

Section 3: Introduction



Foreword

AVX offers a broad line of solid Tantalum capacitors in a wide range of sizes, styles, and ratings to meet any design needs. This catalog combines into one source AVX's leaded tantalum capacitor information from its worldwide tantalum operations.

The TAP is rated for use from -55°C to +85°C at rated voltage and up to +125°C with voltage derating. There are three preferred wire forms to choose from which are available on tape and reel, and in bulk for hand insertion.

Four sizes of molded axials, the TAR series, are also available. The TAR is fully marked and available on tape and reel for high speed insertion. The TAA is a hermetically sealed series also with four case sizes available.

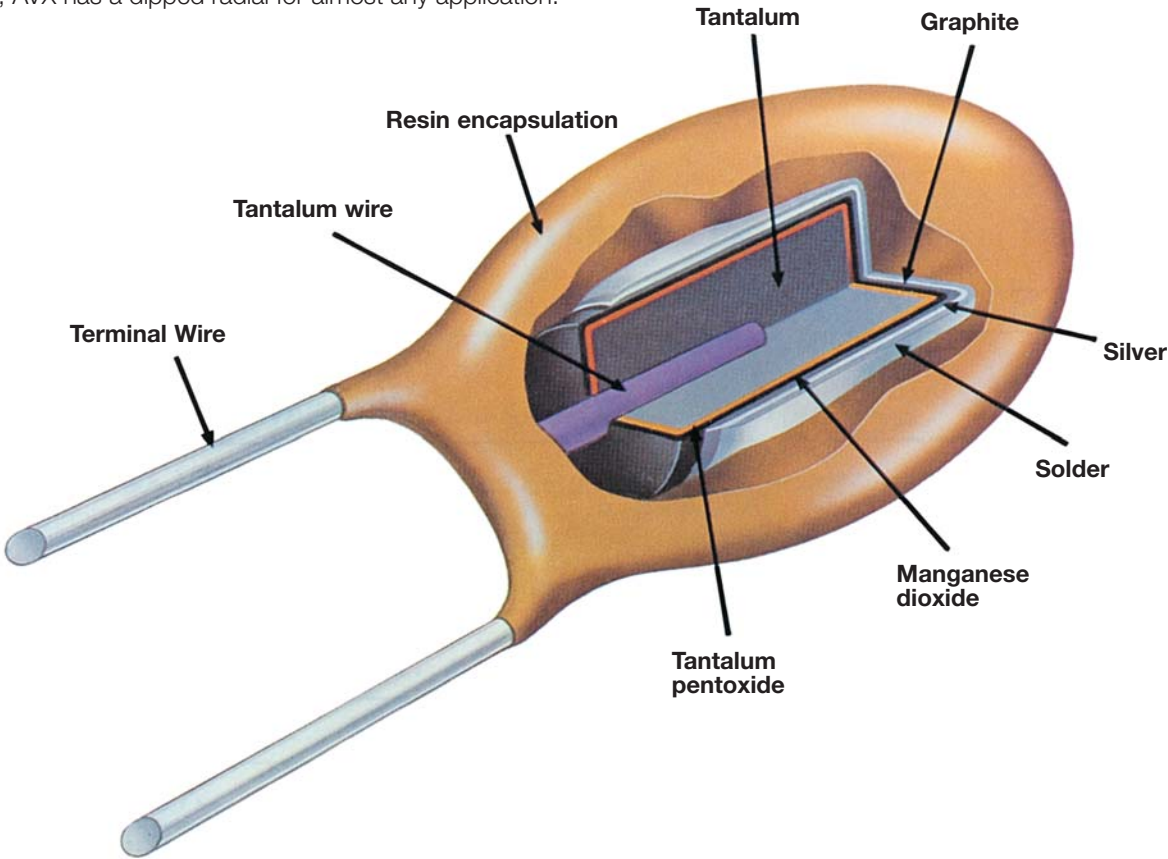
AVX has a complete tantalum applications service available for use by all our customers. With the capability to prototype and mass produce solid tantalum capacitors in special configurations, almost any design need can be fulfilled. And if the customer requirements are outside our standard testing, AVX will work with you to define and implement a test or screening plan.

AVX is determined to become the world leader in tantalum capacitor technology and has made, and is continuing to make, significant investments in equipment and research to reach that end. We believe that the investment has paid off with the devices shown on the following pages.

Dipped Radial Capacitors

SOLID TANTALUM RESIN DIPPED SERIES TAP

The TAP resin dipped series of miniature tantalum capacitors is available for individual needs in both commercial and professional applications. From computers to automotive to industrial, AVX has a dipped radial for almost any application.



Molded Axial Capacitors



TAR Series

SOLID TANTALUM MOLDED AXIAL LEADED CAPACITORS

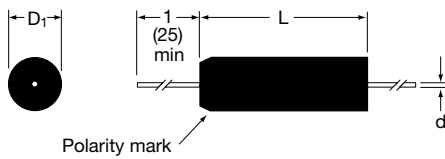


TAR: Designed for use in miniature and subminiature circuit applications.

1. Precision molded and taped and reeled for use in high speed automatic insertion applications.
2. Suitable for decoupling, blocking, by-passing and filtering in computers, data processing, communications and other equipment.
3. Available in four case sizes.
4. Tapered nose identifies positive polarity.
5. Capacitance, tolerance, rated voltage and polarity are marked onto the capacitor body.
6. See page 99 for packaging quantities.

CASE DIMENSIONS: millimeters (inches)

Case Size	L ±0.25 (0.010)	D ₁ ±0.25 (0.010)	d ±0.05 (0.002)	Typical Weight g
Q	6.35 (0.250)	2.16 (0.085)	0.50 (0.020)	0.20
R	7.40 (0.290)	2.50 (0.100)	0.50 (0.020)	0.25
S	8.60 (0.340)	4.30 (0.170)	0.50 (0.020)	0.52
W	10.4 (0.410)	4.30 (0.170)	0.50 (0.020)	0.53



HOW TO ORDER

TAR

Type

R

Case Size

335

Capacitance Code
pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)

M

Capacitance Tolerance
K = ±10%
M = ±20%

015

Rated DC Voltage

*Not recommended for new designs

Molded Axial Capacitors



TAR Series

TECHNICAL SPECIFICATIONS

Technical Data:		All technical data relate to an ambient temperature of +25°C							
Capacitance Range:		0.1μF to 68μF							
Capacitance Tolerance:		±20%; ±10%							
Rated Voltage DC (V _R)	≅+85°C:	4	6.3	10	15	20	25	35	50
Category Voltage (V _C)	≅+125°C:	2.7	4	6.3	10	13	17	23	33
Surge Voltage (V _S)	≅+85°C:	5.2	8	13	20	26	33	46	65
	≅+125°C:	3.5	5	9	12	16	21	28	40
Temperature Range:		-55°C to +125°C							
Environmental Classification:		55/125/56 (IEC 68-2)							
Dissipation Factor:		See part number table							

Capacitance Range (letter denotes case size)								
Capacitance μF	Rated voltage DC (V _R)							
	4V	6.3V	10V	15V	20V	25V	35V	50V
0.1							Q	Q
0.15							Q	Q
0.22							Q	Q
0.33						Q	Q	R
0.47						Q	R	R
0.68							R	R
1.0					Q	Q	R	R
1.5				Q	Q	R	R	S
2.2			Q	Q	R	R	S	S
3.3		Q	Q	R	R	R	S	W
4.7	Q	Q	R	R	R	S	S	W
6.8	Q	R	R	R	S	S	W	
10	R	R	R	S	S	S	W	
15	R	R	S	S	W	W		
22	R	S	S	W	W			
33	S	S	W	W				
47	S	W	W					
68	W	W						

Values outside this standard range may be available on request without appropriate release or qualification.

AVX reserves the right to supply capacitors to a tighter specification than that ordered.

MARKING

- Polarity
- Capacitance
- Date code
- Tolerance
- Voltage

Molded Axial Capacitors



TAR Series

RATINGS AND PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance μF	DCL (μA) Max.	DF % Max.	ESR Max. (Ω) @ 100 kHz
4 volt @ 85°C (2.7 volt @ 125°C)					
TARQ475(+)*004	Q	4.7	0.5	8	12
TARQ685(+)*004	Q	6.8	0.5	8	10
TARR106(+)*004	R	10	0.5	8	10
TARR156(+)*004	R	15	0.5	8	8.0
TARR226(+)*004	R	22	0.7	8	6.0
TARS336(+)*004	S	33	1.1	8	5.0
TARS476(+)*004	S	47	1.5	8	3.5
TARW686(+)*004	W	68	2.2	8	2.5
6.3 volt @ 85°C (4 volt @ 125°C)					
TARQ335(+)*006	Q	3.3	0.5	4	14
TARQ475(+)*006	Q	4.7	0.5	4	10
TARR685(+)*006	R	6.8	0.5	6	8.0
TARR106(+)*006	R	10	0.5	6	6.0
TARR156(+)*006	R	15	0.7	6	5.0
TARS226(+)*006	S	22	1.1	6	3.7
TARS336(+)*006	S	33	1.5	6	3.0
TARW476(+)*006	W	47	2.3	6	2.0
TARW686(+)*006	W	68	3.3	6	1.8
10 volt @ 85°C (7 volt @ 125°C)					
TARQ225(+)*010	Q	2.2	0.5	4	14
TARQ335(+)*010	Q	3.3	0.5	4	10
TARR475(+)*010	R	4.7	0.5	4	8.0
TARR685(+)*010	R	6.8	0.5	6	6.0
TARR106(+)*010	R	10	0.8	6	5.0
TARS156(+)*010	S	15	1.2	6	3.7
TARS226(+)*010	S	22	1.5	6	2.7
TARW336(+)*010	W	33	2.6	6	2.1
TARW476(+)*010	W	47	3.8	6	1.7
15 volt @ 85°C (10 volt @ 125°C)					
TARQ155(+)*015	Q	1.5	0.5	4	14
TARQ225(+)*015	Q	2.2	0.5	4	8.0
TARR335(+)*015	R	3.3	0.5	4	6.0
TARR475(+)*015	R	4.7	0.6	4	5.0
TARR685(+)*015	R	6.8	0.8	6	4.0
TARS106(+)*015	S	10	1.2	6	3.2
TARS156(+)*015	S	15	1.5	6	2.5
TARW226(+)*015	W	22	2.6	6	2.0
TARW336(+)*015	W	33	4.0	6	1.6
20 volt @ 85°C (13 volt @ 125°C)					
TARQ105(+)*020	Q	1.0	0.5	4	18
TARQ155(+)*020	Q	1.5	0.5	4	12
TARR225(+)*020	R	2.2	0.5	4	7.0
TARR335(+)*020	R	3.3	0.5	4	5.5
TARR475(+)*020	R	4.7	0.8	4	4.5
TARS685(+)*020	S	6.8	1.1	6	3.7
TARS106(+)*020	S	10	1.6	6	2.8
TARW156(+)*020	W	15	2.4	6	2.3
TARW226(+)*020	W	22	3.5	6	1.9

AVX Part No.	Case Size	Capacitance μF	DCL (μA) Max.	DF % Max.	ESR Max. (Ω) @ 100 kHz
25 volt @ 85°C (17 volt @ 125°C)					
TARQ474(+)*025	Q	0.47	0.5	3	20
TARQ684(+)*025	Q	0.68	0.5	3	16
TARQ105(+)*025	Q	1.0	0.5	3	12
TARR155(+)*025	R	1.5	0.5	3	8.0
TARR225(+)*025	R	2.2	0.5	3	6.0
TARR335(+)*025	R	3.3	0.7	3	5.0
TARS475(+)*025	S	4.7	0.9	4	4.0
TARS685(+)*025	S	6.8	1.4	4	3.1
TARS106(+)*025	S	10	1.5	4	2.5
TARW156(+)*025	W	15	3.0	4	2.0
35 volt @ 85°C (23 volt @ 125°C)					
TARQ104(+)*035	Q	0.1	0.5	3	26
TARQ154(+)*035	Q	0.15	0.5	3	21
TARQ224(+)*035	Q	0.22	0.5	3	17
TARQ334(+)*035	Q	0.33	0.5	3	15
TARQ474(+)*035	Q	0.47	0.5	3	13
TARQ684(+)*035	R	0.68	0.5	3	10
TARR105(+)*035	R	1.0	0.5	3	8.0
TARR155(+)*035	R	1.5	0.5	3	6.0
TARS225(+)*035	S	2.2	0.6	3	5.0
TARS335(+)*035	S	3.3	0.9	4	4.0
TARS475(+)*035	S	4.7	1.3	4	3.0
TARW685(+)*035	W	6.8	1.9	4	2.5
TARW106(+)*035	W	10	2.8	4	2.0
50 volt @ 85°C (33 volt @ 125°C)					
TARQ104(+)*050	Q	0.1	0.5	3	26
TARQ154(+)*050	Q	0.15	0.5	3	21
TARQ224(+)*050	Q	0.22	0.5	3	17
TARR334(+)*050	R	0.33	0.5	3	15
TARR474(+)*050	R	0.47	0.5	3	13
TARR684(+)*050	R	0.68	0.5	3	10
TARR105(+)*050	R	1.0	0.5	3	8.0
TARS155(+)*050	S	1.5	0.6	4	5.0
TARS225(+)*050	S	2.2	0.9	4	3.5
TARW335(+)*050	W	3.3	1.3	4	3.0
TARW475(+)*050	W	4.7	1.9	4	2.5

(*) Insert capacitance tolerance code; M for $\pm 20\%$ and K for $\pm 10\%$

NOTE: Voltage ratings are minimum values. AVX reserves the right to supply higher voltage ratings in the same case size.

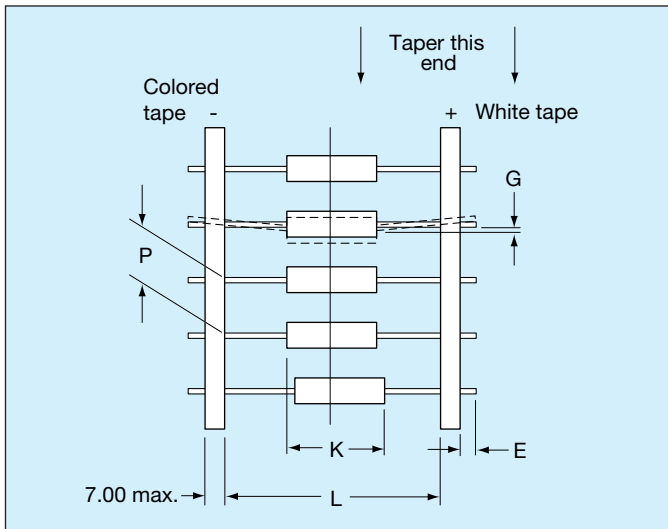
SOLID TANTALUM AXIAL TAR AND TAA

TAPE AND REEL PACKAGING FOR AUTOMATIC COMPONENT INSERTION

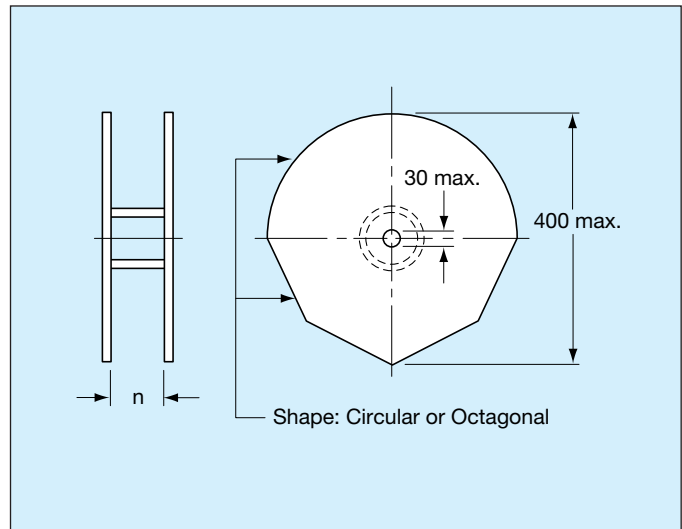
TAR and TAA series are supplied as standard on axial bandolier, in reel format or 'ammo' pack for use on high speed axial automatic insertion equipment, or preforming machines.

The tape format is compatible with standards for component taping set out by major manufacturers of axial automatic insertion equipment.

TAPE SPECIFICATION



REEL CONFIGURATION



PACKAGING QUANTITIES TAR

For reels

Case Size	Number of Pieces
Q	4500
R	4000
S	2500
W	2500

PACKAGING QUANTITIES TAA

For reels, Standard Suffix G

Case Size	Number of Pieces
A	1000
B	1000
C	500
D	500

DIMENSIONS:

millimeters (inches)

E max	1.60 (0.063)
G max	1.20 (0.047)
K	Component body shall be located centrally within a window, width K, where K is 1.40 (0.060) greater than the primary body length
L	52.4 ± 1.50 (2.060 ± 0.060)
P	5.00 ± 0.50 (0.200 ± 0.020)
leader max	400 (15.75)
trailer max	30.0 (1.200)
n	Will allow for unhindered reeling and unreeling of the taped components. Preferred dimensions 73.0 (2.870) spacing.