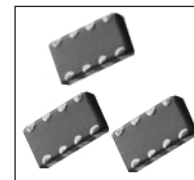


Multilayer Ceramic Chip Capacitors

NCA Series

**RoHS
Compliant**

Includes all homogeneous materials
*See Part Number System for Details



FEATURES

- STANDARD EIA 0805 & 1206 PACKAGING
- EACH COMPONENT CONTAINS 4 ISOLATED CERAMIC CAPACITORS
- AVAILABLE IN A WIDE RANGE OF VALUES AND TEMPERATURE COEFFICIENTS

SPECIFICATIONS	NPO	X7R	X5R	Y5V
OPERATING TEMPERATURE	-55°C~ +125°C	-55°C~ +125°C	-55°C~ +85°C	-30°C~ +85°C
CAPACITANCE RANGE	10pF ~ 470pF	180pF ~ 0.47μF	0.1μF	0.01μF ~ 0.1μF
VOLTAGE RANGE	16, 25, 50 & 100Vdc	10, 16, 25 & 50Vdc	16Vdc	16, 25 & 50Vdc
CAPACITANCE TOLERANCE	±5% (J), ±10%(K)	±10%(K), ±20%(M)	±10%(K), ±20%(M)	+80%/-20% (Z)
TEMPERATURE CHARACTERISTICS	0±30ppm	±15%	±15%	+30% ~ -80%
DIELECTRIC WITHSTANDING VOLTAGE	2.5 x Rated Voltage for 1 minute			
INSULATION RESISTANCE (after 1 minute)	>10GΩ	>10GΩ	>10GΩ	>10GΩ
DISSIPATION FACTOR	≤ 0.1%	≤ 5%	≤ 5%	1206 ≤ 7%

NPO 0805 STANDARD VALUES AND VOLTAGES

Part Number	Case Size	Voltage	Capacitance (pF)	Standard Tol.	
NCA0805NPO101J16TRPF	0805	16	100	±5%	
NCA0805NPO221J16TRPF			220	±5%	
NCA0805NPO100J25TRPF			25	10	±5%
NCA0805NPO150J25TRPF				15	±5%
NCA0805NPO220J25TRPF				22	±5%
NCA0805NPO330J25TRPF				33	±5%
NCA0805NPO470J25TRPF		47		±5%	
NCA0805NPO680J25TRPF		68		±5%	
NCA0805NPO820J25TRPF		82		±5%	
NCA0805NPO101J25TRPF		100		±5%	
NCA0805NPO151J25TRPF		150		±5%	
NCA0805NPO181J25TRPF		180		±5%	
NCA0805NPO221J25TRPF		220		±5%	
NCA0805NPO271J25TRPF		270		±5%	
NCA0805NPO100J50TRPF		50		10	±5%
NCA0805NPO150J50TRPF				15	±5%
NCA0805NPO180J50TRPF				18	±5%
NCA0805NPO220J50TRPF			22	±5%	
NCA0805NPO330J50TRPF			33	±5%	
NCA0805NPO390J50TRPF			39	±5%	
NCA0805NPO470J50TRPF			47	±5%	
NCA0805NPO560J50TRPF			56	±5%	
NCA0805NPO680J50TRPF			68	±5%	
NCA0805NPO820J50TRPF			82	±5%	
NCA0805NPO101J50TRPF			100	±5%	
NCA0805NPO121J50TRPF			120	±5%	
NCA0805NPO151J50TRPF			150	±5%	
NCA0805NPO181J50TRPF			180	±5%	
NCA0805NPO221J50TRPF			220	±5%	
NCA0805NPO271J50TRPF		270	±5%		
NCA0805NPO100J100TRPF		100	10	±5%	
NCA0805NPO150J100TRPF			15	±5%	
NCA0805NPO220J100TRPF			22	±5%	
NCA0805NPO330J100TRPF			33	±5%	
NCA0805NPO470J100TRPF			47	±5%	
NCA0805NPO680J100TRPF			68	±5%	
NCA0805NPO101J100TRPF			100	±5%	
NCA0805NPO151J100TRPF			150	±5%	



NPO 0805 STANDARD VALUES AND VOLTAGES (CONTINUED ON NEXT PAGE)

NPO 0805 STANDARD VALUES AND VOLTAGES (CONTINUED)

Part Number	Case Size	Voltage	Capacitance (pF)	Standard Tol.
NCA0805NPO181J100TRPF	0805	100	180	±5%
NCA0805NPO221J100TRPF			220	±5%
NCA0805NPO271J100TRPF			270	±5%

NPO 1206 STANDARD VALUES AND VOLTAGES

Part Number	Case Size	Voltage	Capacitance (pF)	Standard Tol.	
NCA1206NPO100J16TRPF	1206	16	10	±5%	
NCA1206NPO220J16TRPF			22	±5%	
NCA1206NPO330J16TRPF			33	±5%	
NCA1206NPO470J16TRPF			47	±5%	
NCA1206NPO680J16TRPF			68	±5%	
NCA1206NPO820J16TRPF			82	±5%	
NCA1206NPO101J16TRPF			100	±5%	
NCA1206NPO221J16TRPF			220	±5%	
NCA1206NPO331J16TRPF			330	±5%	
NCA1206NPO471J16TRPF			470	±5%	
NCA1206NPO100J25TRPF			25	10	±5%
NCA1206NPO150J25TRPF				15	±5%
NCA1206NPO220J25TRPF		22		±5%	
NCA1206NPO330J25TRPF		33		±5%	
NCA1206NPO470J25TRPF		47		±5%	
NCA1206NPO680J25TRPF		68		±5%	
NCA1206NPO820J25TRPF		82		±5%	
NCA1206NPO101J25TRPF		100		±5%	
NCA1206NPO151J25TRPF		150		±5%	
NCA1206NPO181J25TRPF		180		±5%	
NCA1206NPO221J25TRPF		220		±5%	
NCA1206NPO271J25TRPF		270		±5%	
NCA1206NPO331J25TRPF		330	±5%		
NCA1206NPO471J25TRPF		470	±5%		
NCA1206NPO100J50TRPF		50	10	±5%	
NCA1206NPO150J50TRPF			15	±5%	
NCA1206NPO180J50TRPF			18	±5%	
NCA1206NPO220J50TRPF			22	±5%	
NCA1206NPO330J50TRPF			33	±5%	
NCA1206NPO390J50TRPF			39	±5%	
NCA1206NPO470J50TRPF			47	±5%	
NCA1206NPO560J50TRPF			56	±5%	
NCA1206NPO680J50TRPF			68	±5%	
NCA1206NPO820J50TRPF			82	±5%	
NCA1206NPO101J50TRPF			100	±5%	
NCA1206NPO121J50TRPF			120	±5%	
NCA1206NPO151J50TRPF			150	±5%	
NCA1206NPO181J50TRPF			180	±5%	
NCA1206NPO221J50TRPF			220	±5%	
NCA1206NPO271J50TRPF			270	±5%	
NCA1206NPO331J50TRPF			330	±5%	
NCA1206NPO391J50TRPF			390	±5%	
NCA1206NPO471J50TRPF	470	±5%			
NCA1206NPO100J100TRPF	100	10	±5%		
NCA1206NPO150J100TRPF		15	±5%		
NCA1206NPO180J100TRPF		18	±5%		
NCA1206NPO220J100TRPF		22	±5%		
NCA1206NPO330J100TRPF		33	±5%		
NCA1206NPO390J100TRPF		39	±5%		
NCA1206NPO470J100TRPF		47	±5%		
NCA1206NPO560J100TRPF		56	±5%		
NCA1206NPO680J100TRPF		68	±5%		
NCA1206NPO820J100TRPF		82	±5%		
NCA1206NPO101J100TRPF		100	±5%		

NPO 1206 STANDARD VALUES AND VOLTAGES (CONTINUED ON NEXT PAGE)



NPO 1206 STANDARD VALUES AND VOLTAGES (CONTINUED)

Part Number	Case Size	Voltage	Capacitance (pF)	Standard Tol.
NCA1206NPO121J100TRPF	1206	100	120	±5%
NCA1206NPO151J100TRPF			150	±5%
NCA1206NPO181J100TRPF			180	±5%
NCA1206NPO221J100TRPF			220	±5%
NCA1206NPO271J100TRPF			270	±5%
NCA1206NPO331J100TRPF			330	±5%
NCA1206NPO391J100TRPF			390	±5%
NCA1206NPO471J100TRPF			470	±5%

X7R 0805 STANDARD VALUES AND VOLTAGES

Part Number	Case Size	Voltage	Capacitance (pF)	Standard Tol.	
NCA0805X7R102K10TRPF	0805	10	1,000	±10%	
NCA0805X7R152K10TRPF			1,500	±10%	
NCA0805X7R222K10TRPF			2,200	±10%	
NCA0805X7R332K10TRPF			3,300	±10%	
NCA0805X7R472K10TRPF			4,700	±10%	
NCA0805X7R682K10TRPF			6,800	±10%	
NCA0805X7R103K10TRPF			10,000	±10%	
NCA0805X7R153K10TRPF			15,000	±10%	
NCA0805X7R223K10TRPF			22,000	±10%	
NCA0805X7R333K10TRPF			33,000	±10%	
NCA0805X7R473K10TRPF			47,000	±10%	
NCA0805X7R683K10TRPF			68,000	±10%	
NCA0805X7R823K10TRPF			82,000	±10%	
NCA0805X7R104K10TRPF			100,000	±10%	
NCA0805X7R102K16TRPF			16	16	1,000
NCA0805X7R122K16TRPF		1,200			±10%
NCA0805X7R152K16TRPF		1,500			±10%
NCA0805X7R182K16TRPF		1,800			±10%
NCA0805X7R222K16TRPF		2,200			±10%
NCA0805X7R272K16TRPF		2,700			±10%
NCA0805X7R332K16TRPF		3,300			±10%
NCA0805X7R392K16TRPF		3,900			±10%
NCA0805X7R472K16TRPF		4,700			±10%
NCA0805X7R562K16TRPF		5,600			±10%
NCA0805X7R682K16TRPF		6,800			±10%
NCA0805X7R822K16TRPF		8,200			±10%
NCA0805X7R103K16TRPF		10,000			±10%
NCA0805X7R123K16TRPF		12,000			±10%
NCA0805X7R153K16TRPF		15,000			±10%
NCA0805X7R183K16TRPF		18,000	±10%		
NCA0805X7R223K16TRPF		22,000	±10%		
NCA0805X7R273K16TRPF		27,000	±10%		
NCA0805X7R333K16TRPF		33,000	±10%		
NCA0805X7R473K16TRPF		47,000	±10%		
NCA0805X7R563K16TRPF		56,000	±10%		
NCA0805X7R683K16TRPF		68,000	±10%		
NCA0805X7R823K16TRPF		82,000	±10%		
NCA0805X7R104K16TRPF		100,000	±10%		
NCA0805X7R102K25TRPF		25	25	1,000	±10%
NCA0805X7R122K25TRPF				1,200	±10%
NCA0805X7R152K25TRPF				1,500	±10%
NCA0805X7R182K25TRPF				1,800	±10%
NCA0805X7R222K25TRPF				2,200	±10%
NCA0805X7R272K25TRPF				2,700	±10%
NCA0805X7R332K25TRPF				3,300	±10%
NCA0805X7R392K25TRPF	3,900			±10%	
NCA0805X7R472K25TRPF	4,700			±10%	
NCA0805X7R562K25TRPF	5,600			±10%	
NCA0805X7R682K25TRPF	6,800			±10%	
NCA0805X7R822K25TRPF	8,200			±10%	

X7R 0805 STANDARD VALUES AND VOLTAGES (CONTINUED ON NEXT PAGE)



X7R 0805 STANDARD VALUES AND VOLTAGES (CONTINUED)

Part Number	Case Size	Voltage	Capacitance (pF)	Standard Tol.
NCA0805X7R103K25TRPF	0805	25	10,000	±10%
NCA0805X7R153K25TRPF			15,000	±10%
NCA0805X7R223K25TRPF			22,000	±10%
NCA0805X7R333K25TRPF			33,000	±10%
NCA0805X7R473K25TRPF			47,000	±10%
NCA0805X7R683K25TRPF			68,000	±10%
NCA0805X7R104K25TRPF			100,000	±10%
NCA0805X7R102K50TRPF			50	1,000
NCA0805X7R152K50TRPF		1,500		±10%
NCA0805X7R222K50TRPF		2,200		±10%
NCA0805X7R332K50TRPF		3,300		±10%
NCA0805X7R472K50TRPF		4,700		±10%
NCA0805X7R682K50TRPF		6,800		±10%
NCA0805X7R103K50TRPF		10,000		±10%

X7R 1206 STANDARD VALUES AND VOLTAGES

Part Number	Case Size	Voltage	Capacitance (pF)	Standard Tol.
NCA1206X7R181K16TRPF	1206	16	180	±10%
NCA1206X7R221K16TRPF			220	±10%
NCA1206X7R271K16TRPF			270	±10%
NCA1206X7R331K16TRPF			330	±10%
NCA1206X7R391K16TRPF			390	±10%
NCA1206X7R471K16TRPF			470	±10%
NCA1206X7R561K16TRPF			560	±10%
NCA1206X7R681K16TRPF			680	±10%
NCA1206X7R821K16TRPF			820	±10%
NCA1206X7R102K16TRPF			1,000	±10%
NCA1206X7R122K16TRPF			1,200	±10%
NCA1206X7R152K16TRPF			1,500	±10%
NCA1206X7R182K16TRPF			1,800	±10%
NCA1206X7R222K16TRPF			2,200	±10%
NCA1206X7R272K16TRPF			2,700	±10%
NCA1206X7R332K16TRPF			3,300	±10%
NCA1206X7R392K16TRPF			3,900	±10%
NCA1206X7R472K16TRPF			4,700	±10%
NCA1206X7R562K16TRPF			5,600	±10%
NCA1206X7R682K16TRPF			6,800	±10%
NCA1206X7R822K16TRPF			8,200	±10%
NCA1206X7R103K16TRPF			10,000	±10%
NCA1206X7R123K16TRPF			12,000	±10%
NCA1206X7R153K16TRPF			15,000	±10%
NCA1206X7R183K16TRPF			18,000	±10%
NCA1206X7R223K16TRPF			22,000	±10%
NCA1206X7R273K16TRPF			27,000	±10%
NCA1206X7R333K16TRPF			33,000	±10%
NCA1206X7R473K16TRPF		47,000	±10%	
NCA1206X7R563K16TRPF		56,000	±10%	
NCA1206X7R683K16TRPF		68,000	±10%	
NCA1206X7R823K16TRPF		82,000	±10%	
NCA1206X7R104K16TRPF		100,000	±10%	
NCA1206X7R224K16TRPF		220,000	±10%	
NCA1206X7R474K16TRPF		470,000	±10%	
NCA1206X7R181K25TRPF		25	180	±10%
NCA1206X7R221K25TRPF			220	±10%
NCA1206X7R271K25TRPF			270	±10%
NCA1206X7R331K25TRPF			330	±10%
NCA1206X7R391K25TRPF			390	±10%
NCA1206X7R471K25TRPF			470	±10%
NCA1206X7R561K25TRPF			560	±10%
NCA1206X7R681K25TRPF			680	±10%

X7R 1206 STANDARD VALUES AND VOLTAGES (CONTINUED ON NEXT PAGE)



X7R 1206 STANDARD VALUES AND VOLTAGES (CONTINUED)

Part Number	Case Size	Voltage	Capacitance (pF)	Standard Tol.		
NCA1206X7R821K25TRPF		25	820	±10%		
NCA1206X7R102K25TRPF			1,000	±10%		
NCA1206X7R122K25TRPF			1,200	±10%		
NCA1206X7R152K25TRPF			1,500	±10%		
NCA1206X7R182K25TRPF			1,800	±10%		
NCA1206X7R222K25TRPF			2,200	±10%		
NCA1206X7R272K25TRPF			2,700	±10%		
NCA1206X7R332K25TRPF			3,300	±10%		
NCA1206X7R392K25TRPF			3,900	±10%		
NCA1206X7R472K25TRPF			4,700	±10%		
NCA1206X7R562K25TRPF			5,600	±10%		
NCA1206X7R682K25TRPF			6,800	±10%		
NCA1206X7R822K25TRPF			8,200	±10%		
NCA1206X7R103K25TRPF			10,000	±10%		
NCA1206X7R123K25TRPF			12,000	±10%		
NCA1206X7R153K25TRPF			15,000	±10%		
NCA1206X7R183K25TRPF			18,000	±10%		
NCA1206X7R223K25TRPF			22,000	±10%		
NCA1206X7R273K25TRPF			27,000	±10%		
NCA1206X7R333K25TRPF			33,000	±10%		
NCA1206X7R473K25TRPF			47,000	±10%		
NCA1206X7R563K25TRPF			56,000	±10%		
NCA1206X7R683K25TRPF			68,000	±10%		
NCA1206X7R823K25TRPF			82,000	±10%		
NCA1206X7R104K25TRPF			100,000	±10%		
NCA1206X7R181K50TRPF			1206	50	180	±10%
NCA1206X7R221K50TRPF					220	±10%
NCA1206X7R271K50TRPF					270	±10%
NCA1206X7R331K50TRPF					330	±10%
NCA1206X7R391K50TRPF					390	±10%
NCA1206X7R471K50TRPF					470	±10%
NCA1206X7R561K50TRPF					560	±10%
NCA1206X7R681K50TRPF					680	±10%
NCA1206X7R821K50TRPF	820	±10%				
NCA1206X7R102K50TRPF	1,000	±10%				
NCA1206X7R122K50TRPF	1,200	±10%				
NCA1206X7R152K50TRPF	1,500	±10%				
NCA1206X7R182K50TRPF	1,800	±10%				
NCA1206X7R222K50TRPF	2,200	±10%				
NCA1206X7R272K50TRPF	2,700	±10%				
NCA1206X7R332K50TRPF	3,300	±10%				
NCA1206X7R392K50TRPF	3,900	±10%				
NCA1206X7R472K50TRPF	4,700	±10%				
NCA1206X7R562K50TRPF	5,600	±10%				
NCA1206X7R682K50TRPF	6,800	±10%				
NCA1206X7R822K50TRPF	8,200	±10%				
NCA1206X7R103K50TRPF	10,000	±10%				
NCA1206X7R153K50TRPF	15,000	±10%				
NCA1206X7R223K50TRPF	22,000	±10%				
NCA1206X7R273K50TRPF	27,000	±10%				
NCA1206X7R333K50TRPF	33,000	±10%				
NCA1206X7R473K50TRPF	47,000	±10%				
NCA1206X7R563K50TRPF	56,000	±10%				
NCA1206X7R683K50TRPF	68,000	±10%				
NCA1206X7R823K50TRPF	82,000	±10%				
NCA1206X7R104K50TRPF	100,000	±10%				



X5R 0805 STANDARD VALUES AND VOLTAGES

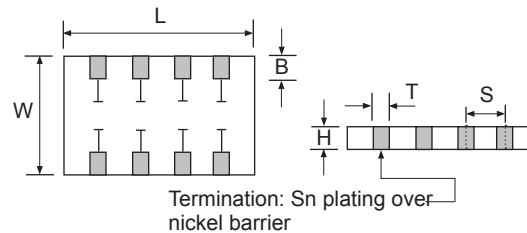
Part Number	Case Size	Voltage	Capacitance (pF)	Standard Tol.
NCA0805X5R104K16TRPF	0805	16	100,000	±10%

Y5V 1206 STANDARD VALUES AND VOLTAGES

Part Number	Case Size	Voltage	Capacitance (pF)	Standard Tol.
NCA1206Y5V103Z16TRPF	1206	16	10,000	+80%/-20%
NCA1206Y5V223Z16TRPF			22,000	+80%/-20%
NCA1206Y5V333Z16TRPF			33,000	+80%/-20%
NCA1206Y5V473Z16TRPF			47,000	+80%/-20%
NCA1206Y5V104Z16TRPF			100,000	+80%/-20%
NCA1206Y5V103Z25TRPF		25	10,000	+80%/-20%
NCA1206Y5V223Z25TRPF			22,000	+80%/-20%
NCA1206Y5V473Z25TRPF			47,000	+80%/-20%
NCA1206Y5V104Z25TRPF		50	100,000	+80%/-20%
NCA1206Y5V103Z50TRPF			10,000	+80%/-20%
NCA1206Y5V153Z50TRPF			15,000	+80%/-20%
NCA1206Y5V223Z50TRPF			22,000	+80%/-20%
NCA1206Y5V333Z50TRPF			33,000	+80%/-20%
NCA1206Y5V473Z50TRPF			47,000	+80%/-20%
NCA1206Y5V104Z50TRPF		100,000	+80%/-20%	

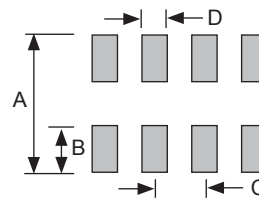
PART DIMENSIONS (mm)

Series	NCA0805	NCA1206
L	2.00 ± 0.20	3.20 ± 0.20
W	1.25 ± 0.20	1.60 ± 0.20
H	1.00 max.	1.30 max.
S	0.50 ± 0.10	0.80 ± 0.20
T	0.28 ± 0.10	0.40 ± 0.15
B	0.25 ± 0.15	0.30 ± 0.20

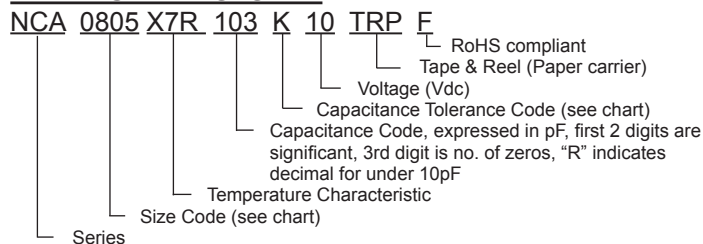


RECOMMENDED LAND PATTERN (mm)

Series	A	B	C	D
NCA0805	1.65 ± 0.10	0.55 ± 0.05	0.5 ± 0.05	0.25 ± 0.05
NCA1206	2.60 ± 0.10	0.80 ± 0.05	0.8 ± 0.10	0.45 ± 0.1



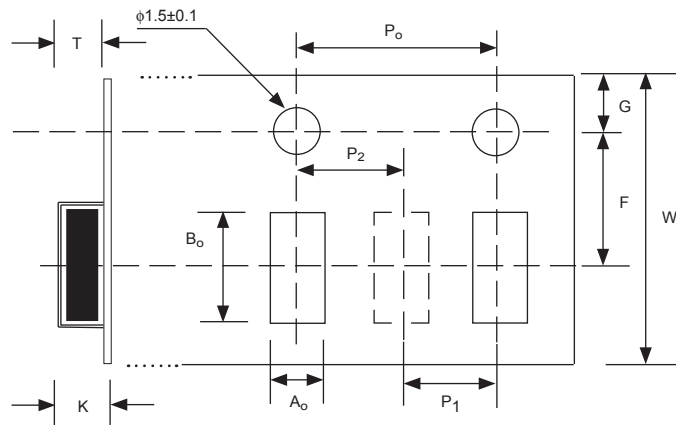
PART NUMBER SYSTEM



TAPE DIMENSIONS (mm)

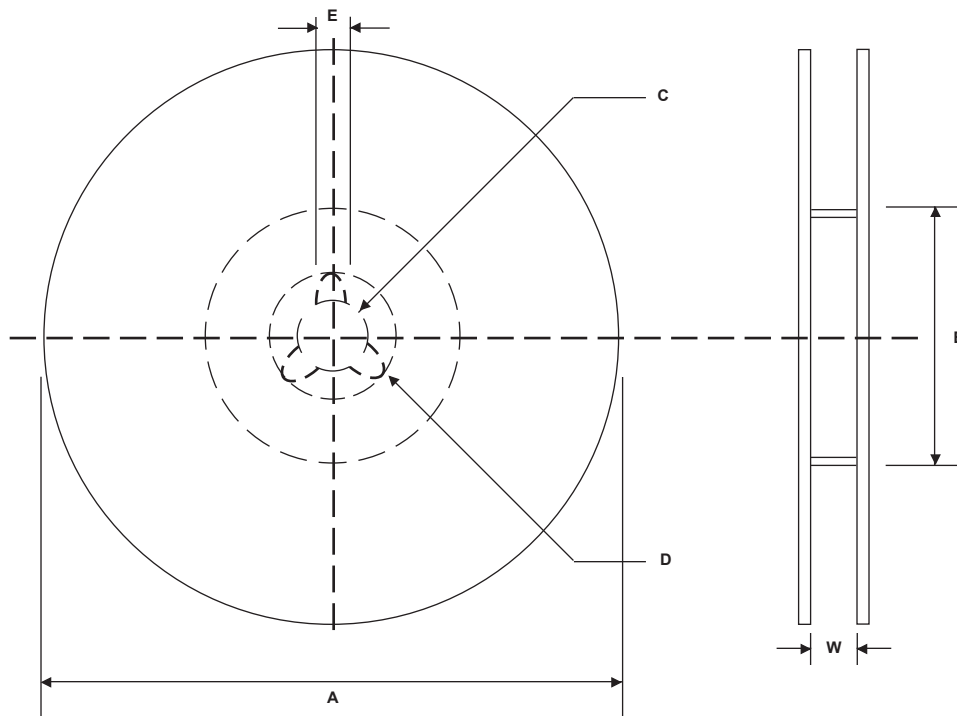
A ₀	B ₀	F	G	K	P ₀	P ₁	P ₂	T	W
See note 1		3.50 ±0.05	1.75 ±0.1	2.50 max.	4.0 ±0.1	4.0 ±0.1	2.0 ±0.05	0.6 max.	8.0 ±0.3

Note 1 - These dimensions are determined by the maximum dimensions of the part. Clearance between the sides of the components shall be 0.05mm (min.) and 0.50mm (max). The clearance shall not allow the component to rotate more than 20° within the carrier cavity.



REEL DIMENSIONS (mm)

A	B	C	D	E	W
178 ± 2.0	50 min.	13.0 ± 0.2	20.2 min.	1.5 min.	8.4 ± 1.0



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