

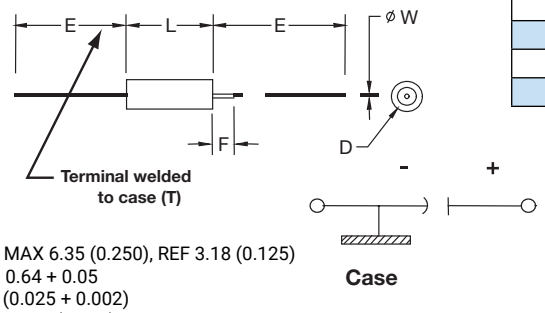
This data sheet contains the MIL-PRF-39006 ratings for which KYOCERA AVX is a qualified approved supplier. This will be continually updated as the qualification expands. For COTS-Plus equivalent ratings please refer to the TWC data sheet located on the website.

This design is an axial leaded tubular case. It includes a welded tantalum can and header assembly that provides a hermetic seal to withstand harsh environments. The 1000 hour failure rates of 1% and 0.1% correspond to "M" and "P" respectively. For details on testing conditions please refer to MIL-PRF-39006.

Currently qualified M39006 ratings include T2-T4 case sizes:

	M Level Reliability Dashes	P Level Reliability Dashes
M39006/22	6V-100V	6V-100V
M39006/25	6V-100V	6V-100V
M39006/30	6V-100V	6V-100V
M39006/31	6V-100V	6V-100V

OUTLINE DIMENSIONS



F MAX 6.35 (0.250), REF 3.18 (0.125)
W 0.64 + 0.05 (0.025 + 0.002)
T 2.380 (0.094)

CASE DIMENSIONS: millimeters (inches)

DLA Case Size	Case Size	L +0.79 (0.031) -0.41 (0.016)	D Basic Case ±0.41 (0.016)	D Insulated Case Max	E ±6.35 (0.250)
T1	A	11.51 (0.453)	4.78 (0.188)	5.56 (0.219)	38.10 (1.500)
T2	B	16.28 (0.641)	7.14 (0.281)	7.92 (0.312)	57.15 (2.250)
T3	D	19.46 (0.766)	9.52 (0.375)	10.31 (0.406)	57.15 (2.250)
T4	E	26.97 (1.062)	9.52 (0.375)	10.31 (0.406)	57.15 (2.250)

VOLTAGE RATINGS (Operating Temperature -55°C to 125°C)

Voltage (DC)											
Rated Voltage: (V_r)	85°C	6	8	10	15	25	30	50	60	75	100
Derated Voltage: (V_c)	125°C	4	5	6	10	15	20	30	40	50	65
Surge Voltage: (V_s)	85°C	6.9	9.2	11.5	17.3	28.8	34.5	57.5	69	86.3	115

HOW TO ORDER MILITARY M39006 PART NUMBER:

M39006	/22	–0080
Type / Military Designator	Specification Sheet Number	Dash Number

Not RoHS Compliant

RIPPLE CURRENT MULTIPLIERS

Frequency of Applied Ripple Current		120Hz				800Hz				1kHz			
Ambient Still Air Temperature (ºC)		≤55	85	105	125	≤55	85	105	125	≤55	85	105	125
% of 85ºC Rated Peak Voltage	100%	0.60	0.39	–	–	0.71	0.43	–	–	0.72	0.45	–	–
	90%	0.60	0.46	–	–	0.71	0.55	–	_	0.72	0.55	–	–
	80%	0.60	0.52	0.35	–	0.71	0.62	0.42	–	0.72	0.62	0.42	–
	70%	0.60	0.58	0.44	–	0.71	0.69	0.52	–	0.72	0.70	0.52	–
	66-2/3%	0.60	0.60	0.46	0.27	0.71	0.71	0.55	0.32	0.72	0.72	0.55	0.32

Frequency of Applied Ripple Current		10kHz				40kHz				100kHz			
Ambient Still Air Temperature (ºC)		≤55	85	105	125	≤55	85	105	125	≤55	85	105	125
% of 85ºC Rated Peak Voltage	100%	0.88	0.55	–	–	1.00	0.63	–	–	1.10	0.69	–	–
	90%	0.88	0.67	–	–	1.00	0.77	–	_	1.10	0.85	–	–
	80%	0.88	0.76	0.52	–	1.00	0.87	0.59	–	1.10	0.96	0.65	–
	70%	0.88	0.85	0.64	–	1.00	0.97	0.73	–	1.10	1.07	0.80	–
	66-2/3%	0.88	0.88	0.68	0.40	1.00	1.00	0.77	0.45	1.10	1.10	0.85	0.50

1/ At 125ºC the rated voltage of the capacitors decreases to 66 2/3 of the 85ºC rated voltage.
2/ The peak of the applied ac ripple voltage plus the applied dc voltage must not exceed the dc voltage rating of the capacitors.
3/ The ripple current listed in the parametric tables represents a rating calculated by using a maximum internal temperature rise (ΔT) at 50°C at 40 kHz at 85°C ambient temperature, with a maximum peak rated voltage of 66.67 percent of the 85°C peak voltage rating.

The Important Information/Disclaimer is incorporated in the catalog where these specifications came from or available online at www.kyocera-avx.com/disclaimer/ by reference and should be reviewed in full before placing any order.

M39006 /22 RATINGS AND DASH NUMBER REFERENCE

M39006/22 Dashes		Tolerance ± (%)	Cap (µF) 25°C at 120Hz	DC Rated Voltage (V) at 85°C	DC Leakage (µA)		DF max (%)	ESR max (Ohms) at 120Hz	Impedance max (Ohms) -55°C at 120Hz	Maximum Capacitance Change (%)			AC Ripple (mA rms) 85°C at 40kHz	Case Size
M Level	P Level				+25°C	+85°C & +125°C				-55°C	+85°C	+125°C		
-0007	-0227	20	140	6	1	3	21	1.99	40	-40	14	16	1200	T2
-0008	-0228	10												
-0009	-0229	5												
-0010	-0230	20	270	6	1	6.5	45	2.21	25	-44	17.5	20	1375	T2
-0011	-0231	10												
-0012	-0232	5												
-0013	-0233	20	330	6	2	7.9	36	1.45	20	-44	14	16	1800	T3
-0014	-0234	10												
-0015	-0235	5												
-0016	-0236	20	560	6	2	13	55	1.3	25	-64	17.5	20	1900	T3
-0017	-0237	10												
-0018	-0238	5												
-0019	-0239	20	1200	6	3	14	90	1	20	-80	25	25	2265	T4
-0020	-0240	10												
-0027	-0247	20	120	8	1	2	20	2.21	50	-44	17.5	20	1220	T2
-0028	-0248	10												
-0029	-0249	5												
-0030	-0250	20	220	8	1	7	37	2.23	30	-44	17.5	20	1370	T2
-0031	-0251	10												
-0032	-0252	5												
-0033	-0253	20	290	8	2	6	34	1.56	25	-64	17.5	20	1770	T3
-0034	-0254	10												
-0035	-0255	5												
-0036	-0256	20	430	8	2	14	46	1.42	25	-64	17.5	20	1825	T3
-0037	-0257	10												
-0038	-0258	5												
-0039	-0259	20	850	8	4	16	60	0.94	22	-80	25	25	2330	T4
-0040	-0260	10												
-0047	-0267	20	100	10	1	4	15	1.99	60	-36	14	16	1200	T2
-0048	-0268	10												
-0049	-0269	5												
-0050	-0270	20	180	10	1	7	30	2.21	40	-36	14	16	1.365	T2
-0051	-0271	10												
-0052	-0272	5												
-0053	-0273	20	250	10	2	10	30	1.59	30	-40	14	16	1720	T3
-0054	-0274	10												
-0055	-0275	5												
-0056	-0276	20	390	10	2	16	44	1.5	25	-64	17.5	20	1800	T3
-0057	-0277	10												
-0058	-0278	5												
-0059	-0279	20	750	10	4	16	50	0.88	23	-80	25	25	2360	T4
-0060	-0280	10												
-0067	-0287	20	70	15	1	4	13	2.46	75	-28	14	16	1150	T2
-0068	-0288	10												
-0069	-0289	5												
-0070	-0290	20	120	15	1	7	18	1.99	50	-28	17.5	20	1450	T2
-0071	-0291	10												
-0072	-0292	5												
-0073	-0293	20	170	15	2	10	25	1.95	35	-32	14	16	1480	T3
-0074	-0294	10												
-0075	-0295	5												
-0076	-0296	20	270	15	2	16	32	1.57	30	-56	17.5	20	1740	T3
-0077	-0297	10												
-0078	-0298	5												
-0079	-0299	20	540	15	6	24	40	0.98	23	-80	25	25	2330	T4
-0080	-0300	10												
-0087	-0307	20	50	25	1	2	11	2.92	70	-28	13	15	1130	T2
-0088	-0308	10												
-0089	-0309	5												
-0090	-0310	20	100	25	1	10	15	1.99	50	-28	13	15	1435	T2
-0091	-0311	10												
-0092	-0312	5												
-0093	-0313	20	120	25	2	6	21	2.32	38	-32	13	15	1450	T3
-0094	-0314	10												
-0095	-0315	5												
-0096	-0316	20	180	25	2	18	26	1.92	32	-48	13	15	1525	T3
-0097	-0317	10												
-0098	-0318	5												

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

TWC SERIES

MIL-PRF-39006 Series – Military Conventional Wet Tantalum

M39006/22 Dashes		Tolerance ± (%)	Cap (µF) 25°C at 120Hz	DC Rated Voltage (V) at 85°C	DC Leakage (µA)		DF max (%)	ESR max (Ohms) at 120Hz	Impedance max (Ohms) -55°C at 120Hz	Maximum Capacitance Change (%)			AC Ripple (mA rms) 85°C at 40kHz	Case Size
M Level	P Level				+25°C	+85°C & +125°C				-55°C	+85°C	+125°C		
-0099	-0319	20	350	25	7	28	35	1.33	24	-70	25	25	1970	T4
-0100	-0320	10												
-0107	-0327	20	40	30	1	5	10	3.32	65	-24	10.5	12	1120	T2
-0108	-0328	10												
-0109	-0329	5												
-0110	-0330	20	68	30	1	8	13	2.54	60	-24	13	15	1285	T2
-0111	-0331	10												
-0112	-0332	5												
-0113	-0333	20	100	30	2	12	17	2.26	40	-28	10.5	12	1450	T3
-0114	-0334	10												
-0115	-0335	5												
-0116	-0336	20	150	30	2	18	23	2.03	35	-48	13	15	1525	T3
-0117	-0337	10												
-0118	-0338	5												
-0119	-0339	20	300	30	8	32	31	1.37	25	-60	25	25	1950	T4
-0120	-0340	10												
-0127	-0347	20	25	50	1	5	8	4.25	95	-20	10.5	12	1005	T2
-0128	-0348	10												
-0129	-0349	5												
-0130	-0350	20	47	50	1	9	11	3.11	70	-28	13	15	1155	T2
-0131	-0351	10												
-0132	-0352	5												
-0133	-0353	20	60	50	2	12	12	2.65	45	-16	10.5	12	1335	T3
-0134	-0354	10												
-0135	-0355	5												
-0136	-0356	20	82	50	2	16	15	2.43	45	-32	13	15	1400	T3
-0137	-0357	10												
-0138	-0358	5												
-0139	-0359	20	160	50	8	32	17	1.41	27	-50	25	25	1900	T4
-0140	-0360	10												
-0147	-0367	20	20	60	1	5	7	4.64	105	-16	10.5	12	930	T2
-0148	-0368	10												
-0149	-0369	5												
-0150	-0370	20	39	60	1	9	10	3.4	90	-28	10.5	12	1110	T2
-0151	-0371	10												
-0152	-0372	5												
-0153	-0373	20	50	60	2	12	10	2.65	50	-16	10.5	12	1330	T3
-0154	-0374	10												
-0155	-0375	5												
-0156	-0376	20	68	60	2	16	13	2.54	50	-32	10.5	12	1365	T3
-0157	-0377	10												
-0158	-0378	5												
-0159	-0379	20	140	60	8	32	16	1.52	28	-40	20	20	1850	T4
-0160	-0380	10												
-0167	-0387	20	15	75	1	5	6	5.31	150	-16	8	9	890	T2
-0168	-0388	10												
-0169	-0389	5												
-0170	-0390	20	33	75	1	10	10	4.02	90	-24	10.5	15	1000	T2
-0171	-0391	10												
-0172	-0392	5												
-0173	-0393	20	40	75	2	12	9	2.99	60	-16	10.5	12	1250	T3
-0174	-0394	10												
-0175	-0395	5												
-0176	-0396	20	56	75	2	17	11	2.61	60	-28	10.5	15	1335	T3
-0177	-0397	10												
-0178	-0398	5												
-0179	-0399	20	110	75	9	36	12	1.45	29	-35	20	20	1850	T4
-0180	-0400	10												
-0187	-0407	20	11	100	1	4	5	6.03	200	-16	8	8	835	T2
-0188	-0408	10												
-0189	-0409	5												
-0190	-0410	20	22	100	1	9	7.5	4.52	100	-16	8	8	965	T2
-0191	-0411	10												
-0192	-0412	5												
-0193	-0413	20	30	100	2	12	7	3.1	80	-16	8	8	1240	T3
-0194	-0414	10												
-0195	-0415	5												
-0196	-0416	20	43	100	2	17	8.5	2.62	70	-20	8	8	1335	T3
-0197	-0417	10												
-0198	-0418	5												
-0199	-0419	20	86	100	9	36	10	1.54	30	-25	15	15	1800	T4
-0200	-0420	10												

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

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M39006 /25 RATINGS AND DASH NUMBER REFERENCE

M39006/25 Dashes		Tolerance ± (%)	Cap (µF) 25°C at 120Hz	DC Rated Voltage (V) at 85°C	DC Leakage (µA)		DF max (%)	ESR max (Ohms) at 120Hz	Impedance max (Ohms) -55°C at 120Hz	Maximum Capacitance Change (%)			AC Ripple (mA rms) 85°C at 40kHz	Case Size
M Level	P Level				+25°C	+85°C & +125°C				-55°C	+85°C	+125°C		
-0003	-0091	20	820	6	3	14	155	2.51	18	-88	16	20	1500	T2
-0004	-0092	10												
-0005	-0093	20	1500	6	5	20	172	1.52	18	-90	20	25	1900	T3
-0006	-0094	10												
-0007	-0095	20	2200	6	6	24	170	1.03	13	-90	25	30	2300	T4
-0008	-0096	10												
-0011	-0099	20	680	8	3	14	130	2.54	22	-83	16	20	1500	T2
-0012	-0100	10												
-0013	-0101	20	1500	8	5	20	170	1.5	18	-90	20	25	1900	T3
-0014	-0102	10												
-0015	-0103	20	1800	8	7	25	138	1.02	14	-90	25	30	2300	T4
-0016	-0104	10												
-0019	-0107	20	560	10	3	16	106	2.51	27	-77	16	20	1450	T2
-0020	-0108	10												
-0021	-0109	20	1200	10	5	20	137	1.51	18	-88	20	25	1850	T3
-0022	-0110	10												
-0023	-0111	20	1500	10	7	25	114	1.01	15	-88	25	30	2300	T4
-0024	-0112	10												
-0027	-0115	20	390	15	3	16	74	2.52	31	-66	16	20	1450	T2
-0028	-0116	10												
-0029	-0117	20	820	15	6	24	111	1.8	22	-77	20	25	1800	T3
-0030	-0118	10												
-0031	-0119	20	1000	15	8	32	92	1.22	17	-77	25	30	2300	T4
-0032	-0120	10												
-0035	-0123	20	270	25	3	16	55	2.7	33	-62	13	16	1400	T2
-0036	-0124	10												
-0037	-0125	20	560	25	7	28	76	1.8	24	-72	20	25	1750	T3
-0038	-0126	10												
-0039	-0127	20	680	25	8	32	63	1.23	19	-72	25	30	2100	T4
-0040	-0128	10												
-0043	-0131	20	220	30	3	16	42	2.53	36	-60	13	16	1200	T2
-0044	-0132	10												
-0045	-0133	20	470	30	8	32	64	1.81	25	-65	20	25	1500	T3
-0046	-0134	10												
-0047	-0135	20	560	30	9	36	55	1.3	20	-65	25	30	2000	T4
-0048	-0136	10												
-0051	-0139	20	120	50	4	24	22.5	2.49	49	-42	12	15	1200	T2
-0052	-0140	10												
-0053	-0141	20	270	50	8	32	37	1.82	29	-46	20	25	1450	T3
-0054	-0142	10												
-0055	-0143	20	330	50	9	36	38	1.53	22	-46	25	30	1900	T4
-0056	-0144	10												
-0059	-0147	20	100	60	4	20	19	2.52	54	-36	12	15	1100	T2
-0060	-0148	10												
-0061	-0149	20	220	60	8	32	30	1.81	29	-40	16	20	1400	T3
-0062	-0150	10												
-0063	-0151	20	270	60	9	36	27	1.33	23	-45	20	25	1850	T4
-0064	-0152	10												
-0067	-0155	20	82	75	4	24	15.2	2.46	63	-30	12	15	1000	T2
-0068	-0156	10												
-0069	-0157	20	180	75	9	36	24.4	2.23	30	-35	16	20	1300	T3
-0070	-0158	10												
-0071	-0159	20	220	75	10	40	37	1.8	24	-40	20	25	1800	T4
-0072	-0160	10												
-0075	-0163	20	39	100	5	24	10.4	3.54	80	-20	12	15	1300	T2
-0076	-0164	10												
-0077	-0165	20	68	100	10	40	11.3	2.21	40	-30	14	16	1600	T3
-0078	-0166	10												
-0079	-0167	20	120	100	12	48	25	2.76	30	-35	15	17	2000	T4
-0080	-0168	10												

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

M39006 /30 RATINGS AND DASH NUMBER REFERENCE

M39006/30 Dashes		Tolerance ± (%)	Cap (µF) 25°C at 120Hz	DC Rated Voltage (V) at 85°C	DC Leakage (µA)		DF max (%)	ESR max (Ohms) at 120Hz	Impedance max (Ohms) -55°C at 120Hz	Maximum Capacitance Change (%)			AC Ripple (mA rms) 85°C at 40kHz	Case Size
M Level	P Level				+25°C	+85°C & +125°C				-55°C	+85°C	+125°C		
-0007	-0227	20	140	6	1	3	10.5	0.99	40	-40	14	16	1200	T2
-0008	-0228	10												
-0009	-0229	5												
-0010	-0230	20	270	6	1	6.5	22.5	1.11	25	-44	17.5	20	1375	T2
-0011	-0231	10												
-0012	-0232	5												
-0013	-0233	20	330	6	2	7.9	18	0.73	20	-44	14	16	1800	T3
-0014	-0234	10												
-0015	-0235	5												
-0016	-0236	20	560	6	2	13	27.5	0.65	25	-64	17.5	20	1900	T3
-0017	-0237	10												
-0018	-0238	5												
-0019	-0239	20	1200	6	3	14	45	0.5	20	-80	25	25	2265	T4
-0020	-0240	10												
-0027	-0247	20	120	8	1	2	10	1.11	50	-44	17.5	20	1220	T2
-0028	-0248	10												
-0029	-0249	5												
-0030	-0250	20	220	8	1	7	18.5	1.12	30	-44	17.5	20	1370	T2
-0031	-0251	10												
-0032	-0252	5												
-0033	-0253	20	290	8	2	6	17	0.78	25	-64	17.5	20	1770	T3
-0034	-0254	10												
-0035	-0255	5												
-0036	-0256	20	430	8	2	14	23	0.71	25	-64	17.5	20	1825	T3
-0037	-0257	10												
-0038	-0258	5												
-0039	-0259	20	850	8	4	16	30	0.47	22	-80	25	25	2330	T4
-0040	-0260	10												
-0047	-0267	20	100	10	1	4	7.5	0.99	60	-36	14	16	1200	T2
-0048	-0268	10												
-0049	-0269	5												
-0050	-0270	20	180	10	1	7	15	1.11	40	-36	14	16	1.365	T2
-0051	-0271	10												
-0052	-0272	5												
-0053	-0273	20	250	10	2	10	15	0.8	30	-40	14	16	1720	T3
-0054	-0274	10												
-0055	-0275	5												
-0056	-0276	20	390	10	2	16	22	0.75	25	-64	17.5	20	1800	T3
-0057	-0277	10												
-0058	-0278	5												
-0059	-0279	20	750	10	4	16	25	0.44	23	-80	25	25	2360	T4
-0060	-0280	10												
-0067	-0287	20	70	15	1	4	6.5	1.23	75	-28	14	16	1150	T2
-0068	-0288	10												
-0069	-0289	5												
-0070	-0290	20	120	15	1	7	9	0.99	50	-28	17.5	20	1450	T2
-0071	-0291	10												
-0072	-0292	5												
-0073	-0293	20	170	15	2	10	12.5	0.98	35	-32	14	16	1480	T3
-0074	-0294	10												
-0075	-0295	5												
-0076	-0296	20	270	15	2	16	16	0.79	30	-56	17.5	20	1740	T3
-0077	-0297	10												
-0078	-0298	5												
-0079	-0299	20	540	15	6	24	20	0.49	23	-80	25	25	2330	T4
-0080	-0300	10												
-0087	-0307	20	50	25	1	2	5.5	1.46	70	-28	13	15	1130	T2
-0088	-0308	10												
-0089	-0309	5												
-0090	-0310	20	100	25	1	10	7.5	0.99	50	-28	13	15	1435	T2
-0091	-0311	10												
-0092	-0312	5												
-0093	-0313	20	120	25	2	6	10.5	1.16	38	-32	13	15	1450	T3
-0094	-0314	10												
-0095	-0315	5												
-0096	-0316	20	180	25	2	18	13	0.96	32	-48	13	15	1525	T3
-0097	-0317	10												
-0098	-0318	5												

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

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TWC SERIES

MIL-PRF-39006 Series – Military Conventional Wet Tantalum

M39006/30 Dashes		Tolerance ± (%)	Cap (µF) 25°C at 120Hz	DC Rated Voltage (V) at 85°C	DC Leakage (µA)		DF max (%)	ESR max (Ohms) at 120Hz	Impedance max (Ohms) -55°C at 120Hz	Maximum Capacitance Change (%)			AC Ripple (mA rms) 85°C at 40kHz	Case Size
M Level	P Level				+25°C	+85°C & +125°C				-55°C	+85°C	+125°C		
-0099	-0319	20	350	25	7	28	17.5	0.67	24	-70	25	25	1970	T4
-0100	-0320	10												
-0107	-0327	20	40	30	1	5	5	1.66	65	-24	10.5	12	1120	T2
-0108	-0328	10												
-0109	-0329	5												
-0110	-0330	20	68	30	1	8	6.5	1.27	60	-24	13	15	1285	T2
-0111	-0331	10												
-0112	-0332	5												
-0113	-0333	20	100	30	2	12	8.5	1.13	40	-28	10.5	12	1450	T3
-0114	-0334	10												
-0115	-0335	5												
-0116	-0336	20	150	30	2	18	11.5	1.02	35	-48	13	15	1525	T3
-0117	-0337	10												
-0118	-0338	5												
-0119	-0339	20	300	30	8	32	15.5	0.69	25	-60	25	25	1950	T4
-0120	-0340	10												
-0127	-0347	20	25	50	1	5	4	2.13	95	-20	10.5	12	1005	T2
-0128	-0348	10												
-0129	-0349	5												
-0130	-0350	20	47	50	1	9	5.5	1.56	70	-28	13	15	1155	T2
-0131	-0351	10												
-0132	-0352	5												
-0133	-0353	20	60	50	2	12	6	1.33	45	-16	10.5	12	1335	T3
-0134	-0354	10												
-0135	-0355	5												
-0136	-0356	20	82	50	2	16	7.5	1.22	45	-32	13	15	1400	T3
-0137	-0357	10												
-0138	-0358	5												
-0139	-0359	20	160	50	8	32	8.5	0.71	27	-50	25	25	1900	T4
-0140	-0360	10												
-0147	-0367	20	20	60	1	5	3.5	2.32	105	-16	10.5	12	930	T2
-0148	-0368	10												
-0149	-0369	5												
-0150	-0370	20	39	60	1	9	5	1.7	90	-28	10.5	12	1110	T2
-0151	-0371	10												
-0152	-0372	5												
-0153	-0373	20	50	60	2	12	5	1.33	50	-16	10.5	12	1330	T3
-0154	-0374	10												
-0155	-0375	5												
-0156	-0376	20	68	60	2	16	6.5	1.27	50	-32	10.5	12	1365	T3
-0157	-0377	10												
-0158	-0378	5												
-0159	-0379	20	140	60	8	32	8	0.76	28	-40	20	20	1850	T4
-0160	-0380	10												
-0167	-0387	20	15	75	1	5	3	2.66	150	-16	8	9	890	T2
-0168	-0388	10												
-0169	-0389	5												
-0170	-0390	20	33	75	1	10	5	2.01	90	-24	10.5	15	1000	T2
-0171	-0391	10												
-0172	-0392	5												
-0173	-0393	20	40	75	2	12	4.5	1.5	60	-16	10.5	12	1250	T3
-0174	-0394	10												
-0175	-0395	5												
-0176	-0396	20	56	75	2	17	5.5	1.31	60	-28	10.5	15	1335	T3
-0177	-0397	10												
-0178	-0398	5												
-0179	-0399	20	110	75	9	36	6	0.73	29	-35	20	20	1850	T4
-0180	-0400	10												
-0187	-0407	20	11	100	1	4	2.5	3.02	200	-16	8	8	835	T2
-0188	-0408	10												
-0189	-0409	5												
-0190	-0410	20	22	100	1	9	3.75	2.26	100	-16	8	8	965	T2
-0191	-0411	10												
-0192	-0412	5												
-0193	-0413	20	30	100	2	12	3.5	1.55	80	-16	8	8	1240	T3
-0194	-0414	10												
-0195	-0415	5												
-0196	-0416	20	43	100	2	17	4.25	1.31	70	-20	8	8	1335	T3
-0197	-0417	10												
-0198	-0418	5												
-0199	-0419	20	86	100	9	36	5	0.77	30	-25	15	15	1800	T4
-0200	-0420	10												

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

M39006 /31 RATINGS AND DASH NUMBER REFERENCE

M39006/31 Dashes		Tolerance ± (%)	Cap (µF) 25°C at 120Hz	DC Rated Voltage (V) at 85°C	DC Leakage (µA)		DF max (%)	ESR max (Ohms) at 120Hz	Impedance max (Ohms) -55°C at 120Hz	Maximum Capacitance Change (%)			AC Ripple (mA rms) 85°C at 40kHz	Case Size
M Level	P Level				+25°C	+85°C & +125°C				-55°C	+85°C	+125°C		
-0003	-0091	20	820	6	3	14	77.5	1.26	18	-88	16	20	1500	T2
-0004	-0092	10												
-0005	-0093	20	1500	6	5	20	86	0.76	18	-90	20	25	1900	T3
-0006	-0094	10												
-0007	-0095	20	2200	6	6	24	85	0.52	13	-90	25	30	2300	T4
-0008	-0096	10												
-0011	-0099	20	680	8	3	14	65	1.27	22	-83	16	20	1500	T2
-0012	-0100	10												
-0013	-0101	20	1500	8	5	20	85	0.75	18	-90	20	25	1900	T3
-0014	-0102	10												
-0015	-0103	20	1800	8	7	25	69	0.51	14	-90	25	30	2300	T4
-0016	-0104	10												
-0019	-0107	20	560	10	3	16	53	1.26	27	-77	16	20	1450	T2
-0020	-0108	10												
-0021	-0109	20	1200	10	5	20	68.5	0.76	18	-88	20	25	1850	T3
-0022	-0110	10												
-0023	-0111	20	1500	10	7	25	57	0.51	15	-88	25	30	2300	T4
-0024	-0112	10												
-0027	-0115	20	390	15	3	16	37	1.26	31	-66	16	20	1450	T2
-0028	-0116	10												
-0029	-0117	20	820	15	6	24	55.5	0.9	22	-77	20	25	1800	T3
-0030	-0118	10												
-0031	-0119	20	1000	15	8	32	46	0.61	17	-77	25	30	2300	T4
-0032	-0120	10												
-0035	-0123	20	270	25	3	16	27.5	1.35	33	-62	13	16	1400	T2
-0036	-0124	10												
-0037	-0125	20	560	25	7	28	38	0.9	24	-72	20	25	1750	T3
-0038	-0126	10												
-0039	-0127	20	680	25	8	32	31.5	0.62	19	-72	25	30	2100	T4
-0040	-0128	10												
-0043	-0131	20	220	30	3	16	21	1.27	36	-60	13	16	1200	T2
-0044	-0132	10												
-0045	-0133	20	470	30	8	32	32	0.91	25	-65	20	25	1500	T3
-0046	-0134	10												
-0047	-0135	20	560	30	9	36	27.5	0.65	20	-65	25	30	2000	T4
-0048	-0136	10												
-0051	-0139	20	120	50	4	24	11.3	1.25	49	-42	12	15	1200	T2
-0052	-0140	10												
-0053	-0141	20	270	50	8	32	18.5	0.91	29	-46	20	25	1450	T3
-0054	-0142	10												
-0055	-0143	20	330	50	9	36	19	0.77	22	-46	25	30	1900	T4
-0056	-0144	10												
-0059	-0147	20	100	60	4	20	9.5	1.26	54	-36	12	15	1100	T2
-0060	-0148	10												
-0061	-0149	20	220	60	8	32	15	0.91	29	-40	16	20	1400	T3
-0062	-0150	10												
-0063	-0151	20	270	60	9	36	13.5	0.67	23	-45	20	25	1850	T4
-0064	-0152	10												
-0067	-0155	20	82	75	4	24	7.6	1.23	63	-30	12	15	1000	T2
-0068	-0156	10												
-0069	-0157	20	180	75	9	36	12.2	0.9	30	-35	16	20	1300	T3
-0070	-0158	10												
-0071	-0159	20	220	75	10	40	18.5	1.12	24	-40	20	25	1800	T4
-0072	-0160	10												
-0075	-0163	20	39	100	5	24	5.2	1.77	80	-20	12	15	1300	T2
-0076	-0164	10												
-0077	-0165	20	68	100	10	40	5.65	1.11	40	-30	14	16	1600	T3
-0078	-0166	10												
-0079	-0167	20	120	100	12	48	12.5	1.38	30	-35	15	17	2000	T4
-0080	-0168	10												

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