

TANTALUM HERMETICALLY SEALED / AXIAL — MIL-PRF-39003

T140 SERIES — POLAR TYPE & T242 (CSR23)



KEMET standard MIL case hermetically sealed T140 Series (Extended Capacitance Range) are compact, ruggedly built, designed for miniaturized circuitry, and are especially suited for coupling, bypass, filtering and R-C timing circuits. They exhibit excellent stability, low DC leakage current, dissipation factor, and ESR/impedance over a wide temperature and frequency range.

Available in standard EIA capacitance values from .82-1200 μF in $\pm 20\%$, $\pm 10\%$, and $\pm 5\%$ tolerances and working voltages from 6-60 VDC.

Included in the following Series table is a complete listing of CSR23 qualified MIL-C-39003/3 capacitors.

DIMENSIONS — INCHES & (MILLIMETERS)

CASE SIZE	UNINSULATED		INSULATED		B ± 0.002 (.05)	C MAX.
	D ± 0.005 (.13)	L ± 0.031 (.79)	D ± 0.010 (.25)	L ± 0.031 (.79)		
A	0.125 (3.18)	0.250 (6.35)	0.135 (3.43)	0.286 (7.26)	0.020 (.51)	0.422 (10.72)
B	0.175 (4.45)	0.438 (11.13)	0.185 (4.70)	0.474 (12.04)	0.020 (.51)	0.610 (15.49)
C	0.279 (7.09)	0.650 (16.51)	0.289 (7.34)	0.686 (17.42)	0.025 (.64)	0.822 (20.88)
D	0.341 (8.66)	0.750 (19.05)	0.351 (8.92)	0.786 (19.96)	0.025 (.64)	0.922 (23.42)

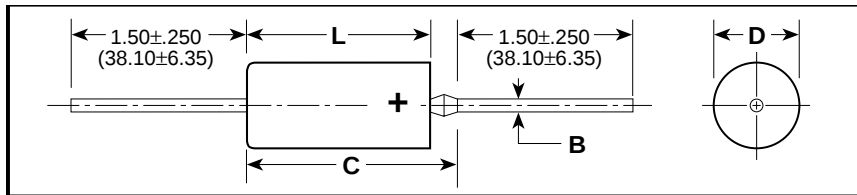
MARKING INFORMATION*

A, B, C & D CASES

+K 10%	— Polarity, Manufacturer's Identification and Capacitance Tol.
5R6 μF	— Normal Capacitance — (μF) ("R" indicates decimal)
10V	— Voltage
0312RX	— Date Code (e.g.: 9912R)

* For Military Marking, see page 4.

CAPACITOR OUTLINE DRAWINGS



Effective September 30, 2005, the KEMET T140 Series is RoHS compliant by ordering the "T" (100% tin) end termination in the 14th position of the part number.

RATINGS & PART NUMBER REFERENCE

CAPACITANCE μF	CASE SIZE	CAPACITANCE TOLERANCE ±%	KEMET T140			MIL-PRF-39003 (CSR23) CAPACITORS								KEMET EQUIVALENT MILITARY PART NUMBER
			KEMET PART NUMBER	D.C. LEAKAGE μA@25°C MAX.	MAX. DISSIPATION FACTOR %@25°C, 120Hz	DASH NUMBER REFERENCE FAILURE RATE LEVEL (%/1000 HRS.)								
						MIL-PRF-39003/3F EXPONENTIAL				MIL-PRF-39003/3F GRADED				
						M (1.0)	P (0.1)	R (0.01)	S (0.001)	B (0.1)	C (0.01)	D (0.001)		
6 VOLT RATING AT 85°C — 4 VOLT RATING AT 125°C														
8.2	A	10, 20	T140A825(1)006AS	0.9	6									
10.0	A	10	T140A106K006AS	0.9	6	0101	0201	0301	0401	2001	3001	4001	T242A106K006(2)S	
10.0	A	20	T140A106M006AS	0.9	6	0102	0202	0302	0402	2002	3002	4002	T242A106M006(2)S	
12.0	A	10	T140A126K006AS	1.0	6	0103	0203	0303	0403	2003	3003	4003	T242A126K006(2)S	
12.0	A	20	T140A126M006AS	1.0	6									
68.0	B	10, 20	T140B686(1)006AS	3.0	6									
82.0	B	10, 20	T140B826(1)006AS	3.0	6									
100.0	B	10	T140B107K006AS	6.0	6	0104	0204	0304	0404	2004	3004	4004	T242B107K006(2)S	
100.0	B	20	T140B107M006AS	6.0	6	0105	0205	0305	0405	2005	3005	4005	T242B107M006(2)S	
220.0	C	10, 20	T140C227(1)006AS	10.0	8									
270.0	C	10, 20	T140C277(1)006AS	10.0	8									
330.0	C	10	T140C337K006AS	10.0	8	0106	0206	0306	0406	2006	3006	4006	T242C337K006(2)S	
330.0	C	20	T140C337M006AS	10.0	8	0107	0207	0307	0407	2007	3007	4007	T242C337M006(2)S	
390.0	C	10	T140C397K006AS	10.0	10	0108	0208	0308	0408	2008	3008	4008	T242C397K006(2)S	
390.0	C	20	T140C397M006AS	10.0	10									
470.0	C	10	T140C477K006AS	10.0	10	0109	0209	0309	0409	2009	3009	4009	T242C477K006(2)S	
470.0	C	20	T140C477M006AS	10.0	10	0110	0210	0310	0410	2010	3010	4010	T242C477M006(2)S	
560.0	D	10, 20	T140D567(1)006AS	20.0	10									
680.0	D	10	T140D687K006AS	20.0	10	0111	0211	0311	0411	2011	3011	4011	T242D687K006(2)S	
680.0	D	20	T140D687M006AS	20.0	10	0112	0212	0312	0412	2012	3012	4012	T242D687M006(2)S	
820.0	D	10	T140D827K006AS	20.0	10	0113	0213	0313	0413	2013	3013	4013	T242D827K006(2)S	
820.0	D	20	T140D827M006AS	20.0	10									
1000.0	D	10	T140D108K006AS	20.0	10	0114	0214	0314	0414	2014	3014	4014	T242D108K006(2)S	
1000.0	D	20	T140D108M006AS	20.0	10	0115	0215	0315	0415	2015	3015	4015	T242D108M006(2)S	
1200.0	D	20	T140D128M006AS	20.0	10									

(1) To complete T140 Series Part Number, insert Capacitance Tolerance Symbol in the 9th Character as shown on Page 6.

(2) To complete the T242 Series Part Number, insert Failure Rate Symbol in the 13th Character.

Bold Face lines indicate popular part types and values.

For ordering information, see page 4 (Military) and Page 6.

T140/T242 Series Tantalum
Hermetically Sealed



TANTALUM HERMETICALLY SEALED / AXIAL — MIL-PRF-39003

T140 SERIES — POLAR TYPE & T242 (CSR23)

RATINGS & PART NUMBER REFERENCE

CAPACITANCE μF	CASE SIZE	CAPACITANCE TOLERANCE ±%	KEMET T140			MIL-PRF-39003 (CSR23) CAPACITORS										
			KEMET PART NUMBER	D.C. LEAKAGE μA@25°C, MAX.	MAX. DISSIPATION FACTOR %@25°C, 120Hz	DASH NUMBER REFERENCE FAILURE RATE LEVEL (%/1000 HRS.)								KEMET EQUIVALENT MILITARY PART NUMBER		
						MIL-PRF-39003/3F EXPONENTIAL				MIL-PRF-39003/3F GRADED						
						M (1.0)	P (0.1)	R (0.01)	S (0.001)	B (0.1)	C (0.01)	D (0.001)				
10 VOLT RATING AT 85°C — 7 VOLT RATING AT 125°C																
5.6	A	10, 20	T140A565(1)010AS	1.0	4											
6.8	A	10	T140A685K010AS	1.0	6	0116	0216	0316	0416	2016	3016	4016				T242A685K010(2)S
6.8	A	20	T140A685M010AS	1.0	6	0117	0217	0317	0417	2017	3017	4017				T242A685M010(2)S
8.2	A	10	T140A825K010AS	1.2	6	0118	0218	0318	0418	2018	3018	4018				T242A825K010(2)S
8.2	A	20	T140A825M010AS	1.2	6											
47.0	B	10	T140B476K010AS	4.0	6	0119	0219	0319	0419	2019	3019	4019				T242B476K010(2)S
47.0	B	20	T140B476M010AS	4.0	6	0120	0220	0320	0420	2020	3020	4020				T242B476M010(2)S
56.0	B	10	T140B566K010AS	5.0	6	0121	0221	0321	0421	2021	3021	4021				T242B566K010(2)S
56.0	B	20	T140B566M010AS	5.0	6											
68.0	B	10	T140B686K010AS	6.0	6	0122	0222	0322	0422	2022	3022	4022				T242B686K010(2)S
68.0	B	20	T140B686M010AS	6.0	6	0123	0223	0323	0423	2023	3023	4023				T242B686M010(2)S
82.0	B	10	T140B826K010AS	7.0	6	0124	0224	0324	0424	2024	3024	4024				T242B826K010(2)S
82.0	B	20	T140B826M010AS	7.0	6											
150.0	C	10, 20	T140C157(1)010AS	8.0	8											
180.0	C	10, 20	T140C187(1)010AS	8.0	8											
220.0	C	10	T140C227K010AS	12.0	8	0125	0225	0325	0425	2025	3025	4025				T242C227K010(2)S
220.0	C	20	T140C227M010AS	12.0	8	0126	0226	0326	0426	2026	3026	4026				T242C227M010(2)S
270.0	C	10	T140C277K010AS	13.0	8	0127	0227	0327	0427	2027	3027	4027				T242C277K010(2)S
270.0	C	20	T140C277M010AS	13.0	8											
330.0	D	10, 20	T140D337(1)010AS	16.0	8											
390.0	D	10	T140D397K010AS	16.0	10	0128	0228	0328	0428	2028	3028	4028				T242D397K010(2)S
390.0	D	20	T140D397M010AS	16.0	10											
470.0	D	10	T140D477K010AS	16.0	10	0129	0229	0329	0429	2029	3029	4029				T242D477K010(2)S
470.0	D	20	T140D477M010AS	16.0	10	0130	0230	0330	0430	2030	3030	4030				T242D477M010(2)S
560.0	D	10	T140D567K010AS	20.0	10	0131	0231	0331	0431	2031	3031	4031				T242D567K010(2)S
560.0	D	20	T140D567M010AS	20.0	10											
15 VOLT RATING AT 85°C — 10 VOLT RATING AT 125°C																
3.9	A	10, 20	T140A395(1)015AS	1.0	4											
4.7	A	10	T140A475K015AS	1.0	4	0132	0232	0332	0432	2032	3032	4032				T242A475K015(2)S
4.7	A	20	T140A475M015AS	1.0	4	0133	0233	0333	0433	2033	3033	4033				T242A475M015(2)S
5.6	A	10	T140A565K015AS	1.3	4	0134	0234	0334	0434	2034	3034	4034				T242A565K015(2)S
5.6	A	20	T140A565M015AS	1.3	4											
27.0	B	10, 20	T140B276(1)015AS	3.0	6											
33.0	B	10	T140B336K015AS	5.0	6	0135	0235	0335	0435	2035	3035	4035				T242B336K015(2)S
33.0	B	20	T140B336M015AS	5.0	6	0136	0236	0336	0436	2036	3036	4036				T242B336M015(2)S
39.0	B	10	T140B396K015AS	5.3	6	0137	0237	0337	0437	2037	3037	4037				T242B396K015(2)S
39.0	B	20	T140B396M015AS	5.3	6											
82.0	C	10, 20	T140C826(1)015AS	8.0	6											
100.0	C	10, 20	T140C107(1)015AS	10.0	6											
120.0	C	10, 20	T140C127(1)015AS	10.0	6											
150.0	C	10	T140C157K015AS	15.0	8	0138	0238	0338	0438	2038	3038	4038				T242C157K015(2)S
150.0	C	20	T140C157M015AS	15.0	8	0139	0239	0339	0439	2039	3039	4039				T242C157M015(2)S
180.0	C	10	T140C187K015AS	15.0	8	0140	0240	0340	0440	2040	3040	4040				T242C187K015(2)S
180.0	C	20	T140C187M015AS	15.0	8											
220.0	D	10	T140D227K015AS	20.0	8	0141	0241	0341	0441	2041	3041	4041				T242D227K015(2)S
220.0	D	20	T140D227M015AS	20.0	8	0142	0242	0342	0442	2042	3042	4042				T242D227M015(2)S
270.0	D	10	T140D277K015AS	20.0	8	0143	0243	0343	0443	2043	3043	4043				T242D277K015(2)S
270.0	D	20	T140D277M015AS	20.0	8											
330.0	D	10	T140D337K015AS	20.0	8	0144	0244	0344	0444	2044	3044	4044				T242D337K015(2)S
330.0	D	20	T140D337M015AS	20.0	8	0145	0245	0345	0445	2045	3045	4045				T242D337M015(2)S

(1) To complete T140 Series Part Number, insert Capacitance Tolerance Symbol in the 9th Character as shown on Page 6.

(2) To complete the T242 Series Part Number, insert Failure Rate Symbol in the 13th Character.

RATINGS & PART NUMBER REFERENCE

CAPACITANCE μF	CASE SIZE	CAPACITANCE TOLERANCE ±%	KEMET T140			MIL-PRF-39003 (CSR23) CAPACITORS								KEMET EQUIVALENT MILITARY PART NUMBER
			KEMET PART NUMBER	D.C. LEAKAGE μA@25°C MAX.	MAX. DISSIPATION FACTOR %@25°C, 120Hz	DASH NUMBER REFERENCE FAILURE RATE LEVEL (%/1000 HRS.)								
						MIL-PRF-39003/3F EXPONENTIAL				MIL-PRF-39003/3F GRADED				
						M (1.0)	P (0.1)	R (0.01)	S (0.001)	B (0.1)	C (0.01)	D (0.001)		
20 VOLT RATING AT 85°C — 13 VOLT RATING AT 125°C														
2.7	A	10	T140A275K020AS	0.8	4	0146	0246	0346	0446	2046	3046	4046	T242A275K020(2)S	
2.7	A	20	T140A275M020AS	0.8	4									
3.3	A	10	T140A335K020AS	1.0	4	0147	0247	0347	0447	2047	3047	4047	T242A335K020(2)S	
3.3	A	20	T140A335M020AS	1.0	4	0148	0248	0348	0448	2048	3048	4048	T242A335M020(2)S	
3.9	A	10	T140A395K020AS	1.2	4	0149	0249	0349	0449	2049	3049	4049	T242A395K020(2)S	
3.9	A	20	T140A395M020AS	1.2	4									
18.0	B	10	T140B186K020AS	3.0	6	0150	0250	0350	0450	2050	3050	4050	T242B186K020(2)S	
18.0	B	20	T140B186M020AS	3.0	6									
22.0	B	10	T140B226K020AS	3.0	6	0151	0251	0351	0451	2051	3051	4051	T242B226K020(2)S	
22.0	B	20	T140B226M020AS	3.0	6	0152	0252	0352	0452	2052	3052	4052	T242B226M020(2)S	
27.0	B	10	T140B276K020AS	4.0	6	0153	0253	0353	0453	2053	3053	4053	T242B276K020(2)S	
27.0	B	20	T140B276M020AS	4.0	6									
56.0	C	10	T140C566K020AS	7.0	6	0154	0254	0354	0454	2054	3054	4054	T242C566K020(2)S	
56.0	C	20	T140C566M020AS	7.0	6									
68.0	C	10	T140C686K020AS	8.0	6	0155	0255	0355	0455	2055	3055	4055	T242C686K020(2)S	
68.0	C	20	T140C686M020AS	8.0	6	0156	0256	0356	0456	2056	3056	4056	T242C686M020(2)S	
82.0	C	10	T140C826K020AS	10.0	6	0157	0257	0357	0457	2057	3057	4057	T242C826K020(2)S	
82.0	C	20	T140C826M020AS	10.0	6									
100.0	C	10	T140C107K020AS	12.0	6	0158	0258	0358	0458	2058	3058	4058	T242C107K020(2)S	
100.0	C	20	T140C107M020AS	12.0	6	0159	0259	0359	0459	2059	3059	4059	T242C107M020(2)S	
120.0	C	10	T140C127K020AS	12.0	6	0160	0260	0360	0460	2060	3060	4060	T242C127K020(2)S	
120.0	C	20	T140C127M020AS	12.0	6									
150.0	D	10	T140D157K020AS	15.0	8	0161	0261	0361	0461	2061	3061	4061	T242D157K020(2)S	
150.0	D	20	T140D157M020AS	15.0	8	0162	0262	0362	0462	2062	3062	4062	T242D157M020(2)S	
180.0	D	10	T140D187K020AS	15.0	8	0163	0263	0363	0463	2063	3063	4063	T242D187K020(2)S	
180.0	D	20	T140D187M020AS	15.0	8									
30 VOLT RATING AT 85°C — 20 VOLT RATING AT 125°C														
1.2	A	10, 20	T140A125(1)030AS	1.0	4									
1.5	A	10, 20	T140A155(1)030AS	1.0	4									
1.8	A	10, 20	T140A185(1)030AS	1.0	4									
2.2	A	10, 20	T140A225(1)030AS	1.0	4									
2.7	A	10, 20	T140A275(1)030AS	1.0	4									
12.0	B	10, 20	T140B126(1)030AS	3.0	4									
15.0	B	10, 20	T140B156(1)030AS	3.0	4									
18.0	B	10, 20	T140B186(1)030AS	3.0	4									
33.0	C	10, 20	T140C336(1)030AS	6.0	6									
39.0	C	10, 20	T140C396(1)030AS	6.0	6									
47.0	C	10, 20	T140C476(1)030AS	7.0	6									
56.0	C	10, 20	T140C566(1)030AS	7.0	6									
68.0	C	10, 20	T140C686(1)030AS	7.0	6									
82.0	D	10, 20	T140D826(1)030AS	10.0	6									
100.0	D	10, 20	T140D107(1)030AS	10.0	8									

(1) To complete T140 Series Part Number, insert Capacitance Tolerance Symbol in the 9th Character as shown on Page 6.

(2) To complete the T242 Series Part Number, insert Failure Rate Symbol in the 13th Character.

Bold Face lines indicate popular part types and values.



TANTALUM HERMETICALLY SEALED / AXIAL — MIL-PRF-39003

T140 SERIES — POLAR TYPE & T242 (CSR23)

RATINGS & PART NUMBER REFERENCE

CAPACITANCE μF	CASE SIZE	CAPACITANCE TOLERANCE ±%	KEMET T140			MIL-PRF-39003 (CSR23) CAPACITORS								KEMET EQUIVALENT MILITARY PART NUMBER
			KEMET PART NUMBER	D.C. LEAKAGE μA@25°C MAX.	MAX. DISSIPATION FACTOR %@25°C, 120Hz	DASH NUMBER REFERENCE FAILURE RATE LEVEL (%/1000 HRS.)								
						MIL-PRF-39003/3F EXPONENTIAL								
						M (1.0)	P (0.1)	R (0.01)	S (0.001)	B (0.1)	C (0.01)	D (0.001)		
35 VOLT RATING AT 85°C — 23 VOLT RATING AT 125°C														
1.2	A	10, 20	T140A125(1)035AS	0.6	4									
1.5	A	10, 20	T140A155(1)035AS	0.8	4									
1.8	A	10	T140A185K035AS	1.0	4	0164	0264	0364	0464	2064	3064	4064	T242A185K035(2)S	
1.8	A	20	T140A185M035AS	1.0	4									
8.2	B	10	T140B825K035AS	3.0	4	0165	0265	0365	0465	2065	3065	4065	T242B825K035(2)S	
8.2	B	20	T140B825M035AS	3.0	4									
10.0	B	10	T140B106K035AS	3.0	4	0166	0266	0366	0466	2066	3066	4066	T242B106K035(2)S	
10.0	B	20	T140B106M035AS	3.0	4	0167	0267	0367	0467	2067	3067	4067	T242B106M035(2)S	
27.0	C	10, 20	T140C276(1)035AS	7.0	6									
33.0	C	10	T140C336K035AS	8.0	6	0168	0268	0368	0468	2068	3068	4068	T242C336K035(2)S	
33.0	C	20	T140C336M035AS	8.0	6	0169	0269	0369	0469	2069	3069	4069	T242C336M035(2)S	
39.0	C	10	T140C396K035AS	10.0	6	0170	0270	0370	0470	2070	3070	4070	T242C396K035(2)S	
39.0	C	20	T140C396M035AS	10.0	6									
47.0	C	10	T140C476K035AS	10.0	6	0171	0271	0371	0471	2071	3071	4071	T242C476K035(2)S	
47.0	C	20	T140C476M035AS	10.0	6	0172	0272	0372	0472	2072	3072	4072	T242C476M035(2)S	
56.0	D	10	T140D566K035AS	12.0	6	0173	0273	0373	0473	2073	3073	4073	T242D566K035(2)S	
56.0	D	20	T140D566M035AS	12.0	6									
68.0	D	10	T140D686K035AS	12.0	6	0174	0274	0374	0474	2074	3074	4074	T242D686K035(2)S	
68.0	D	20	T140D686M035AS	12.0	6	0175	0275	0375	0475	2075	3075	4075	T242D686M035(2)S	
82.0	D	10, 20	T140D826(1)035AS	20.0	8									
100.0	D	10, 20	T140D107(1)035AS	20.0	8									
50 VOLT RATING AT 85°C — 33 VOLT RATING AT 125°C														
1.2	A	10	T140A125K050AS	0.6	4	0176	0276	0376	0476	2076	3076	4076	T242A125K050(2)S	
1.2	A	20	T140A125M050AS	0.6	4									
1.5	A	10	T140A155K050AS	0.8	4	0177	0277	0377	0477	2077	3077	4077	T242A155K050(2)S	
1.5	A	20	T140A155M050AS	0.8	4	0178	0278	0378	0478	2078	3078	4078	T242A155M050(2)S	
5.6	B	10	T140B565K050AS	2.5	4	0179	0279	0379	0479	2079	3079	4079	T242B565K050(2)S	
5.6	B	20	T140B565M050AS	2.5	4									
6.8	B	10	T140B685K050AS	2.5	4	0180	0280	0380	0480	2080	3080	4080	T242B685K050(2)S	
6.8	B	20	T140B685M050AS	2.5	4	0181	0281	0381	0481	2081	3081	4081	T242B685M050(2)S	
22.0	C	10	T140C226K050AS	7.0	6	0182	0282	0382	0482	2082	3082	4082	T242C226K050(2)S	
22.0	C	20	T140C226M050AS	7.0	6	0183	0283	0383	0483	2083	3083	4083	T242C226M050(2)S	
27.0	C	10	T140C276K050AS	8.0	6	0184	0284	0384	0484	2084	3084	4084	T242C276K050(2)S	
27.0	C	20	T140C276M050AS	8.0	6									
33.0	D	10	T140D336K050AS	10.0	6	0185	0285	0385	0485	2085	*	*	T242D336K050(2)S	
33.0	D	20	T140D336M050AS	10.0	6	0186	0286	0386	0486	2086	*	*	T242D336M050(2)S	
39.0	D	10	T140D396K050AS	10.0	6	0187	0287	0387	0487	2087	*	*	T242D396K050(2)S	
39.0	D	20	T140D396M050AS	10.0	6									
47.0	D	20	T140D476M050AS	10.0	6									
60 VOLT RATING AT 85°C — 40 VOLT RATING AT 125°C														
0.82	A	10, 20	T140A824(1)060AS	0.5	4									
1.0	A	10, 20	T140A105(1)060AS	0.5	4									
4.7	B	10, 20	T140B475(1)060AS	3.0	4									
5.6	B	10, 20	T140B565(1)060AS	3.0	4									
15.0	C	10, 20	T140C156(1)060AS	5.0	6									
18.0	C	10, 20	T140C186(1)060AS	6.0	6									
22.0	C	10, 20	T140C226(1)060AS	7.0	6									
27.0	D	10, 20	T140D276(1)060AS	10.0	6									
33.0	D	10, 20	T140D336(1)060AS	10.0	6									

(1) To complete T140 Series Part Number, insert Capacitance Tolerance Symbol in the 9th Character as shown on Page 6.

(2) To complete the T242 Series Part Number, insert Failure Rate Symbol in the 13th Character.

*Note: C Failure Rate not QPL for -3085 thru 3087

D Failure Rate not QPL for -4085 thru 4087

Bold Face lines indicate popular part types and values.