

Tantalum & Niobium Oxide Capacitors (excluding F-series)



Tape & Reel Packaging

Tape and reel packaging for automatic component placement. Please enter required Suffix on order. Bulk packaging is not available.

TAPE SPECIFICATION

Tape dimensions comply to EIA 481-1 Dimensions A0 and B0 of the pocket and the tape thickness, K, are dependent on the component size. Tape materials do not affect component solderability during storage. Carrier Tape Thickness <0.4mm.

TAPING SUFFIX TABLE TAJ, TMJ, TPS, TPM, TRJ, TRM, THJ, TLJ, TLN TCJ, TCM, TCN, J-CAP™, TCO, TCQ, NOJ, NOS

Case Size	Tape width mm	P mm	180mm (7") reel Tin Termination			330mm (13") reel Tin Termination			180mm (7") reel Gold Termination	
			Suffix	Automotive Suffix	Qty.	Suffix	Automotive Suffix	Qty.	Suffix	Qty.
A	8	4	R	T	2,000	S	U	8,000	A	2,000
B	8	4	R	T	2,000	S	U	8,000	A	2,000
C	12	8	R	T	500	S	U	3,000	A	500
D	12	8	R	T	500	S	U	2,500	A	500
E	12	8	R	T	400	S	U	1,500	A	400
F	12	8	R	-	1,000	S	-	4,000	A	1,000
G	8	4	R	-	2,500	S	-	10,000	A	2,500
H	8	4	R	-	2,500	S	-	10,000	A	2,500
K	8	4	R	-	3,000	S	-	13,000	A	3,000
L	8	4	R	-	2,500	S	-	10,000	A	2,500
M	8	4	R	-	4,000	S	-	13,000	A	4,000
N	8	4	R	-	3,000	S	-	13,000	A	3,000
O	8	4	R	-	3,000	S	-	13,000	-	-
P	8	4	R	-	2,500	S	-	10,000	A	2,500
R	8	4	R	-	2,500	S	-	10,000	A	2,500
S	8	4	R	-	2,500	S	-	10,000	A	2,500
T	8	4	R	-	2,500	S	-	10,000	A	2,500
U	16	8	R	-	400	-	-	-	-	-
V	12	8	R	-	400	S	-	1,500	A	400
W	12	8	R	-	1,000	S	-	5,000	A	1,000
X	12	8	R	-	1,000	S	-	5,000	A	1,000
Y	12	8	R	-	1,000	S	-	4,000	A	1,000
Z	12	8	R	-	1,000	S	-	5,000	-	-
3	16	8	R	-	800	S	-	TBD	-	-
4	16	8	R	-	800	S	-	TBD	-	-
5	12	8	R	-	400	S	-	1,500	-	-
6	24	12	R	-	500	S	-	TBD	-	-
8	16	8	R	-	800	S	-	TBD	-	-

TAPING SUFFIX TABLE TAC AND TLC

Case Size	Tape width mm	P mm	108mm (4.25") reel Tin Termination		180mm (7") reel Tin Termination		108mm (4.25") reel & Gold Termination		180mm (7") reel & 100% Gold Termination	
			Suffix	Qty.	Suffix	Qty.	Suffix	Qty.	Suffix	Qty.
A	8	4	XTA	500	RTA	2,000	FTA	500	ATA	2,000
B	8	4	XTA	500	RTA	2,500	FTA	500	ATA	2,500
D	8	4	XTA	500	RTA	2,500	-	-	-	-
H	8	4	XTA	500	RTA	3,500	FTA	500	ATA	3,500
I	8	4	XTA	500	RTA	2,500	FTA	500	ATA	2,500
K	8	2	QTA	1,000	PTA	10,000	NTA	1,000	MTA	10,000
L	8	4	XTA	500	RTA	3,500	FTA	500	ATA	3,500
R	8	4	XTA	500	RTA	2,500	FTA	500	ATA	2,500
T	8	4	XTA	500	RTA	2,500	FTA	500	ATA	2,500
U	8	4	XTA	500	RTA	3,500	FTA	500	ATA	3,500
V	8	4	XTA	500	RTA	2,500	FTA	500	ATA	2,500

CHIP TRAY (WAFFLE) TABLE TLC

Case Size	Chip Tray Qty.	Tin Termination Suffix	Gold Termination Suffix
E	Each	HTA	-

Tantalum & Niobium Oxide Capacitors (excluding F-series)

Tape & Reel Packaging



TAPING SUFFIX TABLE TPC

Case Size	Tape width mm	P mm	108mm (4.25") reel Tin Termination		180mm (7") reel Tin Termination		108mm (4.25") reel & Gold Termination		180mm (7") reel & 100% Gold Termination	
			Suffix	Qty.	Suffix	Qty.	Suffix	Qty.	Suffix	Qty.
H	8	4	Xxxxx	500	Rxxxx	3,500	Fxxxx	500	Axxxx	3,500
K	8	2	Qxxxx	1,000	Pxxxx	10,000	Nxxxx	1,000	Mxxxx	10,000
L	8	4	Xxxxx	500	Rxxxx	3,500	Fxxxx	500	Axxxx	3,500
R	8	4	Xxxxx	500	Rxxxx	2,500	Fxxxx	500	Axxxx	2,500

Note: xxxx = ESR value in Milliohms

TAPING SUFFIX TABLE TLC

Case Size	Tape width mm	P mm	108mm (4.25") reel Tin Termination		180mm (7") reel Tin Termination		108mm (4.25") reel & Gold Termination		180mm (7") reel & 100% Gold Termination	
			Suffix	Qty.	Suffix	Qty.	Suffix	Qty.	Suffix	Qty.
L	8	4	Xxxxx	500	Rxxxx	3,500	Fxxxx	500	Axxxx	3,500

Note: xxxx = ESR value in Milliohms

Tantalum & Niobium Oxide Capacitors (excluding F-series)



Tape & Reel Packaging

PLASTIC TAPE DIMENSIONS TAJ, TMJ, TPS, TPM, TRJ, TRM, THJ, TLJ, TLN, TCJ, TCM, TCN, J-CAP™, TCO, TCQ, NOJ AND NOS

Case	A0±0.10	B0±0.10	K±0.10	W±0.30	E±0.10	F±0.05	G min.	P±0.10	P2±0.05	P0±0.10	D ^{+0.20} _{-0.00}	D1 ^{+0.25} _{-0.00}
A	1.83	3.57	1.87	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
B	3.15	3.77	2.22	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
C	3.45	6.40	2.92	12.00	1.75	5.50	0.75	8.00	2.00	4.00	1.50	1.50
D	4.48	7.62	3.22	12.00	1.75	5.50	0.75	8.00	2.00	4.00	1.50	1.50
E	4.50	7.50	4.50	12.00	1.75	5.50	0.75	8.00	2.00	4.00	1.50	1.50
F	3.35	6.40	2.20	12.00	1.75	5.50	0.75	8.00	2.00	4.00	1.50	1.50
G	1.83	3.57	1.65	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
H	3.15	3.77	1.66	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
K	1.95	3.55	1.15	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
L	3.10	3.80	1.30	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
M	1.60	2.35	1.10	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
N	1.60	2.30	1.10	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
O	1.95	3.55	0.80	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
P	1.65	2.45	1.60	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
R	1.65	2.45	1.30	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
S	1.95	3.55	1.30	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
T	3.20	3.80	1.30	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
U	6.19	7.66	4.72	16.00	1.75	7.50	0.75	8.00	2.00	4.00	1.50	1.50
V	6.43	7.44	3.84	12.00	1.75	5.50	0.75	8.00	2.00	4.00	1.50	1.50
W	3.57	6.40	1.65	12.00	1.75	5.50	0.75	8.00	2.00	4.00	1.50	1.50
X	4.67	7.62	1.65	12.00	1.75	5.50	0.75	8.00	2.00	4.00	1.50	1.50
Y	4.67	7.62	2.15	12.00	1.75	5.50	0.75	8.00	2.00	4.00	1.50	1.50
Z	4.67	7.62	1.65	12.00	1.75	5.50	0.75	8.00	2.00	4.00	1.50	1.50
3	6.25	7.88	2.25	16.00	1.75	7.50±0.1	0.75	8.00	2.00±0.1	4.00	1.50	1.50
4	6.25	7.88	2.25	16.00	1.75	7.50±0.1	0.75	8.00	2.00±0.1	4.00	1.50	1.50
5	4.50	7.50	4.50	12.00	1.75	5.50	0.75	8.00	2.00	4.00	1.50	1.50
6	8.55	15.60	2.25	24.00	1.75	11.50	0.75	12.00	2.00	4.00	1.50	1.50
8	6.25	7.88	2.25	16.00	1.75	7.50±0.1	0.75	8.00	2.00±0.1	4.00	1.50	1.50

PLASTIC TAPE DIMENSIONS TAC, TLC AND TPC

Case	A0±0.10	B0±0.10	K±0.10	W±0.30	E±0.10	F±0.05	G min.	P±0.10	P2±0.05	P0±0.10	D ^{+0.20} _{-0.00}	D1 ^{+0.20} _{-0.00}
A	1.83±0.10	3.57±0.10	1.87±0.10	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
B	3.15±0.10	3.77±0.10	1.66±0.10	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
D	1.95±0.10	3.60±0.10	0.90±0.10	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
H	1.65±0.10	2.45±0.10	1.10±0.05	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
I	1.95±0.10	3.60±0.10	0.90±0.10	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
K	0.75 ^{+0.15} _{-0.00}	1.26 ^{+0.10} _{-0.00}	0.67 ^{+0.10} _{-0.00}	8.00	1.75	3.50	0.75	2.00	2.00	2.00	1.50	0.50
L	1.05 ^{+0.10} _{-0.00}	1.90 ^{+0.10} _{-0.00}	1.05 ^{+0.10} _{-0.00}	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	0.80
R	1.65±0.10	2.45±0.10	1.60±0.10	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
T	3.20±0.10	3.80±0.10	1.30±0.10	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
U	1.65±0.10	2.45±0.10	0.80±0.05	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00
V	1.95±0.10	3.60±0.10	0.90±0.10	8.00	1.75	3.50	0.75	4.00	2.00	4.00	1.50	1.00

CHIP TRAY (WAFFLE) TABLE TLC

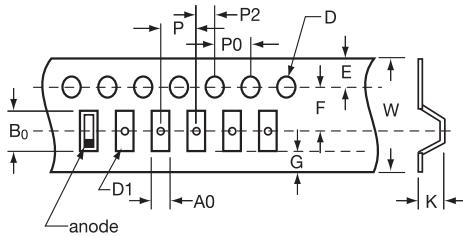
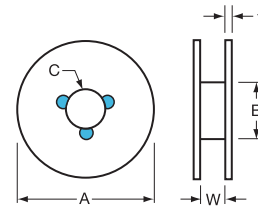
Case	X Pocket Size	Y Pocket Size	Z Pocket Depth	A Pocket Draft Angle	Array
E	0.76mm ±0.05mm	0.43mm ±0.05mm	0.41mm ±0.05mm	5° ±1/2°	20 x 20 (400)

Tantalum & Niobium Oxide Capacitors (excluding F-series)

Tape & Reel Packaging

REEL DIMENSIONS

Reel Size	Tape	A	B	C	W	t
180mm (7")	16mm	180±2.00	50 min	13.0±0.50	16.4+2.0/-0	2.00±0.50
180mm (7")	12mm	180±2.00	50 min	13.0±0.50	12.4+1.5/-0	2.00±0.50
180mm (7")	8mm	180±2.00	50 min	13.0±0.50	8.4+1.5/-0	2.00±0.50
330mm (13")	12mm	330±2.00	50 min	13.0±0.50	12.4+1.5/-0	2.00±0.50
330mm (13")	8mm	330±2.00	50 min	13.0±0.50	8.4+1.5/-0	2.00±0.50
TACmicrochip®						
108mm (4.25")	8mm	108±2.00	50 min	13.0±0.50	8.4+1.5/-0	1.50±0.50
180mm (7")	8mm	180±2.00	50 min	13.0±0.50	8.4+1.5/-0	1.50±0.50

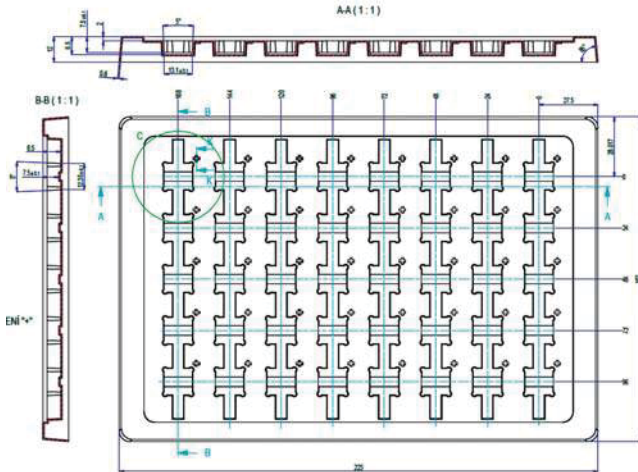


COVER TAPE NOMINAL DIMENSIONS

Thickness: 75µm
 Width of tape: 5.5mm (8mm tape)
 9.5mm (12mm tape)
 13.5mm (16mm tape)

TCH AND THH PACKAGING SPECIFICATION

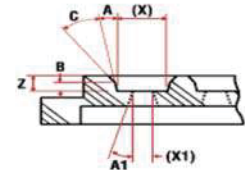
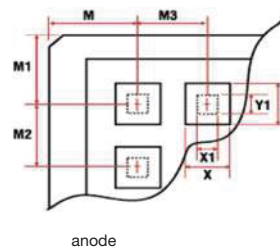
The dimensions of the tray see in the figure below. Tolerance of dimensions are ±0.1 mm. Both case size "9" and "I" have 40 pcs per tray.



OVERALL CHIP TRAY SIZE

Size	Height	Flatness
50.80mm±0.10mm	3.96mm +0.05mm -0.08mm	0.10mm

PLASTIC CHIP TRAY



E Case

F-Series Tantalum Capacitors

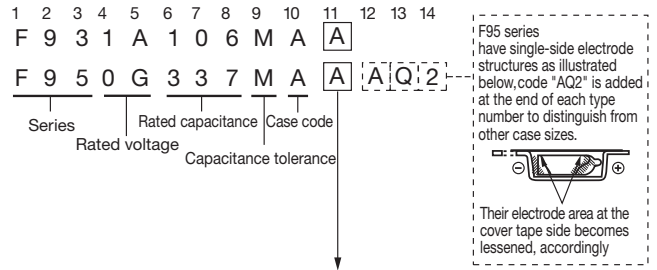
Tape & Reel Packaging

TAPING QUANTITY TABLE – F-SERIES CAPACITORS

Series	Case Size	180mm (7") Reel	330mm (13") Reel
		Tin Termination Qty.	Tin Termination Qty.
F38, F98	U	10,000	–
	M, S	4,000	–
F92	P	3,000	8,000
	A, B	2,500	8,000
F91, F93, F97	A	2,000	8,000
	B	2,000	6,000
	C, N	500	2,500
F95 AUDIO F95	R, P	3,000	10,000
	Q, S, A, T	2,500	10,000
	B	2,000	8,500
F72	R	1,000	–
	M	500	–
F75	C, D, M, R, U	500	–

(*): Export packaging. There are some differences between actual minimum quantity and above list. Please confirm before you order.

TYPE NUMBERING SYSTEM

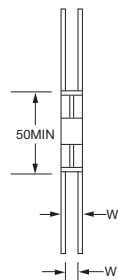
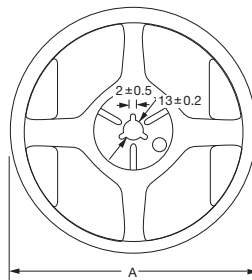


Tape Width (mm)	Polarity	Tape		Applicable Case Size		
		Reel Dia ϕ 180 mm	Reel Dia ϕ 330 mm	F91, F92, F93, F97, F38, F98	F95 AUDIO F95	F72 F75
8	R (Anode is at opposite side of feeding holes)	A	E	U, M, S, P, A, B	R, P, Q, S, A, T, B	–
12	R (Anode is at opposite side of feeding holes)	C	G	C, N	–	U, C, D, R, M

REEL DIMENSIONS (mm)

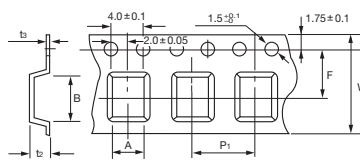
Item	Reel Diameter	
	180 ϕ	330 ϕ
A	ϕ 180 $^{+0}_{-3}$	ϕ 330 \pm 2

Item	Tape Width	
	8	12
W ₁	9.0 \pm 0.3	13 \pm 0.3
W ₂	11.4 \pm 1.0	15.4 \pm 1.0

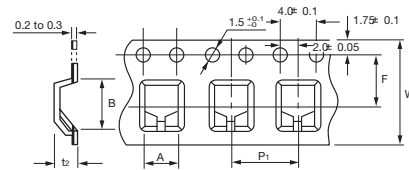


Note: The above shows the dimensions of 180 reel. In case of 330 reel, the appearance shape is slightly different.

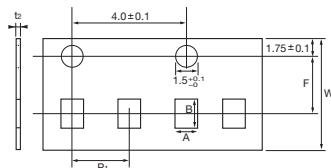
CARRIER TAPE DIMENSIONS (mm)



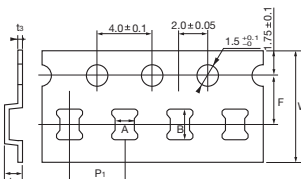
F91, F92, F93, F97, F98 M, F38 M



F95, AUDIO F95, F72, F75



F98 U, F38 U



F98 S, F38 S

Case Code	W	A	B	F	P ₁	t ₂	t ₃
U	8.0 \pm 0.3	0.73 \pm 0.08	1.20 \pm 0.05	3.5 \pm 0.05	2.0 \pm 0.1	0.8 Max.	–
M	8.0 \pm 0.3	0.97 \pm 0.05	1.85 \pm 0.05	3.5 \pm 0.05	4.0 \pm 0.1	1.3 Max.	0.20 \pm 0.05
S	8.0 \pm 0.3	1.35 \pm 0.1	2.15 \pm 0.1	3.5 \pm 0.1	4.0 \pm 0.1	1.4 Max.	0.2 to 0.3
P	8.0 \pm 0.3	1.55 \pm 0.1	2.3 \pm 0.1	3.5 \pm 0.05	4.0 \pm 0.1	(1.7 Max.)	0.2 to 0.3
A	8.0 \pm 0.3	1.9 \pm 0.1	3.5 \pm 0.1	3.5 \pm 0.05	4.0 \pm 0.1	2.1 Max (1.7)	0.2 to 0.3
B	8.0 \pm 0.3	3.3 \pm 0.1	3.8 \pm 0.1	3.5 \pm 0.05	4.0 \pm 0.1	2.4 Max (1.7)	0.2 to 0.3
C	12.0 \pm 0.3	3.6 \pm 0.1	6.3 \pm 0.1	5.5 \pm 0.05	8.0 \pm 0.1	2.9 Max.	0.2 to 0.3
N	12.0 \pm 0.3	4.8 \pm 0.1	7.7 \pm 0.1	–	–	3.5 Max.	0.2 to 0.3

Type	Case Code	W	A	B	F	P ₁	t ₂
F95 AUDIO F95	R	8.0 \pm 0.3	1.5 \pm 0.2	2.6 \pm 0.2	3.5 \pm 0.05	4.0 \pm 0.1	1.05 Max.
	P		2.0 \pm 0.2	3.6 \pm 0.2			1.5 Max.
	Q, S		2.1 \pm 0.2	3.7 \pm 0.2			1.5 Max.
	A		3.0 \pm 0.2	3.75 \pm 0.2			2.0 Max.
	T		3.25 \pm 0.2	3.7 \pm 0.2			1.5 Max.
F72	B	12.0 \pm 0.3	3.25 \pm 0.2	3.7 \pm 0.2	5.5 \pm 0.1	8.0 \pm 0.1	2.4 Max.
	R		6.5 \pm 0.2	7.6 \pm 0.2			2.2 Max.
F75	M	12.0 \pm 0.3	6.6 \pm 0.2	7.8 \pm 0.2	5.5 \pm 0.1	8.0 \pm 0.1	2.5 Max.
	U		3.7 \pm 0.2	7.6 \pm 0.2			2.7 Max.
	C		4.8 \pm 0.2	7.9 \pm 0.2			3.6 Max.
	D		6.6 \pm 0.2	7.6 \pm 0.2			3.9 Max.
	M		6.7 \pm 0.2	7.6 \pm 0.2			3.3 Max.
R	–	–	–	–	–	–	4.6 Max.