K100QYF	0.22	25V	±10%	1.00
NMA-S1206X7R334K25E3K100QYF	0.33	25V	±10%	1.00
NMA-S1206X7R474K25E3K100QYF	0.47	25V	±10%	1.00
NMA-S1206X7R684K25E3K125QYF	0.68	25V	±10%	1.25
NMA-S1206X7R105K25E3K125QYF	1.0	25V	±10%	1.25
NMA-S1206X7R104K50E3K100QYF	0.1	50V	±10%	1.00
NMA-S1206X7R154K50E3K125QYF	0.15	50V	±10%	1.25
NMA-S1206X7R224K50E3K125QYF	0.22	50V	±10%	1.25
NMA-S1206X7R334K50E2K180QYF	0.33	50V	±10%	1.80
NMA-S1206X7R474K50E2K180QYF	0.47	50V	±10%	1.80
NMA-S1206X7R684K50E2K180QYF	0.68	50V	±10%	1.80
NMA-S1206X7R105K50E2K180QYF	1.0	50V	±10%	1.80

(CONSULT FACTORY FOR CAPACITANCE VALUES NOT LISTED)



RECOMMENDED SOLDERING METHOD

Dielectric	Case Size	Capacitance Value	Soldering Method	
			Flow	Reflow
NPO	All	All	O	O
X7R	0603	< 1 μ F	O	O
		\geq 1 μ F	-	O
	0805	< 4.7 μ F	O	O
		\geq 4.7 μ F	-	O
1206	< 10 μ F	O	O	



REEL DIMENSIONS (mm)

Reel Diameter (A)	B	C	D	T max.
7" (178 + 0/- 0.3)	13 \pm 0.3	80 +1/-0	21 \pm 1.0	9.0 \pm 0.5
13" (330 + 0/- 0.3)				

CARRIER TAPE MATERIAL

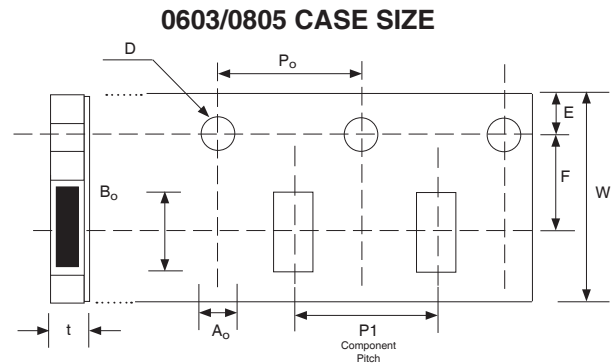
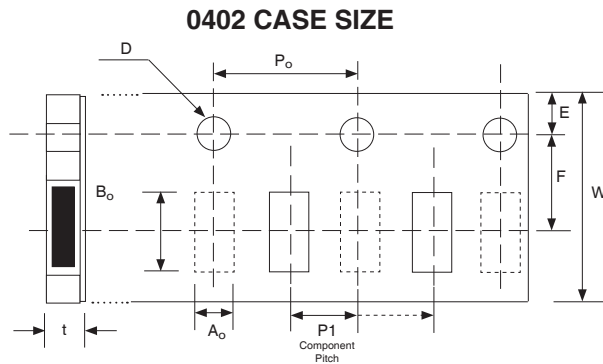
Parts with a thickness of \geq 1mm will be taped on embossed plastic carrier. Parts with a thickness of less than 1mm will be taped on paper carrier

REEL QUANTITIES

Reel Size	0402	0603	0805		1206	
			T ≤ 0.95mm	T ≥ 1.0mm	T < 1.6mm	T ≥ 1.6mm
7"	10,000	4,000	4,000	2,000	2,000 or 3,000	2,000
13"	50,000	10,000 or 15,000	10,000 or 15,000	10,000	10,000	8,000

PUNCHED CARRIER TAPE DIMENSIONS (mm)

Type	A _o	B _o	W	F	E	P1	P0	D0	t max.
0402	0.61 ± 0.04	1.12 ± 0.04	8.0 ± 0.3	3.5 ± 0.05	1.75 ± 0.01	2.0 ± 0.05	4.0 ± 0.1	1.5 +0.1/-0.03	0.65
0603	1.1 ± 0.2	1.9 ± 0.2				4.0 ± 0.1			1.1
0805	1.6 ± 0.2	2.4 ± 0.2							



EMBOSSED PLASTIC CARRIER TAPE DIMENSIONS (mm)

Type	A _o	B _o	W	F	E	P1	P0	D0	t ₁	t ₂
0805	1.45 ± 0.2	2.3 ± 0.2	8.0 ± 0.3	3.5 ± 0.05	1.75 ± 0.01	4.0 ± 0.1	4.0 ± 0.1	1.5 +0.1/-0.03	0.6 max.	2.9 max.
1206	1.9 ± 0.2	3.6 ± 0.2								

