

**STANDARD/EXTENDED RATINGS: CLR91, M39006/31-XXXX**

CAPACITANCE (μF)	CASE CODE	CAP. TOL. ($\pm \%$)	PART NO. M39006/31-* FAILURE RATE LEVEL (%/1000 h)			MAX. DCL (μA) at + 25 °C	MAX. DF at + 25 °C	MAX. IMP. at - 55 °C	MAX.. CAPACITANCE CHANGE (%) at			MAX. ESR at + 25 °C 120 Hz (Ω)	
			M 1.0	P 0.1	R 0.01				- 55 °C	- 55 °C	+ 85 °C		
						+ 25 °C	+ 85 °C + 125 °C				+ 125 °C		
6 WVDC at + 85 °C . . . 4 WVDC at + 125 °C													
220	T1	20	0001	0089	0177	2	9	25	36	- 64	13	16	1.51
220	T1	10	0002	0090	0178	2	9	25	36	- 64	13	16	1.51
820	T2	20	0003	0091	0179	3	14	77.5	18	- 88	16	20	1.26
820	T2	10	0004	0092	0180	3	14	77.5	18	- 88	16	20	1.26
1500	T3	20	0005	0093	0181	5	20	86	18	- 90	20	25	0.76
1500	T3	10	0006	0094	0182	5	20	86	18	- 90	20	25	0.76
2200	T4	20	0007	0095	0183	6	24	85	13	- 90	25	30	0.52
2200	T4	10	0008	0096	0184	6	24	85	13	- 90	25	30	0.52
8 WVDC at + 85 °C . . . 5 WVDC at + 125 °C													
180	T1	20	0009	0097	0185	2	9	20.5	45	- 60	13	16	1.51
180	T1	10	0010	0098	0186	2	9	20.5	45	- 60	13	16	1.51
680	T2	20	0011	0099	0187	3	14	65	22	- 83	16	20	1.27
680	T2	10	0012	0100	0188	3	14	65	22	- 83	16	20	1.27
1500	T3	20	0013	0101	0189	5	20	85	18	- 90	20	25	0.75
1500	T3	10	0014	0102	0190	5	20	85	18	- 90	20	25	0.75
1800	T4	20	0015	0103	0191	7	25	69	14	- 90	25	30	0.51
1800	T4	10	0016	0104	0192	7	25	69	14	- 90	25	30	0.51
10 WVDC at + 85 °C . . . 7 WVDC at + 125 °C													
150	T1	20	0017	0105	0193	2	9	17	54	- 55	13	16	1.51
150	T1	10	0018	0106	0194	2	9	17	54	- 55	13	16	1.51
560	T2	20	0019	0107	0195	3	16	53	27	- 77	16	20	1.26
560	T2	10	0020	0108	0196	3	16	53	27	- 77	16	20	1.26
1200	T3	20	0021	0109	0197	5	20	68.5	18	- 88	20	25	0.76
1200	T3	10	0022	0110	0198	5	20	68.5	18	- 88	20	25	0.76
1500	T4	20	0023	0111	0199	7	25	57	15	- 88	25	30	0.51
1500	T4	10	0024	0112	0200	7	25	57	15	- 88	25	30	0.51
15 WVDC at + 85 °C . . . 10 WVDC at + 125 °C													
100	T1	20	0025	0113	0201	2	9	15	72	- 44	13	16	1.99
100	T1	10	0026	0114	0202	2	9	15	72	- 44	13	16	1.99
390	T2	20	0027	0115	0203	3	16	37	31	- 66	16	20	1.26
390	T2	10	0028	0116	0204	3	16	37	31	- 66	16	20	1.26
820	T3	20	0029	0117	0205	6	24	55.5	22	- 77	20	25	0.9
820	T3	10	0030	0118	0206	6	24	55.5	22	- 77	20	25	0.9
1000	T4	20	0031	0119	0207	8	32	46	17	- 77	25	30	0.61
1000	T4	10	0032	0120	0208	8	32	46	17	- 77	25	30	0.61
25 WVDC at + 85 °C . . . 15 WVDC at + 125 °C													
68	T1	20	0033	0121	0209	2	9	11	90	- 40	12	15	2.15
68	T1	10	0034	0122	0210	2	9	11	90	- 40	12	15	2.15
270	T2	20	0035	0123	0211	3	16	27.5	33	- 62	13	16	1.35
270	T2	10	0036	0124	0212	3	16	27.5	33	- 62	13	16	1.35
560	T3	20	0037	0125	0213	7	28	38	24	- 72	20	25	0.9
560	T3	10	0038	0126	0214	7	28	38	24	- 72	20	25	0.9
680	T4	20	0039	0127	0215	8	32	31.5	19	- 72	25	30	0.62
680	T4	10	0040	0128	0216	8	32	31.5	19	- 72	25	30	0.62
30 WVDC at + 85 °C . . . 20 WVDC at + 125 °C													
56	T1	20	0041	0129	0217	2	9	11	100	- 38	12	15	2.61
56	T1	10	0042	0130	0218	2	9	11	100	- 38	12	15	2.61
220	T2	20	0043	0131	0219	3	16	21	36	- 60	13	16	1.27
220	T2	10	0044	0132	0220	3	16	21	36	- 60	13	16	1.27
470	T3	20	0045	0133	0221	8	32	32	25	- 65	20	25	0.91
470	T3	10	0046	0134	0222	8	32	32	25	- 65	20	25	0.91
560	T4	20	0047	0135	0223	9	36	27.5	20	- 65	25	30	0.65
560	T4	10	0048	0136	0224	9	36	27.5	20	- 65	25	30	0.65

Note

* Dash number will include the letter "H" to indicate the optional vibration and shock requirements (i.e., 51 g random vibration, 80 g sinusoidal vibration and 500 g shock).

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CAPACITANCE (μ F)	CASE CODE	CAP. TOL. (\pm %)	PART NO. M39006/31*			MAX. DCL (μ A) at + 25 °C	MAX. DF at + 25 °C (%)	MAX. IMP. at - 55 °C (Ω)	MAX. CAPACITANCE CHANGE (%) at			MAX. ESR at + 25 °C 120 Hz (Ω)	
			M 1.0	P 0.1	R 0.01				- 55 °C	- 55 °C	+ 85 °C	+ 125 °C	
50 WVDC at + 85 °C . . . 30 WVDC at + 125 °C													
33	T1	20	0049	0137	0225	2	9	6.15	135	- 29	10	12	2.48
33	T1	10	0050	0138	0226	2	9	6.15	135	- 29	10	12	2.48
120	T2	20	0051	0139	0227	4	24	11.3	49	- 42	12	15	1.25
120	T2	10	0052	0140	0228	4	24	11.3	49	- 42	12	15	1.25
270	T3	20	0053	0141	0229	8	32	18.5	29	- 46	20	25	0.91
270	T3	10	0054	0142	0230	8	32	18.5	29	- 46	20	25	0.91
330	T4	20	0055	0143	0231	9	36	19	22	- 46	25	30	0.77
330	T4	10	0056	0144	0232	9	36	19	22	- 46	25	30	0.77
60 WVDC at + 85 °C . . . 40 WVDC at + 125 °C													
27	T1	20	0057	0145	0233	3	12	5.1	144	- 24	10	12	2.51
27	T1	10	0058	0146	0234	3	12	5.1	144	- 24	10	12	2.51
100	T2	20	0059	0147	0235	4	20	9.5	54	- 36	12	15	1.26
100	T2	10	0060	0148	0236	4	20	9.5	54	- 36	12	15	1.26
220	T3	20	0061	0149	0237	8	32	15	29	- 40	16	20	0.91
220	T3	10	0062	0150	0238	8	32	15	29	- 40	16	20	0.91
270	T4	20	0063	0151	0239	9	36	13.5	23	- 45	20	25	0.67
270	T4	10	0064	0152	0240	9	36	13.5	23	- 45	20	25	0.67
75 WVDC at + 85 °C . . . 50 WVDC at + 125 °C													
22	T1	20	0065	0153	0241	3	12	4.25	157	- 19	10	12	2.57
22	T1	10	0066	0154	0242	3	12	4.25	157	- 19	10	12	2.57
82	T2	20	0067	0155	0243	4	24	7.6	63	- 30	12	15	1.23
82	T2	10	0068	0156	0244	4	24	7.6	63	- 30	12	15	1.23
180	T3	20	0069	0157	0245	9	36	12.2	30	- 35	16	20	0.9
180	T3	10	0070	0158	0246	9	36	12.2	30	- 35	16	20	0.9
220	T4	20	0071	0159	0247	10	40	18.5	24	- 40	20	25	1.12
220	T4	10	0072	0160	0248	10	40	18.5	24	- 40	20	25	1.12
100 WVDC at + 85 °C . . . 65 WVDC at + 125 °C													
10	T1	20	0073	0161	0249	3	12	2.25	200	- 17	10	12	2.99
10	T1	10	0074	0162	0250	3	12	2.25	200	- 17	10	12	2.99
39	T2	20	0075	0163	0251	5	24	5.2	80	- 20	12	15	1.77
39	T2	10	0076	0164	0252	5	24	5.2	80	- 20	12	15	1.77
68	T3	20	0077	0165	0253	10	40	5.65	40	- 30	14	16	1.11
68	T3	10	0078	0166	0254	10	40	5.65	40	- 30	14	16	1.11
120	T4	20	0079	0167	0255	12	48	12.5	30	- 35	15	17	1.38
120	T4	10	0080	0168	0256	12	48	12.5	30	- 35	15	17	1.38
125 WVDC at + 85 °C . . . 85 WVDC at + 125 °C													
6.8	T1	20	0081	0169	0257	3	12	3	300	- 14	10	12	5.86
6.8	T1	10	0082	0170	0258	3	12	3	300	- 14	10	12	5.86
27	T2	20	0083	0171	0259	5	24	3.6	90	- 18	12	15	1.77
27	T2	10	0084	0172	0260	5	24	3.6	90	- 18	12	15	1.77
47	T3	20	0085	0173	0261	10	40	3.95	50	- 26	14	16	1.12
47	T3	10	0086	0174	0262	10	40	3.95	50	- 26	14	16	1.12
82	T4	20	0087	0175	0263	12	48	8.7	32	- 30	15	17	1.41
82	T4	10	0088	0176	0264	12	48	8.7	32	- 30	15	17	1.41

Note

* Dash number will include the letter "H" to indicate the optional vibration and shock requirements (i.e., 51 g random vibration, 80 g sinusoidal vibration and 500 g shock).