

Tantalum Axial Lead Tape and Reel Packaging

KEMET offers standard reeling of Solid Tantalum Capacitors for automatic insertion or lead forming machines per EIA Specification RS-296E.

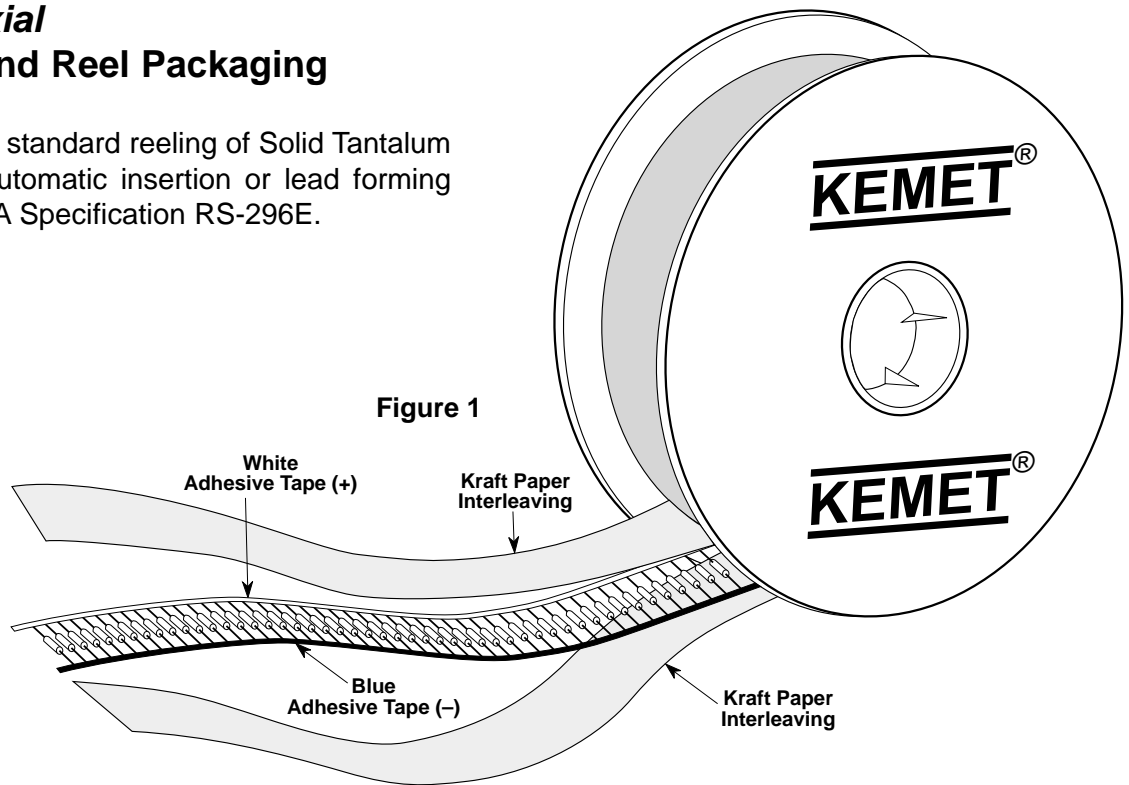


Figure 1

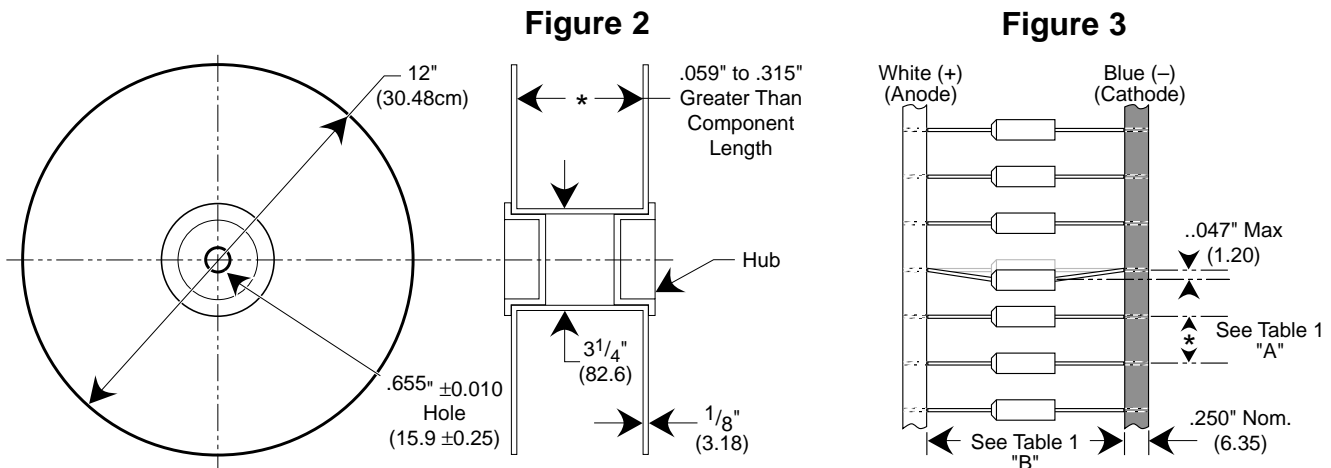


Figure 2

Figure 3

Table 1 Dimensions in Inches & (Millimeters)

COMPONENT BODY DIAMETER	COMPONENT PITCH "A"	INSIDE TAPE SPACING "B" ±1.5mm (0.059")		
	0.020" or (±0.5mm)	I	II	III
0" (0mm) to 0.197" (5mm)	0.200" or (5mm)	2.062"	2.500"	2.874"
0.197" (5.01mm) to 0.394" (10mm)	0.400" or (10mm)	(52.4mm)	(63.5mm)	(73mm)

Capacitors are reeled so that positive leads are oriented as shown in Figure 3. Kraft paper (50lb. test minimum) is inserted between the layers of capacitors wound on reels for component pitch ≤ 0.200 " sizes and corrugated paper (70 lb. test minimum), single faced is inserted for component pitch ≥ 0.400 " sizes. Capacitor lead length may extend only a maximum of .031" (0.8 mm) beyond the tape's edges. Capacitors are centered in a row between the two tapes and will deviate only ± 0.031 " (0.79 mm) from the row center. Figures 1 and 2 show the KEMET standard chipboard tape reel. A minimum of 36" (91.5 cm) leader tape is provided at each end of the reeled capacitors. Universal splicing clips are used to connect the tape. Standard reel quantities are shown on page 73.

KEMET offers Solid Tantalum Capacitors fully compatible for use with automatic insertion machines for radial-lead components. Aris Reeling meets all requirements of EIA Standard RS-468. KEMET capacitors are wound on a precision made ARIS Reel Package. ARIS Ammo Package is also available.

Tantalum Dipped Radial – ARIS Specification (Automatic Radial Insertion System)

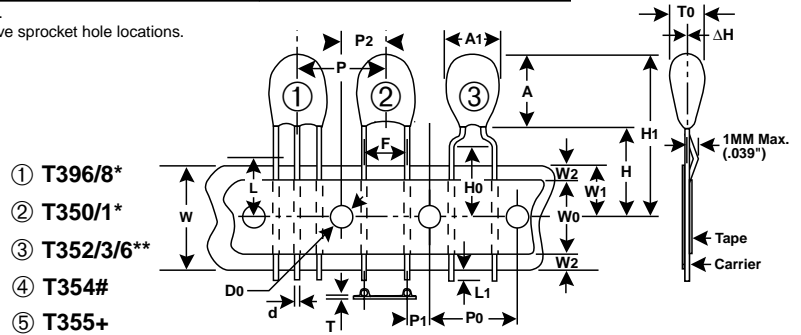
Tantalum Dipped Tape and Reel Dimensions in Millimeters & (Inches)

Dimension	Symbol	Nominal mm (inch)	Tolerance mm (inch)	Dimension	Symbol	Nominal mm (inch)	Tolerance mm (inch)
Body Height (1)	A	17.0 (0.67)	Maximum	Component Pitch (5)	P	12.7 (.500)	± 1.0 (± .039)
Body Width (1)	A ₁	10.2 (0.40)	Maximum	Sprocket Hole Pitch (2)	P ₀	12.7 (.500)	± 0.3 (±.012)
Sprocket Hole Diameter	D ₀	4.0 (.157)	± 0.3 (±.012)	Sprocket Hole Center to Lead Center (3) (4)	P ₁	See Note Below	± 0.7 (±.028)
Lead Diameter	d	0.51 or 0.64 (.020) (.025)	± 0.05 (.002)	Sprocket Hole Center to Component (5) Center	P ₂	See Note Below	
Lead Center (4)	F	See Note Below		Body Thickness	T ₀	10.2 (.400)	Maximum
Component Base to Tape Center (4)	H	C-7301 16.0 (.630) C-7303 18.0 (.709)	C-7301 ±0.5 (±.020) C-7303 Minimum	Total Tape Thickness	T	0.7 (0.28)	± .02 (.008)
Lead Standoff Height	H ₀	C-7301 16.0 (.630) C-7303 18.0 (.709)	C-7301 ±0.5 (±.020) C-7303 Minimum	Carrier Tape Width	W	18.0 (.709)	+ 1.0/-0.5 (+.039/- .020)
Component Height Above Tape Center	H ₁	32.25 (1.270)	Maximum	Hold-Down Tape Width	W ₀	15mm or 6mm (.561) (.236)	+ 1.0/-0.8 (+.039/- .031)
Component Alignment Front to Rear	Δ H	0	1.0 (.039)	Sprocket Hole Location	W ₁	9.0 (.354)	+0.075/-0.5 (+.030/- .020)
Cut Out Length	L	11.0 (.433)	Maximum	Hold-Down Tape Location	W ₂	12mm (.472)	Maximum
Lead Protrusion	L ₁	1.0 (.039)	Maximum				

- Notes: (1) See page 62 for T35X and page 69 for T39X specific dimensions.
 (2) Cumulative pitch error ± 1.0mm (.039") maximum in 20 consecutive sprocket hole locations.
 (3) Measured at bottom of standoff.
 (4) P₁ and F measured at egress from carrier tape.
 (5) P and P₂ measured at egress from carrier tape.

On polar devices, the positive (+) lead exits from container first.
 * Lead spacings are 2.5mm (.098") center-to-center (T350 A-H)
 ** Lead spacings are 5.0mm (.197") center-to-center
 # Lead spacings are 6.35mm (.25") center-to-center
 + Lead spacings are 3.18mm (.125") center-to-center

F Dimensions:	P1 Dimensions:
0.100" ± .015	Lead
0.125" ± .015	Spacing
0.200" ± .015	0.100" - 0.200 ± .028"
0.250" ± .015*	0.125" - 0.187 ± .028"
0.100" ± .015 (3 leaded)	0.200" - 0.150 ± .028"
	0.250" - 0.125 ± .028"
	0.100" - 0.100 ± .028" (3 leaded)



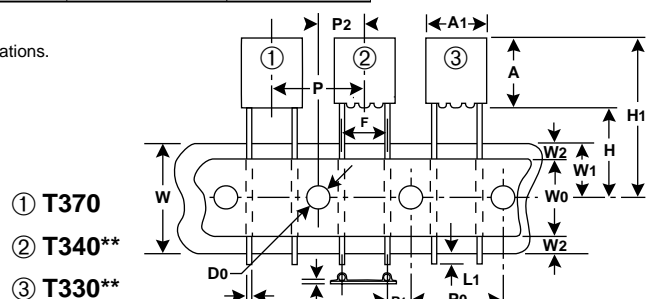
Tantalum Molded Radial – ARIS Specification (Automatic Radial Insertion System)

Tantalum Molded Tape and Reel Dimensions in Millimeters & (Inches)

Dimension	Symbol	Nominal mm (inch)	Tolerance mm (inch)	Dimension	Symbol	Nominal mm (inch)	Tolerance mm (inch)
Body Height (1)	A	10.50 (.413)	± .38 (±.015) Maximum	Component Pitch (5)	P	12.7 (.500)	± 1.0 (± .039)
Body Width (1)	A ₁	15.24 (.600)	Maximum ± .38 ± (.015)	Sprocket Hole Pitch (3)	P ₀	12.7 (.500)	± 0.3 (±.012)
Sprocket Hole Diameter	D ₀	4.0 (.157)	± 0.3 (± .012)	Sprocket Hole Center to Lead Center (4) (5)	P ₁	3.85 4.76 5.1 (.152) (.188) (.201)	± 0.7 (±.028)
Lead Diameter	d	0.51 or 0.64 (.020) (.025)	± 0.05 or ± .03 (± .001)	Sprocket Hole Center to Component Center	P ₂	6.35 (.250)	± 1.3 (±.051)
Lead Center (5)	F	5.0 2.5 (.197) (.098)	+ 0.8/ - 0.2 (+ .032/ -.008)	Body Thickness	T ₀	6.35 (.250)	± 1.3 Maximum
Component Base to Tape Center (2)(4)(6)	H	16.0 - 21.0 (.630 - .827)	Reference Only	Total Tape Thickness	T	0.7 (0.28)	± .02 (±.008)
Lead Standoff Height	H ₀	N/A		Carrier Tape Width	W	18.0 (.709)	+ 1.0/-0.5 (+.039/- .020)
Component Height Above Tape Center	H ₁	32.25 (1.270)	Maximum	Hold-Down Tape Width	W ₀	15 or 6 (.561) (.236)	+ 1.0/-0.8 (+.039/.031)
Component Alignment Front to Rear	Δ H	0	± 2.0 (± .079)	Sprocket Hole Location	W ₁	9.0 (.354)	+0.075/-0.5 (+.030/- .020)
Cut Out Length	L	11.0 (.433)	Maximum	Hold-Down Tape Location	W ₂	3.0 or 12.0 (.118) (.472)	Maximum
Lead Protrusion	L ₁	2.0 (.079)	Maximum				

- Notes: (1) See page 50 for T330, page 53 for T340 and page 59 for T35X specific dimensions.
 (2) Reference Only
 (3) Cumulative pitch error ± 1.0mm (.039") maximum in 20 consecutive sprocket hole locations.
 (4) Measured at bottom of standoff.
 (5) P, P₁ and F measured at egress from carrier tape.
 (6) H dimensions for T370 D and E 16.5mm ± 0.5mm (0.650" ± 0.020")

On polar devices, the positive (+) lead exits from container first.
 * Lead spacings are 2.5mm (.098") center-to-center
 ** Lead spacings are 5.0mm (.197") center-to-center.



TANTALUM PACKAGING									
KEMET(1) Number	Military Style	Military Specification	Case Size	Standard Bulk(2) Quantity	Standard Reel Quantity	Reel Size	Standard Reeling Spec.	Ammo Pack Quantity	Ammo Pack Spec.
T110/T212, T140/T242, T252, T262	CSR13	MIL-C-39003/1	A	150/Box	3500	12"	C-7200	1500	C-7293
	CSR23	MIL-C-39003/3	B	75/Box	2500	12"	C-7200	1000	Class I
	CSR33	MIL-C-39003/6	C	20/Tray	500	12"	C-7200	250	C-7442
	CSR21	MIL-C-39003/9	D	20/Tray	400	12"	C-7200	250	Class II C-7443 Class III See Page 71 for class info.
T111/T213	CSR91	MIL-C-39003/4	A	60/Box	3000	12"	C-7200	N/A	N/A
			B	30/Box	2000	12"	C-7200		
			C	10/Card	N/A	N/A	N/A		
			D	10/Card	N/A	N/A	N/A		
T210, T216, T240, T256	CSS13	MIL-C-39003/10	A	40/Tray	3500	12"	C-7200	N/A	N/A
			B	30/Tray	2500	12"	C-7200	N/A	N/A
	CSS33	MIL-C-39003/10	C	20/Tray	500	12"	C-7200	N/A	N/A
			D	20/Tray	400	12"	C-7200	N/A	N/A
T222	CSR09	MIL-C-39003/2	A/B	50/Tray	N/A	N/A	N/A	N/A	N/A
			A	300/Box	N/A	N/A	N/A	N/A	
			B	150/Box					
T322/T323	CX01, CX05	MIL-C-49137/1 & 5	A	300	4500	12"	C-7200	2000	C-7293
			B	250	4000	12"	C-7200	2000	Class I
			C	100	2500	12"	C-7200	1000	C-7442
			D	100	2500	12"	C-7200	1000	Class II
			E	100	500	12"	C-7200	250	C-7443
			F	100	500	12"	C-7200	250	Class III See Page 71
T330			A	400	1000	12"	C-7301	1600	
			B	300	1000	12"	C-7301	1200	
			C	200	1000	12"	C-7301	1200	
			D	100	N/A	N/A	N/A	N/A	
T340			A	300	1000	12"	C-7301	1600	
			B	300	1000	12"	C-7301	1500	
			C	200	1000	12"	C-7301	1500	
			D	100	250	12"	C-7301	450	
			E	50	150	12"	C-7301	N/A	
			F	100	N/A	N/A	N/A	N/A	
T350, T351, T352, T353, T354, T355, T356			A	1000	1500	12"	C-7301/7303	2500	
			B	1000	1500	12"	C-7301/7303	2500	
			C	1000	1500	12"	C-7301/7303	2500	
			D	1000	1000	12"	C-7301/7303	2000	
			E	1000	1000	12"	C-7301/7303	2000	
			F	500	1000	12"	C-7301/7303	1500	
			G	500	1000	12"	C-7301/7303	1500	
			H	500	800	12"	C-7301/7303	1500	
			J	100	800	12"	C-7301/7303	800	
			K	100	500	12"	C-7301/7303	800	
			L, M	100	500	12"	See Page 72	500	

Lead Tape & Reel Packaging

NOTE: (1) Each KEMET number in its section applies to all case sizes.

(2) Standard packaging refers to number of pieces per bag, box, tray or vial.

TANTALUM PACKAGING (Continued)								
KEMET(1) Number	Military Style	Military Specification	Case Size	Standard Bulk(2) Quantity	Standard Reel Quantity	Reel Size	Standard Reeling Spec.	Ammo Packs
T363	CX02	MIL-C-49137/2	A	1000	1500	12"	C-7301/7303	2500
			B	1000	1500	12"	C-7301/7303	2000
			C	500	500	12"	C-7301/7303	800
			D	500	500	12"	See Page 72	800
T368			C	500	500	12"	C-7301/7303	800
			D	500	500	12"	C-7301/7303	800
T369	CX12	MIL-C-49137/2	A	1000	1500	12"	C-7301/7303	2500
			B	1000	1500	12"	C-7301/7303	2000
T370			C	500	N/A	N/A	N/A	N/A
			D	500	1000	12"	C-7301	N/A
			E	500	1000	12"	C-7301	N/A
			F	250	N/A	N/A	N/A	N/A
T378	CX06	MIL-C-49137/6	D	200	1000	12"	C-7301	N/A
			E	180	1000	12"	C-7301	N/A
			F	50	N/A	N/A	N/A	N/A
T396, T398			A-B	1000	1500	12"	C-7301/7303	2000
			C	500	1500	12"	C-7301/7303	2000
			D-F	500	1000	12"	C-7301/7303	1500
			G	500	1000	12"	C-7301/7303	2000
			H	500	800	12"	C-7301/7303	2000
			J	250	800	12"	C-7301/7303	1600
			K	250	500	12"	C-7301/7303	800
			L-M	250	500	12"	C-7301/7303	500

NOTE: (1) Standard packaging refers to number of pieces per bag, box, tray or vial.

(2) Quantity varies. For further details, please consult the factory.