

TPS Automotive Range



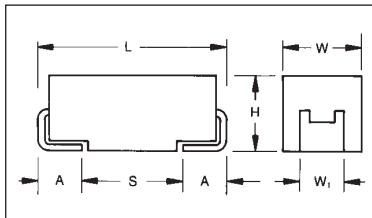
Low ESR - Automotive Product Range



- Low ESR series of robust MnO₂ solid electrolyte capacitors
- CV range: 0.22-680µF / 6.3-50V
- 5 case sizes available
- Power supply applications



CASE DIMENSIONS: millimeters (inches)



Code	EIA Code	EIA Metric	L±0.20 (0.008)	W+0.20 (0.008) -0.10 (0.004)	H+0.20 (0.008) -0.10 (0.004)	W±0.20 (0.008)	A+0.30 (0.012) -0.20 (0.008)	S Min.
A	1206	3216-18	3.20 (0.126)	1.60 (0.063)	1.60 (0.063)	1.20 (0.047)	0.80 (0.031)	1.10 (0.043)
B	1210	3528-21	3.50 (0.138)	2.80 (0.110)	1.90 (0.075)	2.20 (0.087)	0.80 (0.031)	1.40 (0.055)
C	2312	6032-28	6.00 (0.236)	3.20 (0.126)	2.60 (0.102)	2.20 (0.087)	1.30 (0.051)	2.90 (0.114)
D	2917	7343-31	7.30 (0.287)	4.30 (0.169)	2.90 (0.114)	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)
E	2917	7343-43	7.30 (0.287)	4.30 (0.169)	4.10 (0.162)	2.40 (0.094)	1.30 (0.051)	4.40 (0.173)

W1 dimension applies to the termination width for A dimensional area only.

HOW TO ORDER

TPS	C	107	M	010	T	0150
Type	Case Size See table above	Capacitance Code pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	Tolerance K = ±10% M = ±20%	Rated DC Voltage 006 = 6.3Vdc 010 = 10Vdc 016 = 16Vdc 020 = 20Vdc	Packaging T = Automotive Lead Free 7" Reel U = Automotive Lead Free 13" Reel	ESR in mΩ

TECHNICAL SPECIFICATIONS

Technical Data:	All technical data relate to an ambient temperature of +25°C							
Capacitance Range:	0.22 µF to 680 µF							
Capacitance Tolerance:	±10%; ±20%							
Rated Voltage (V _R)	≤ +85°C:	6.3	10	16	20	25	35	50
Category Voltage (V _C)	≤ +125°C:	4	7	10	13	17	23	33
Surge Voltage (V _S)	≤ +85°C:	8	13	20	26	32	46	65
Surge Voltage (V _S)	≤ +125°C:	5	8	13	16	20	28	40
Temperature Range:	-55°C to +125°C							
Environmental Classification:	55/125/56 (IEC 68-2)							
Reliability:	1% per 1000 hours at 85°C, V _R with 0.1Ω/V series impedance, 60% confidence level							
Termination Finished:	Sn Plating (standard), Gold and SnPb Plating upon request							
	Meets requirements of AEC-Q200							



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TPS AUTOMOTIVE RANGE CAPACITANCE AND RATED VOLTAGE, V_R (VOLTAGE CODE) RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated Voltage DC (V_R) to 85°C						
μF	Code	6.3V (J)	10V (A)	16V (C)	20V (D)	25V (E)	35V (V)	50V (T)
0.15	154							
0.22	224							A(7000)
0.33	334						A(6000)	A(7000)
0.47	474					A(7000)	A(6000)	A(6500), B(6000)
0.68	684					A(6000)	A(6000)	B(4000)
1.0	105			A(6200)	A(3000)	A(4000)	A(3000), B(2000)	B(3000), C(2500)
1.5	155				A(3000)	A(3000)	A(3000), B(2500)	C(1500,2000)
2.2	225		A(1800)	A(1800,3500)	A(3000), B(1700)	A(2500), B(900,1200,2500)	B(750,1500,2000), C(1000)	C(1500), D(1200)
3.3	335	A(2100)		A(3500), B(2500)	A(2500), B(1300)	B(750,1500,2000)	B(1000), C(700)	C(1000), D(800)
4.7	475		A(1400), B(1400)	A(2000), B(800,1500)	A(1800), B(750,1000)	B(700,900), C(700)	B(700,1500), C(600), D(700)	C(800), D(500,700)
6.8	685		A(1800), B(1300)	A(1500), B(600,1200)	B(600,1000), C(700)	B(700), C(500,600,700)	C(350), D(400,500)	D(500,600)
10	106	A(1500), B(1500)	A(900,1800), B(1000)	A(1000), B(500,800), C(500)	B(500,1000), C(500,700)	C(300,500), D(500)	C(600), D(300)	D(500), E(250,300,400,500)
15	156	A(700,1500)	A(1000), B(450,600), C(700)	B(500,800), C(700)	B(500), C(400,450)	C(220,300), D(300)	D(300)	
22	226	A(500,900), B(375,600), C(500)	A(900), B(400,500,700), C(300)	B(400,600), C(300,375), D(700)	C(400), D(200,300)	C(275,400), D(200,300)	D(200,300,400), E(200,300)	
33	336	A(600), B(250,350,450,600)	B(250,425,500,650), C(375,500)	C(225,300), D(200)	C(300), D(200)	D(200,300)	E(250,300)	
47	476	B(250,350,500), C(300)	B(250,350,500,650), C(200,350), D(300)	C(350), D(200)	D(200)	D(125,150,250), E(125)		
68	686	B(250,350,500), C(150,200)	C(200,300), D(150)	C(200), D(150)	D(150,200,300), E(125,150,200)			
100	107	C(150), D(300)	C(150,200), D(100,125,150)	D(100,125,150), E(100,125,150)	E(100,150,200)			
150	157	C(150,200,250), D(125)	D(85,100), E(100)	E(100)				
220	227	D(100,125)	D(100,150), E(70,100,125,150)					
330	337	D(70,100), E(100,125,150)	E(50,60,100)					
470	477	D(45,60,100,200), E(45,50,60,100,200)						
680	687	E(45,60,100)						

Not recommended for new designs, higher voltage or smaller case size substitution are offered.

Released codes

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

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RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (mΩ) @100kHz	MSL	100kHz RMS Current (A)			100kHz RMS Voltage (V)		
								25°C	85°C	125°C	25°C	85°C	125°C
6.3 Volt @ 85°C (4 Volt @ 125°C)													
TPSA335*006T2100	A	3.3	6.3	0.5	6	2100	1	0.189	0.170	0.076	0.397	0.357	0.159
TPSA106*006T1500	A	10	6.3	0.6	6	1500	1	0.224	0.201	0.089	0.335	0.302	0.134
TPSB106*006T1500	B	10	6.3	0.6	6	1500	1	0.238	0.214	0.095	0.357	0.321	0.143
TPSA156*006T0700	A	15	6.3	0.9	6	700	1	0.327	0.295	0.131	0.229	0.206	0.092
TPSA156*006T1500	A	15	6.3	0.9	6	1500	1	0.224	0.201	0.089	0.335	0.302	0.134
TPSA226*006T0500	A	22	6.3	1.4	6	500	1	0.387	0.349	0.155	0.194	0.174	0.077
TPSA226*006T0900	A	22	6.3	1.4	6	900	1	0.289	0.260	0.115	0.260	0.234	0.104
TPSB226*006T0375	B	22	6.3	1.4	6	375	1	0.476	0.428	0.190	0.179	0.161	0.071
TPSB226*006T0600	B	22	6.3	1.4	6	600	1	0.376	0.339	0.151	0.226	0.203	0.090
TPSC226*006T0500	C	22	6.3	1.4	6	500	1	0.469	0.422	0.188	0.235	0.211	0.094
TPSA336*006T0600	A	33	6.3	2.1	8	600	1	0.354	0.318	0.141	0.212	0.191	0.085
TPSB336*006T0250	B	33	6.3	2.1	6	250	1	0.583	0.525	0.233	0.146	0.131	0.058
TPSB336*006T0350	B	33	6.3	2.1	6	350	1	0.493	0.444	0.197	0.172	0.155	0.069
TPSB336*006T0450	B	33	6.3	2.1	6	450	1	0.435	0.391	0.174	0.196	0.176	0.078
TPSB336*006T0600	B	33	6.3	2.1	6	600	1	0.376	0.339	0.151	0.226	0.203	0.090
TPSB476*006T0250	B	47	6.3	3	6	250	1	0.583	0.525	0.233	0.146	0.131	0.058
TPSB476*006T0350	B	47	6.3	3	6	350	1	0.493	0.444	0.197	0.172	0.155	0.069
TPSB476*006T0500	B	47	6.3	3	6	500	1	0.412	0.371	0.165	0.206	0.186	0.082
TPSC476*006T0300	C	47	6.3	3	6	300	1	0.606	0.545	0.242	0.182	0.163	0.073
TPSB686*006T0250	B	68	6.3	4	8	250	1	0.583	0.525	0.233	0.146	0.131	0.058
TPSB686*006T0350	B	68	6.3	4	8	350	1	0.493	0.444	0.197	0.172	0.155	0.069
TPSB686*006T0500	B	68	6.3	4	8	500	1	0.412	0.371	0.165	0.206	0.186	0.082
TPSC686*006T0150	C	68	6.3	4.3	6	150	1	0.856	0.771	0.343	0.128	0.116	0.051
TPSC686*006T0200	C	68	6.3	4.3	6	200	1	0.742	0.667	0.297	0.148	0.133	0.059
TPSC107*006T0150	C	100	6.3	6.3	6	150	1	0.856	0.771	0.343	0.128	0.116	0.051
TPSD107*006T0300	D	100	6.3	6.3	6	300	3	0.707	0.636	0.283	0.121	0.116	0.051
TPSC157*006T0150	C	150	6.3	9.5	6	150	1	0.856	0.771	0.343	0.128	0.116	0.051
TPSC157*006T0200	C	150	6.3	9.5	6	200	1	0.742	0.667	0.297	0.148	0.133	0.059
TPSC157*006T0250	C	150	6.3	9.5	6	250	1	0.663	0.597	0.265	0.166	0.149	0.066
TPSD157*006T0125	D	150	6.3	9.5	6	125	3	1.095	0.986	0.438	0.137	0.123	0.055
TPSD227*006T0100	D	220	6.3	13.9	8	100	3	1.225	1.102	0.490	0.122	0.110	0.049
TPSD227*006T0125	D	220	6.3	13.9	8	125	3	1.095	0.986	0.438	0.137	0.123	0.055
TPSD337*006T0070	D	330	6.3	20.8	8	70	3	1.464	1.317	0.586	0.102	0.092	0.041
TPSD337*006T0100	D	330	6.3	20.8	8	100	3	1.225	1.102	0.490	0.122	0.110	0.049
TPSE337*006T0100	E	330	6.3	20.8	8	100	3	1.285	1.156	0.514	0.128	0.116	0.051
TPSE337*006T0125	E	330	6.3	20.8	8	125	3	1.149	1.034	0.460	0.144	0.129	0.057
TPSE337*006T0150	E	330	6.3	20.8	8	150	3	1.049	0.944	0.420	0.157	0.142	0.063
TPSD477*006T0045	D	470	6.3	28	12	45	3	1.826	1.643	0.730	0.082	0.074	0.033
TPSD477*006T0060	D	470	6.3	28	12	60	3	1.581	1.423	0.632	0.095	0.085	0.038
TPSD477*006T0100	D	470	6.3	28	12	100	3	1.225	1.102	0.490	0.122	0.110	0.049
TPSD477*006T0200	D	470	6.3	28	12	200	3	0.866	0.779	0.346	0.173	0.156	0.069
TPSE477*006T0045	E	470	6.3	28	10	45	3	1.915	1.723	0.766	0.086	0.078	0.034
TPSE477*006T0050	E	470	6.3	28	10	50	3	1.817	1.635	0.727	0.091	0.082	0.036
TPSE477*006T0060	E	470	6.3	28	10	60	3	1.658	1.492	0.663	0.099	0.090	0.040
TPSE477*006T0100	E	470	6.3	28	10	100	3	1.285	1.156	0.514	0.128	0.116	0.051
TPSE477*006T0200	E	470	6.3	28	10	200	3	0.908	0.817	0.363	0.182	0.163	0.073
TPSE687*006T0045	E	680	6.3	42.8	10	45	3	1.915	1.723	0.766	0.086	0.078	0.034
TPSE687*006T0060	E	680	6.3	42.8	10	60	3	1.658	1.492	0.663	0.099	0.090	0.040
TPSE687*006T0100	E	680	6.3	42.8	10	100	3	1.285	1.156	0.514	0.128	0.116	0.051
10 Volt @ 85°C (7 Volt @ 125°C)													
TPSA225*010T1800	A	2.2	10	0.5	6	1800	1	0.204	0.184	0.082	0.367	0.331	0.147
TPSA475*010T1400	A	4.7	10	0.5	6	1400	1	0.231	0.208	0.093	0.324	0.292	0.130
TPSB475*010T1400	B	4.7	10	0.5	6	1400	1	0.246	0.222	0.099	0.345	0.310	0.138
TPSA685*010T1800	A	6.8	10	0.7	6	1800	1	0.204	0.184	0.082	0.367	0.331	0.147
TPSB685*010T1300	B	6.8	10	0.7	6	1300	1	0.256	0.230	0.102	0.332	0.299	0.133
TPSA106*010T0900	A	10	10	1	6	900	1	0.289	0.260	0.115	0.260	0.234	0.104
TPSA106*010T1800	A	10	10	1	6	1800	1	0.204	0.184	0.082	0.367	0.331	0.147
TPSB106*010T1000	B	10	10	1	6	1000	1	0.292	0.262	0.117	0.292	0.262	0.117
TPSA156*010T1000	A	15	10	1.5	6	1000	1	0.274	0.246	0.110	0.274	0.246	0.110
TPSB156*010T0450	B	15	10	1.5	6	450	1	0.435	0.391	0.174	0.196	0.176	0.078
TPSB156*010T0600	B	15	10	1.5	6	600	1	0.376	0.339	0.151	0.226	0.203	0.090
TPSC156*010T0700	C	15	10	1.5	6	700	1	0.396	0.357	0.159	0.277	0.250	0.111
TPSA226*010T0900	A	22	10	2.2	8	900	1	0.289	0.260	0.115	0.260	0.234	0.104
TPSB226*010T0400	B	22	10	2.2	6	400	1	0.461	0.415	0.184	0.184	0.166	0.074
TPSB226*010T0500	B	22	10	2.2	6	500	1	0.412	0.371	0.165	0.206	0.186	0.082
TPSB226*010T0700	B	22	10	2.2	6	700	1	0.348	0.314	0.139	0.244	0.220	0.098

Moisture Sensitivity Level (MSL) is defined according to J-STD-020

*Please use "U" instead of "T" in the suffix letter for 13" reel packaging

Please use specific PN for automotive version - see "HOW TO ORDER".

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

The EIA & CECC standards for low ESR Solid Tantalum Capacitors allow an ESR movement to 1.25 times catalogue limit post mounting.

For typical weight and composition see page 128.

NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.



TPS Automotive Range



Low ESR - Automotive Product Range

RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (mΩ) @100kHz	MSL	100kHz RMS Current (A)			100kHz RMS Voltage (V)		
								25°C	85°C	125°C	25°C	85°C	125°C
TPSC226*010T0300	C	22	10	2.2	6	300	1	0.606	0.545	0.242	0.182	0.163	0.073
TPSB336*010T0250	B	33	10	3.3	6	250	1	0.583	0.525	0.233	0.146	0.131	0.058
TPSB336*010T0425	B	33	10	3.3	6	425	1	0.447	0.402	0.179	0.190	0.171	0.076
TPSB336*010T0500	B	33	10	3.3	6	500	1	0.412	0.371	0.165	0.206	0.186	0.082
TPSB336*010T0650	B	33	10	3.3	6	650	1	0.362	0.325	0.145	0.235	0.212	0.094
TPSC336*010T0375	C	33	10	3.3	6	375	1	0.542	0.487	0.217	0.203	0.183	0.081
TPSC336*010T0500	C	33	10	3.3	6	500	1	0.469	0.422	0.188	0.235	0.211	0.094
TPSB476*010T0250	B	47	10	4.7	8	250	1	0.583	0.525	0.233	0.146	0.131	0.058
TPSB476*010T0350	B	47	10	4.7	8	350	1	0.493	0.444	0.197	0.172	0.155	0.069
TPSB476*010T0500	B	47	10	4.7	8	500	1	0.412	0.371	0.165	0.206	0.186	0.082
TPSB476*010T0650	B	47	10	4.7	8	650	1	0.362	0.325	0.145	0.235	0.212	0.094
TPSC476*010T0200	C	47	10	4.7	6	200	1	0.742	0.667	0.297	0.148	0.133	0.059
TPSC476*010T0350	C	47	10	4.7	6	350	1	0.561	0.505	0.224	0.196	0.177	0.078
TPSD476*010T0300	D	47	10	4.7	6	300	3	0.707	0.636	0.283	0.212	0.191	0.085
TPSC686*010T0200	C	68	10	6.8	6	200	1	0.742	0.667	0.297	0.148	0.133	0.059
TPSC686*010T0300	C	68	10	6.8	6	300	1	0.606	0.545	0.242	0.182	0.163	0.073
TPSD686*010T0150	D	68	10	6.8	6	150	3	1.000	0.900	0.400	0.150	0.135	0.060
TPSC107*010T0150	C	100	10	10	8	150	1	0.856	0.771	0.343	0.128	0.116	0.051
TPSC107*010T0200	C	100	10	10	8	200	1	0.742	0.667	0.297	0.148	0.133	0.059
TPSD107*010T0100	D	100	10	10	6	100	3	1.225	1.102	0.490	0.122	0.110	0.049
TPSD107*010T0125	D	100	10	10	6	125	3	1.095	0.986	0.438	0.137	0.123	0.055
TPSD107*010T0150	D	100	10	10	6	150	3	1.000	0.900	0.400	0.150	0.135	0.060
TPSD157*010T0085	D	150	10	15	8	85	3	1.328	1.196	0.531	0.113	0.102	0.045
TPSD157*010T0100	D	150	10	15	8	100	3	1.225	1.102	0.490	0.122	0.110	0.049
TPSE157*010T0100	E	150	10	15	8	100	3	1.285	1.156	0.514	0.128	0.116	0.051
TPSD227*010T0100	D	220	10	22	8	100	3	1.225	1.102	0.490	0.122	0.110	0.049
TPSD227*010T0150	D	220	10	22	8	150	3	1.000	0.900	0.400	0.150	0.135	0.060
TPSE227*010T0070	E	220	10	22	8	70	3	1.535	1.382	0.614	0.107	0.097	0.043
TPSE227*010T0100	E	220	10	22	8	100	3	1.285	1.156	0.514	0.128	0.116	0.051
TPSD227*010T0125	D	220	10	22	8	125	3	1.149	1.034	0.460	0.144	0.129	0.057
TPSE227*010T0150	E	220	10	22	8	150	3	1.049	0.944	0.420	0.157	0.142	0.063
TPSE337*010T0050	E	330	10	33	8	50	3	1.817	1.635	0.727	0.091	0.082	0.036
TPSE337*010T0060	E	330	10	33	8	60	3	1.658	1.492	0.663	0.099	0.090	0.040
TPSE337*010T0100	E	330	10	33	8	100	3	1.285	1.156	0.514	0.128	0.116	0.051
16 Volt @ 85°C (10 Volt @ 25°C)													
TPSA105*016T6200	A	1.0	16	0.5	4	6200	1	0.110	0.099	0.044	0.682	0.614	0.273
TPSA225*016T1800	A	2.2	16	0.5	6	1800	1	0.204	0.184	0.082	0.367	0.331	0.147
TPSA225*016T3500	A	2.2	16	0.5	6	3500	1	0.146	0.132	0.059	0.512	0.461	0.205
TPSA335*016T3500	A	3.3	16	0.5	6	3500	1	0.146	0.132	0.059	0.512	0.461	0.205
TPSB335*016T2500	B	3.3	16	0.5	6	2500	1	0.184	0.166	0.074	0.461	0.415	0.184
TPSA475*016T2000	A	4.7	16	0.8	6	2000	1	0.194	0.174	0.077	0.387	0.349	0.155
TPSB475*016T0800	B	4.7	16	0.8	6	800	1	0.326	0.293	0.130	0.261	0.235	0.104
TPSB475*016T1500	B	4.7	16	0.8	6	1500	1	0.238	0.214	0.095	0.357	0.321	0.143
TPSA685*016T1500	A	6.8	16	1.1	6	1500	1	0.224	0.201	0.089	0.335	0.302	0.134
TPSB685*016T0600	B	6.8	16	1.1	6	600	1	0.376	0.339	0.151	0.226	0.203	0.090
TPSB685*016T1200	B	6.8	16	1.1	6	1200	1	0.266	0.240	0.106	0.319	0.287	0.128
TPSA106*016T1000	A	10	16	1.6	6	1000	1	0.274	0.246	0.110	0.274	0.246	0.110
TPSB106*016T0500	B	10	16	1.6	6	500	1	0.412	0.371	0.165	0.206	0.186	0.082
TPSB106*016T0800	B	10	16	1.6	6	800	1	0.326	0.293	0.130	0.261	0.235	0.104
TPSC106*016T0500	C	10	16	1.6	6	500	1	0.469	0.422	0.188	0.235	0.211	0.094
TPSB156*016T0500	B	15	16	2.4	6	500	1	0.412	0.371	0.165	0.206	0.186	0.082
TPSB156*016T0800	B	15	16	2.4	6	800	1	0.326	0.293	0.130	0.261	0.235	0.104
TPSC156*016T0700	C	15	16	2.4	6	700	1	0.396	0.357	0.159	0.277	0.250	0.111
TPSB226*016T0400	B	22	16	3.5	6	400	1	0.461	0.415	0.184	0.184	0.166	0.074
TPSB226*016T0600	B	22	16	3.5	6	600	1	0.376	0.339	0.151	0.226	0.203	0.090
TPSC226*016T0300	C	22	16	3.5	6	300	1	0.606	0.545	0.242	0.182	0.163	0.073
TPSC226*016T0375	C	22	16	3.5	6	375	1	0.542	0.487	0.217	0.203	0.183	0.081
TPSD226*016T0700	D	22	16	3.5	6	700	3	0.463	0.417	0.185	0.324	0.292	0.130
TPSC336*016T0225	C	33	16	5.3	6	225	1	0.699	0.629	0.280	0.157	0.142	0.063
TPSC336*016T0300	C	33	16	5.3	6	300	1	0.606	0.545	0.242	0.182	0.163	0.073
TPSD336*016T0200	D	33	16	5.3	6	200	3	0.866	0.779	0.346	0.173	0.156	0.069
TPSC476*016T0350	C	47	16	7.5	6	350	1	0.561	0.505	0.224	0.196	0.177	0.078
TPSD476*016T0200	D	47	16	7.5	6	200	3	0.866	0.779	0.346	0.173	0.156	0.069
TPSC686*016T0200	C	68	16	10.9	6	200	1	0.742	0.667	0.297	0.148	0.133	0.059
TPSD686*016T0150	D	68	16	10.9	6	150	3	1.000	0.900	0.400	0.150	0.135	0.060
TPSD107*016T0100	D	100	16	16	6	100	3	1.225	1.102	0.490	0.122	0.110	0.049
TPSD107*016T0125	D	100	16	16	6	125	3	1.095	0.986	0.438	0.137	0.123	0.055

Moisture Sensitivity Level (MSL) is defined according to J-STD-020

*Please use "U" instead of "T" in the suffix letter for 13" reel packaging

Please use specific PN for automotive version - see "HOW TO ORDER".

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

The EIA & CECC standards for low ESR Solid Tantalum Capacitors allow an ESR movement to 1.25 times catalogue limit post mounting.

For typical weight and composition see page 128.

NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.



TPS Automotive Range



Low ESR - Automotive Product Range

RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (mΩ) @100kHz	MSL	100kHz RMS Current (A)			100kHz RMS Voltage (V)		
								25°C	85°C	125°C	25°C	85°C	125°C
TPSD107*016T0150	D	100	16	16	6	150	3	1.000	0.900	0.400	0.150	0.135	0.060
TPSE107*016T0100	E	100	16	16	6	100	3	1.285	1.156	0.514	0.128	0.116	0.051
TPSE107*016T0125	E	100	16	16	6	125	3	1.149	1.034	0.460	0.144	0.129	0.057
TPSE107*016T0150	E	100	16	16	6	150	3	1.049	0.944	0.420	0.157	0.142	0.063
TPSE157*016T0100	E	150	16	23	8	100	3	1.285	1.156	0.514	0.128	0.116	0.051
20 Volt @ 85°C (13 Volt @ 125°C)													
TPSA105*020T3000	A	1	20	0.5	4	3000	1	0.158	0.142	0.063	0.474	0.427	0.190
TPSA155*020T3000	A	1.5	20	0.5	6	3000	1	0.158	0.142	0.063	0.474	0.427	0.190
TPSA225*020T3000	A	2.2	20	0.5	6	3000	1	0.158	0.142	0.063	0.474	0.427	0.190
TPSB225*020T1700	B	2.2	20	0.5	6	1700	1	0.224	0.201	0.089	0.380	0.342	0.152
TPSA335*020T2500	A	3.3	20	0.7	6	2500	1	0.173	0.156	0.069	0.433	0.390	0.173
TPSB335*020T1300	B	3.3	20	0.7	6	1300	1	0.256	0.230	0.102	0.332	0.299	0.133
TPSA475*020T1800	A	4.7	20	0.9	6	1800	1	0.204	0.184	0.082	0.367	0.331	0.147
TPSB475*020T0750	B	4.7	20	0.9	6	750	1	0.337	0.303	0.135	0.252	0.227	0.101
TPSB475*020T1000	B	4.7	20	0.9	6	1000	1	0.292	0.262	0.117	0.292	0.262	0.117
TPSB685*020T0600	B	6.8	20	1.4	6	600	1	0.376	0.339	0.151	0.226	0.203	0.090
TPSB685*020T1000	B	6.8	20	1.4	6	1000	1	0.292	0.262	0.117	0.292	0.262	0.117
TPSC685*020T0700	C	6.8	20	1.4	6	700	1	0.396	0.357	0.159	0.277	0.250	0.111
TPSB106*020T0500	B	10	20	2	6	500	1	0.412	0.371	0.165	0.206	0.186	0.082
TPSB106*020T1000	B	10	20	2	6	1000	1	0.292	0.262	0.117	0.292	0.262	0.117
TPSC106*020T0500	C	10	20	2	6	500	1	0.469	0.422	0.188	0.235	0.211	0.094
TPSC106*020T0700	C	10	20	2	6	700	1	0.396	0.357	0.159	0.277	0.250	0.111
TPSB156*020T0500	B	15	20	3	6	500	1	0.412	0.371	0.165	0.206	0.186	0.082
TPSC156*020T0400	C	15	20	3	6	400	1	0.524	0.472	0.210	0.210	0.189	0.084
TPSC156*020T0450	C	15	20	3	6	450	1	0.494	0.445	0.198	0.222	0.200	0.089
TPSC226*020T0400	C	22	20	4.4	6	400	1	0.524	0.472	0.210	0.210	0.189	0.084
TPSD226*020T0200	D	22	20	4.4	6	200	3	0.866	0.779	0.346	0.173	0.156	0.069
TPSD226*020T0300	D	22	20	4.4	6	300	3	0.707	0.636	0.283	0.212	0.191	0.085
TPSC336*020T0300	C	33	20	6.6	6	300	1	0.606	0.545	0.242	0.182	0.163	0.073
TPSD336*020T0200	D	33	20	6.6	6	200	3	0.866	0.779	0.346	0.173	0.156	0.069
TPSD476*020T0200	D	47	20	9.4	6	200	3	0.866	0.779	0.346	0.173	0.156	0.069
TPSD686*020T0150	D	68	20	13.6	6	150	3	1.000	0.900	0.400	0.150	0.135	0.060
TPSD686*020T0200	D	68	20	13.6	6	200	3	0.866	0.779	0.346	0.173	0.156	0.069
TPSD686*020T0300	D	68	20	13.6	6	300	3	0.707	0.636	0.283	0.212	0.191	0.085
TPSE686*020T0125	E	68	20	13.6	6	125	3	1.149	1.034	0.460	0.144	0.129	0.057
TPSE686*020T0150	E	68	20	13.6	6	150	3	1.049	0.944	0.420	0.157	0.142	0.063
TPSE686*020T0200	E	68	20	13.6	6	200	3	0.908	0.817	0.363	0.182	0.163	0.073
TPSE107*020T0100	E	100	20	20	6	100	3	1.285	1.156	0.514	0.128	0.116	0.051
TPSE107*020T0150	E	100	20	20	6	150	3	1.049	0.944	0.420	0.157	0.142	0.063
TPSE107*020T0200	E	100	20	20	6	200	3	0.908	0.817	0.363	0.182	0.163	0.073
25 Volt @ 85°C (17 Volt @ 125°C)													
TPSA474*025T7000	A	0.47	25	0.5	4	7000	1	0.104	0.093	0.041	0.725	0.652	0.290
TPSA684*025T6000	A	0.68	25	0.5	4	6000	1	0.112	0.101	0.045	0.671	0.604	0.268
TPSA105*025T4000	A	1.0	25	0.5	4	4000	1	0.137	0.123	0.055	0.548	0.493	0.219
TPSA155*025T3000	A	1.5	25	0.5	6	3000	1	0.158	0.142	0.063	0.474	0.427	0.190
TPSA225*025T2500	A	2.2	25	0.6	6	2500	1	0.173	0.156	0.069	0.433	0.390	0.173
TPSB225*025T0900	B	2.2	25	0.6	6	900	1	0.307	0.277	0.123	0.277	0.249	0.111
TPSB225*025T1200	B	2.2	25	0.6	6	1200	1	0.266	0.240	0.106	0.319	0.287	0.128
TPSB225*025T2500	B	2.2	25	0.6	6	2500	1	0.184	0.166	0.074	0.461	0.415	0.184
TPSB335*025T0750	B	3.3	25	0.8	6	750	1	0.337	0.303	0.135	0.252	0.227	0.101
TPSB335*025T1500	B	3.3	25	0.8	6	1500	1	0.238	0.214	0.095	0.357	0.321	0.143
TPSB335*025T2000	B	3.3	25	0.8	6	2000	1	0.206	0.186	0.082	0.412	0.371	0.165
TPSB475*025T0700	B	4.7	25	1.2	6	700	1	0.348	0.314	0.139	0.244	0.220	0.098
TPSB475*025T0900	B	4.7	25	1.2	6	900	1	0.307	0.277	0.123	0.277	0.249	0.111
TPSC475*025T0700	C	4.7	25	1.2	6	700	1	0.396	0.357	0.159	0.277	0.250	0.111
TPSB685*025T0700	B	6.8	25	1.7	6	700	1	0.348	0.314	0.139	0.244	0.220	0.098
TPSC685*025T0500	C	6.8	25	1.7	6	500	1	0.469	0.422	0.188	0.235	0.211	0.094
TPSC685*025T0600	C	6.8	25	1.7	6	600	1	0.428	0.385	0.171	0.257	0.231	0.103
TPSC685*025T0700	C	6.8	25	1.7	6	700	1	0.396	0.357	0.159	0.277	0.250	0.111
TPSC106*025T0300	C	10	25	2.5	6	300	1	0.606	0.545	0.242	0.182	0.163	0.073
TPSC106*025T0500	C	10	25	2.5	6	500	1	0.469	0.422	0.188	0.235	0.211	0.094
TPSD106*025T0500	D	10	25	2.5	6	500	3	0.548	0.493	0.219	0.274	0.246	0.110
TPSC156*025T0220	C	15	25	3.8	6	220	1	0.707	0.636	0.283	0.156	0.140	0.062
TPSC156*025T0300	C	15	25	3.8	6	300	1	0.606	0.545	0.242	0.182	0.163	0.073
TPSD156*025T0300	D	15	25	3.8	6	300	3	0.707	0.636	0.283	0.212	0.191	0.085
TPSC226*025T0275	C	22	25	5.5	6	275	1	0.632	0.569	0.253	0.174	0.157	0.070
TPSC226*025T0400	C	22	25	5.5	6	400	1	0.524	0.472	0.210	0.210	0.189	0.084

Moisture Sensitivity Level (MSL) is defined according to J-STD-020

*Please use "U" instead of "T" in the suffix letter for 13" reel packaging

Please use specific PN for automotive version - see "HOW TO ORDER".

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

The EIA & CECC standards for low ESR Solid Tantalum Capacitors allow an ESR movement to 1.25 times catalogue limit post mounting.

For typical weight and composition see page 128.

NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.



TPS Automotive Range

Low ESR - Automotive Product Range



RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA) Max.	DF % Max.	ESR Max. (mΩ) @100kHz	MSL	100kHz RMS Current (A)			100kHz RMS Voltage (V)		
								25°C	85°C	125°C	25°C	85°C	125°C
TPSD226*025T0200	D	22	25	5.5	6	200	3	0.866	0.779	0.346	0.173	0.156	0.069
TPSD226*025T0300	D	22	25	5.5	6	300	3	0.707	0.636	0.283	0.212	0.191	0.085
TPSD336*025T0200	D	33	25	8.3	6	200	3	0.866	0.779	0.346	0.173	0.156	0.069
TPSD336*025T0300	D	33	25	8.3	6	300	3	0.707	0.636	0.283	0.212	0.191	0.085
TPSD476*025T0125	D	47	25	11.8	6	125	3	1.095	0.986	0.438	0.137	0.123	0.055
TPSD476*025T0150	D	47	25	11.8	6	150	3	1.000	0.900	0.400	0.150	0.135	0.060
TPSD476*025T0250	D	47	25	11.8	6	250	3	0.775	0.697	0.310	0.194	0.174	0.077
TPSE476*025T0125	E	47	25	11.8	6	125	3	1.149	1.034	0.460	0.144	0.129	0.057
35 Volt @ 85°C (23 Volt @ 125°C)													
TPSA334*035T6000	A	0.33	35	0.5	4	6000	1	0.112	0.101	0.045	0.671	0.604	0.268
TPSA474*035T6000	A	0.47	35	0.5	4	6000	1	0.112	0.101	0.045	0.671	0.604	0.268
TPSA684*035T6000	A	0.68	35	0.5	4	6000	1	0.112	0.101	0.045	0.671	0.604	0.268
TPSA105*035T3000	A	1	35	0.5	4	3000	1	0.158	0.142	0.063	0.474	0.427	0.190
TPSB105*035T2000	B	1	35	0.5	4	2000	1	0.206	0.186	0.082	0.412	0.371	0.165
TPSA155*035T3000	A	1.5	35	0.5	6	3000	1	0.158	0.142	0.063	0.474	0.427	0.190
TPSB155*035T2500	B	1.5	35	0.5	6	2500	1	0.184	0.166	0.074	0.461	0.415	0.184
TPSB225*035T0750	B	2.2	35	0.8	6	750	1	0.337	0.303	0.135	0.252	0.227	0.101
TPSB225*035T1500	B	2.2	35	0.8	6	1500	1	0.238	0.214	0.095	0.357	0.321	0.143
TPSB225*035T2000	B	2.2	35	0.8	6	2000	1	0.206	0.186	0.082	0.412	0.371	0.165
TPSC225*035T1000	C	2.2	35	0.8	6	1000	1	0.332	0.298	0.133	0.332	0.298	0.133
TPSB335*035T1000	B	3.3	35	1.2	6	1000	1	0.292	0.262	0.117	0.292	0.262	0.117
TPSC335*035T0700	C	3.3	35	1.2	6	700	1	0.396	0.357	0.159	0.277	0.250	0.111
TPSB475*035T0700	B	4.7	35	1.6	6	700	1	0.348	0.314	0.139	0.244	0.220	0.098
TPSB475*035T1500	B	4.7	35	1.6	6	1500	1	0.238	0.214	0.095	0.357	0.321	0.143
TPSC475*035T0600	C	4.7	35	1.6	6	600	1	0.428	0.385	0.171	0.257	0.231	0.103
TPSD475*035T0700	D	4.7	35	1.6	6	700	3	0.463	0.417	0.185	0.324	0.292	0.130
TPSC685*035T0350	C	6.8	35	2.4	6	350	1	0.561	0.505	0.224	0.196	0.177	0.078
TPSD685*035T0400	D	6.8	35	2.4	6	400	3	0.612	0.551	0.245	0.245	0.220	0.098
TPSD685*035T0500	D	6.8	35	2.4	6	500	3	0.548	0.493	0.219	0.274	0.246	0.110
TPSC106*035T0600	C	10	35	3.5	6	600	1	0.428	0.385	0.171	0.257	0.231	0.103
TPSD106*035T0300	D	10	35	3.5	6	300	3	0.707	0.636	0.283	0.212	0.191	0.085
TPSD156*035T0300	D	15	35	5.3	6	300	3	0.707	0.636	0.283	0.212	0.191	0.085
TPSD226*035T0200	D	22	35	7.7	6	200	3	0.866	0.779	0.346	0.173	0.156	0.069
TPSD226*035T0300	D	22	35	7.7	6	300	3	0.707	0.636	0.283	0.212	0.191	0.085
TPSD226*035T0400	D	22	35	7.7	6	400	3	0.612	0.551	0.245	0.245	0.220	0.098
TPSE226*035T0200	E	22	35	7.7	6	200	3	0.908	0.817	0.363	0.182	0.163	0.073
TPSE226*035T0300	E	22	35	7.7	6	300	3	0.742	0.667	0.297	0.222	0.200	0.089
TPSE336*035T0250	E	33	35	11.6	6	250	3	0.812	0.731	0.325	0.203	0.183	0.081
TPSE336*035T0300	E	33	35	11.6	6	300	3	0.742	0.667	0.297	0.222	0.200	0.089
50 Volt @ 85°C (33 Volt @ 125°C)													
TPSA224*050T7000	A	0.22	50	0.5	4	7000	1	0.104	0.093	0.041	0.725	0.652	0.290
TPSA334*050T7000	A	0.33	50	0.5	4	7000	1	0.104	0.093	0.041	0.725	0.652	0.290
TPSA474*050T6500	A	0.47	50	0.5	4	6500	1	0.107	0.097	0.043	0.698	0.628	0.279
TPSB474*050T6000	B	0.47	50	0.5	4	6000	1	0.119	0.107	0.048	0.714	0.643	0.286
TPSB684*050T4000	B	0.68	50	0.5	4	4000	1	0.146	0.131	0.058	0.583	0.525	0.233
TPSB105*050T3000	B	1	50	0.5	6	3000	1	0.168	0.151	0.067	0.505	0.454	0.202
TPSC105*050T2500	C	1	50	0.5	4	2500	1	0.210	0.189	0.084	0.524	0.472	0.210
TPSC155*050T1500	C	1.5	50	0.8	6	1500	1	0.271	0.244	0.108	0.406	0.366	0.162
TPSC155*050T2000	C	1.5	50	0.8	6	2000	1	0.235	0.211	0.094	0.469	0.422	0.188
TPSC225*050T1500	C	2.2	50	1.1	8	1500	1	0.271	0.244	0.108	0.406	0.366	0.162
TPSD225*050T1200	D	2.2	50	1.1	6	1200	3	0.354	0.318	0.141	0.424	0.382	0.170
TPSC335*050T1000	C	3.3	50	1.6	6	1000	1	0.332	0.298	0.133	0.332	0.298	0.133
TPSD335*050T0800	D	3.3	50	1.7	6	800	3	0.433	0.390	0.173	0.346	0.312	0.139
TPSC475*050T0800	C	4.7	50	2.4	6	800	1	0.371	0.334	0.148	0.297	0.267	0.119
TPSD475*050T0500	D	4.7	50	2.4	6	500	3	0.548	0.493	0.219	0.274	0.246	0.110
TPSD475*050T0700	D	4.7	50	2.4	6	700	3	0.463	0.417	0.185	0.324	0.292	0.130
TPSD685*050T0500	D	6.8	50	3.4	6	500	3	0.548	0.493	0.219	0.274	0.246	0.110
TPSD685*050T0600	D	6.8	50	3.4	6	600	3	0.500	0.450	0.200	0.300	0.270	0.120
TPSD106*050T0500	D	10	50	5	6	500	3	0.548	0.493	0.219	0.274	0.246	0.110
TPSE106*050T0250	E	10	50	5	6	250	3	0.812	0.731	0.325	0.203	0.183	0.081
TPSE106*050T0300	E	10	50	5	6	300	3	0.742	0.667	0.297	0.222	0.200	0.089
TPSE106*050T0400	E	10	50	5	6	400	3	0.642	0.578	0.257	0.257	0.231	0.103
TPSE106*050T0500	E	10	50	5	6	500	3	0.574	0.517	0.230	0.287	0.259	0.115

Moisture Sensitivity Level (MSL) is defined according to J-STD-020

*Please use "U" instead of "T" in the suffix letter for 13" reel packaging

Please use specific PN for automotive version - see "HOW TO ORDER".

All technical data relates to an ambient temperature of +25°C. Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.2 volts. DCL is measured at rated voltage after 5 minutes.

The EIA & CECC standards for low ESR Solid Tantalum Capacitors allow an ESR movement to 1.25 times catalogue limit post mounting.

For typical weight and composition see page 128.

NOTE: AVX reserves the right to supply a higher voltage rating or tighter tolerance part in the same case size, to the same reliability standards.

