CHR12

MIL-PRF-39022/8

Type 118P / 218P

Capacitors,
Fixed,
Metallized paper-plastic film dielectric,
Direct current,
Hermetically sealed in metal cases,
Nonmagnetic (end seal may be of magnetic material),
Established reliability,
Uninsulated.

GENERAL CHARACTERISTICS

Dielectric material	For 50 V: Normally polyethylene-terephthalate	For 200 V to 600 V: Normally paper polycarbonate-terephthalate
Rated temperature	For 50 V: −55°C to +85°C.	For 200 V to 600 V: −55°C to +125°C.
Capacitance range	22 nF to 12 µF	
Voltage range	50 V to 600 V	
Capacitance tolerance	±5%, ±10%, ±20%	
Failure rate level	**M** (1% / 1,000 hours), **P** (0.1% / 1,000 hours), **R** (0.01% / 1,000 hours)	

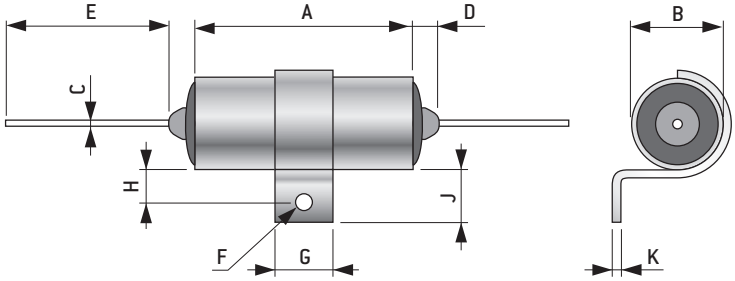
Full details and most up to date information found at government website.

DIMENSIONS

A		B	
See tables on the next pages			

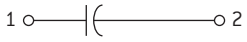
C		D		E	
Inches	(mm)	Inches	(mm)	Inches	(mm)
See note 1		0.172 max	(4.37 max)	1.625^{+1}_{-0}	$(41.28^{+25.4}_{-0})$

Case for circuit 1

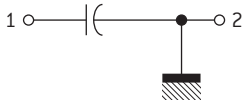


CIRCUIT DIAGRAM

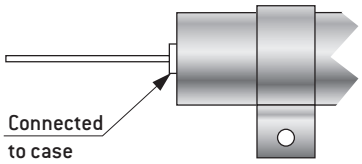
Circuit 1



Circuit 3



Case for circuit 3



HOW TO ORDER

M39022	/08-	2001
Performance Specification number	Specification sheet number	Nonsignificant dash number

M39022	/8	A	152	F	M
Performance Specification number	Specification sheet number	Circuit and voltage code	Capacitance in code	Capacitance tolerance in code	Product level designator
		A, B, C, D, E, F, G, H, J, K (See page 6)	Examples: **101** = 100pF **472** = 4.7nF **473** = 47nF	**J** = ±5% **K** = ±10% **M** = ±20%	**M** = 1% /1,000 hours **P** = 0.1% /1,000 hours **R** = 0.01% /1,000 hours

MIL-PRF-39022/8

INSULATION RESISTANCE

	At dc voltage of	
	200 V	400 V
In megohms: At +25°C ±3°C (need not exceed) At +125°C +4°C, –0°C (need not exceed)	12,000 150	12,000 600
In megohms x microfarads (minimum): At +25°C ±3°C At +125°C +4°C, –0°C	2,000 10	2,000 40

NOTES

1. Number 22 AWG wire 0.025" $^{\pm 0.002}$ (0.64 $^{\pm 0.05}$ mm) for case diameters of 0.235" (5.97 mm) and 0.312" (7.92 mm). Number 20 AWG wire 0.032" $^{\pm 0.002}$ (0.81 $^{\pm 0.05}$ mm) for case diameters of 0.400" (10.16 mm) and over.
2. See table below for additional dimensions.
3. Dimensions are in inches.
4. Metric equivalents are given for general information only.
5. The centerline of the mounting clamp shall be within 0.050" (1.27 mm) of the centerline of the length (A dimension) of the capacitor.

ELECTRICAL CHARACTERISTICS, DIMENSIONS, AND DASH NUMBERS

Type designation in MIL-C-39022/1B *	Nominal capacitance (µF)	Capacitance Tolerance (%)	Circuit diagram	Dimensions**												Dash number in Failure rate level (%/1,000 hr)		
				A ±0.062 (±1.57mm)		B ±0.031 (±0.79mm)		J ±0.062 (±1.57mm)		G ±0.062 (±1.57mm)		H ±0.031 (±0.79mm)		F ±0.005 (±0.13mm)				
				Inches	(mm)	Inches	(mm)	Inches	(mm)	Inches	(mm)	Inches	(mm)	Inches	(mm)	M(1.0)	P(0.1)	R(0.01)
Rated voltage 50 V																		
	0.15	1	5	0.875	(22.23)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2101	2201	2301
	0.15	1	10	0.875	(22.23)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2102	2202	2302
	0.15	3	5	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2103	2203	2303
	0.15	3	10	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2104	2204	2304
	0.18	1	5	0.875	(22.23)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2105	2205	2305
	0.18	1	10	0.875	(22.23)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2106	2206	2306
	0.18	3	5	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2107	2207	2307
	0.18	3	10	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2108	2208	2308
	0.22	1	5	0.875	(22.23)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2109	2209	2309
	0.22	1	10	0.875	(22.23)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2110	2210	2310
	0.22	3	5	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2111	2211	2311
	0.22	3	10	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2112	2212	2312
	0.27	1	5	0.875	(22.23)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2113	2213	2313
	0.27	1	10	0.875	(22.23)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2114	2214	2314
	0.27	3	5	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2115	2215	2315
	0.27	3	10	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2116	2216	2316
	0.33	1	5	0.875	(22.23)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2117	2217	2317
	0.33	1	10	0.875	(22.23)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2118	2218	2318
	0.33	3	5	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2119	2219	2319
	0.33	3	10	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2120	2220	2320
	0.39	1	5	1.125	(28.58)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2121	2221	2321
	0.39	1	10	1.125	(28.58)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2122	2222	2322
	0.39	3	5	1.062	(26.97)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2123	2223	2323
	0.39	3	10	1.062	(26.97)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2124	2224	2324
	0.47	1	5	1.125	(28.58)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2125	2225	2325
	0.47	1	10	1.125	(28.58)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2126	2226	2326
	0.47	3	5	1.062	(26.97)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2127	2227	2327
	0.47	3	10	1.062	(26.97)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2128	2228	2328
	0.56	1	5	1.125	(28.58)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2129	2229	2329
	0.56	1	10	1.125	(28.58)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2130	2230	2330
	0.56	3	5	1.062	(26.97)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2131	2231	2331
	0.56	3	10	1.062	(26.97)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2132	2232	2332
	0.68	1	5	1.125	(28.58)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2133	2233	2333
	0.68	1	10	1.125	(28.58)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2134	2234	2334
	0.68	3	5	1.062	(26.97)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2135	2235	2335
	0.68	3	10	1.062	(26.97)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2136	2236	2336
	0.82	1	5	1.125	(28.58)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2137	2237	2337
	0.82	1	10	1.125	(28.58)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2138	2238	2338
	0.82	3	5	1.062	(26.97)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2139	2239	2339
	0.82	3	10	1.062	(26.97)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2140	2240	2340
	1.0	1	5	1.125	(28.58)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2141	2241	2341
	1.0	1	10	1.125	(28.58)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2142	2242	2342
	1.0	3	5	1.062	(26.97)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2143	2243	2343
	1.0	3	10	1.062	(26.97)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2144	2244	2344
	1.2	1	5	1.375	(34.93)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2145	2245	2345
	1.2	1	10	1.375	(34.93)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2146	2246	2346
	1.2	3	5	1.312	(33.32)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2147	2247	2347
	1.2	3	10	1.312	(33.32)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	0.188	2148	2248	2348
	1.5	1	5	1.125	(28.58)	0.500	(12.70)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	0.25	2149	2249	2349
	1.5	1	10	1.172	(29.77)	0.500	(12.70)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	0.25	2150	2250	2350

* Complete type designation will include additional symbols for capacitance tolerance and failure rate level.

** FRL L for revision C only.

ELECTRICAL CHARACTERISTICS, DIMENSIONS, AND DASH NUMBERS

Type designation in MIL-C-39022/1B *	Nominal capacitance (µF)	Capacitance Tolerance (%)	Circuit diagram	Dimensions**												Dash number in Failure rate level (%/1,000 hr)		
				A ±0.062 (±1.57mm)		B ±0.031 (±0.79mm)		J ±0.062 (±1.57mm)		G ±0.062 (±1.57mm)		H ±0.031 (±0.79mm)		F ±0.005 (±0.13mm)				
				Inches	(mm)	Inches	(mm)	Inches	(mm)	Inches	(mm)	Inches	(mm)	Inches	(mm)	M(1.0)	P(0.1)	R(0.01)
Rated voltage 50 V_{DC} continued																		
	1.5	3	5	1.062	(26.97)	0.500	(12.70)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2151	2251	2351
	1.5	3	10	1.062	(26.97)	0.500	(12.70)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2152	2252	2352
	1.8	1	5	1.375	(34.93)	0.500	(12.70)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2153	2253	2353
	1.8	1	10	1.375	(34.93)	0.500	(12.70)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2154	2254	2354
	1.8	3	5	1.312	(33.32)	0.500	(12.70)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2155	2255	2355
	1.8	3	10	1.312	(33.32)	0.500	(12.70)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2156	2256	2356
	2.2	1	5	1.125	(28.58)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2157	2257	2357
	2.2	1	10	1.125	(28.58)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2158	2258	2358
	2.2	3	5	1.062	(26.97)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2159	2259	2359
	2.2	3	10	1.062	(26.97)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2160	2260	2360
	2.7	1	5	1.375	(34.93)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2161	2261	2361
	2.7	1	10	1.375	(34.93)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2162	2262	2362
	2.7	3	5	1.312	(33.32)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2163	2263	2363
	2.7	3	10	1.312	(33.32)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2164	2264	2364
	3.3	1	5	1.375	(34.93)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2165	2265	2365
	3.3	1	10	1.375	(34.93)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2166	2266	2366
	3.3	3	5	1.312	(33.32)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2167	2267	2367
	3.3	3	10	1.312	(33.32)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2168	2268	2368
	3.9	1	5	1.625	(41.28)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2169	2269	2369
	3.9	1	10	1.625	(41.28)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2170	2270	2370
	3.9	3	5	1.562	(39.67)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2171	2271	2371
	3.9	3	10	1.562	(39.67)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2172	2272	2372
	4.7	1	5	1.750	(44.45)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2173	2273	2373
	4.7	1	10	1.750	(44.45)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2174	2274	2374
	4.7	3	5	1.688	(42.88)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2175	2275	2375
	4.7	3	10	1.688	(42.88)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2176	2276	2376
	5.6	1	5	1.875	(47.63)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2177	2277	2377
	5.6	1	10	1.875	(47.63)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2178	2278	2378
	5.6	3	5	1.812	(46.02)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2179	2279	2379
	5.6	3	10	1.812	(46.02)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2180	2280	2380
	6.8	1	5	1.625	(41.28)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2181	2281	2381
	6.8	1	10	1.625	(41.28)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2182	2282	2382
	6.8	3	5	1.562	(39.67)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2183	2283	2383
	6.8	3	10	1.562	(39.67)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2184	2284	2384
	8.2	1	5	1.875	(47.63)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2185	2285	2385
	8.2	1	10	1.875	(47.63)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2186	2286	2386
	8.2	3	5	1.812	(46.02)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2187	2287	2387
	8.2	3	10	1.812	(46.02)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2188	2288	2388
	10.0	1	5	1.875	(47.63)	0.750	(19.05)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2189	2289	2389
	10.0	1	10	1.875	(47.63)	0.750	(19.05)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2190	2290	2390
	10.0	3	5	1.812	(46.02)	0.750	(19.05)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2191	2291	2391
	10.0	3	10	1.812	(46.02)	0.750	(19.05)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2192	2292	2392
	12.0	1	5	2.375	(60.33)	0.750	(19.05)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2193	2293	2393
	12.0	1	10	2.375	(60.33)	0.750	(19.05)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2194	2294	2394
	12.0	3	5	2.312	(58.72)	0.750	(19.05)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2195	2295	2395
	12.0	3	10	2.312	(58.72)	0.750	(19.05)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	2196	2296	2396
Rated voltage 200 V																		
CHR12A1NC104--	0.10	1	5	0.844	0.844	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1121	1241	1361
CHR12A1NC104--	0.10	1	10	0.844	0.844	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1122	1242	1362
CHR12A3NC104--	0.10	3	5	0.781	0.781	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1123	1243	1363

* Complete type designation will include additional symbols for capacitance tolerance and failure rate level.

** FRL L for revision C only.

Type 118P / 218P

MIL-PRF-39022/8

CHR12

ELECTRICAL CHARACTERISTICS, DIMENSIONS, AND DASH NUMBERS

Type designation in MIL-C-39022/1B *	Nominal capacitance (µF)	Capacitance Tolerance (%)	Circuit diagram	Dimensions**												Dash number in Failure rate level (%/1,000 hr)		
				A ±0.062 (±1.57mm)		B ±0.031 (±0.79mm)		J ±0.062 (±1.57mm)		G ±0.062 (±1.57mm)		H ±0.031 (±0.79mm)		F ±0.005 (±0.13mm)				
				Inches	(mm)	Inches	(mm)	Inches	(mm)	Inches	(mm)	Inches	(mm)	Inches	(mm)	M(1.0)	P(0.1)	R(0.01)
Rated voltage 200 V continued																		
CHR12A3NC104--	0.10	3	10	0.781	(19.84)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1124	1244	1364
CHR12A1NC224--	0.22	1	10	1.125	(28.58)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1125	1245	1365
CHR12A1NC224--	0.22	1	20	1.125	(28.58)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1126	1246	1366
CHR12A3NC224--	0.22	3	10	1.062	(26.97)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1127	1247	1367
CHR12A3NC224--	0.22	3	20	1.062	(26.97)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1128	1248	1368
CHR12A1NC474--	0.47	1	10	1.125	(28.58)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1129	1249	1369
CHR12A1NC474--	0.47	1	20	1.125	(28.58)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1130	1250	1370
CHR12A3NC474--	0.47	3	10	1.062	(26.97)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1131	1251	1371
CHR12A3NC474--	0.47	3	20	1.062	(26.97)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1132	1252	1372
CHR12A1NC105--	1.0	1	10	1.125	(28.58)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1133	1253	1373
CHR12A1NC105--	1.0	1	20	1.125	(28.58)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1134	1254	1374
CHR12A3NC105--	1.0	3	10	1.062	(26.97)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1135	1255	1375
CHR12A3NC105--	1.0	3	20	1.062	(26.97)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1136	1256	1376
CHR12A1NC155--	1.5	1	10	1.844	(46.84)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1137	1257	1377
CHR12A1NC155--	1.5	1	20	1.844	(46.84)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1138	1258	1378
CHR12A3NC155--	1.5	3	10	1.781	(45.24)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1139	1259	1379
CHR12A3NC155--	1.5	3	20	1.781	(45.24)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1140	1260	1380
CHR12A1NC225--	2.2	1	10	1.844	(46.84)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1141	1261	1381
CHR12A1NC225--	2.2	1	20	1.844	(46.84)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1142	1262	1382
CHR12A3NC225--	2.2	3	10	1.781	(45.24)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1143	1263	1383
CHR12A3NC225--	2.2	3	20	1.781	(45.24)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1144	1264	1384
CHR12A1NC335--	3.3	1	10	1.875	(47.63)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1145	1265	1385
CHR12A1NC335--	3.3	1	20	1.875	(47.63)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1146	1266	1386
CHR12A3NC335--	3.3	3	10	1.812	(46.02)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1147	1267	1387
CHR12A3NC335--	3.3	3	20	1.812	(46.02)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1148	1268	1388
CHR12A1NC475--	4.7	1	10	1.875	(47.63)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1149	1269	1389
CHR12A1NC475--	4.7	1	20	1.875	(47.63)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1150	1270	1390
CHR12A3NC475--	4.7	3	10	1.812	(46.02)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1151	1271	1391
CHR12A3NC475--	4.7	3	20	1.812	(46.02)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1152	1272	1392
CHR12A1NC685--	6.8	1	10	1.875	(47.63)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1153	1273	1393
CHR12A1NC685--	6.8	1	20	1.875	(47.63)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1154	1274	1394
CHR12A3NC685--	6.8	3	10	1.812	(46.02)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1155	1275	1395
CHR12A3NC685--	6.8	3	20	1.812	(46.02)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1156	1276	1396
CHR12A1NC106--	10.0	1	10	2.375	(60.33)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1157	1277	1397
CHR12A1NC106--	10.0	1	20	2.375	(60.33)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1158	1278	1398
CHR12A3NC106--	10.0	3	10	2.312	(58.72)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1159	1279	1399
CHR12A3NC106--	10.0	3	20	2.312	(58.72)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1160	1280	1400
CHR12A1NC126--	12.0	1	10	2.625	(66.68)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1161	1281	1401
CHR12A1NC126--	12.0	1	20	2.625	(66.68)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1162	1282	1402
CHR12A3NC126--	12.0	3	10	2.562	(65.07)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1163	1283	1403
CHR12A3NC126--	12.0	3	20	2.562	(65.07)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1164	1284	1404
Rated voltage 400 V																		
CHR12A1NE473--	0.047	1	10	1.125	(28.58)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1165	1285	1405
CHR12A1NE473--	0.047	1	20	1.125	(28.58)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1166	1286	1406
CHR12A3NE473--	0.047	3	10	1.062	(26.97)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1167	1287	1407
CHR12A3NE473--	0.047	3	20	1.062	(26.97)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1168	1288	1408
CHR12A1NE104--	0.10	1	10	1.125	(28.58)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1169	1289	1409
CHR12A1NE104--	0.10	1	20	1.125	(28.58)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1170	1290	1410
CHR12A3NE104--	0.10	3	10	1.062	(26.97)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1171	1291	1411
CHR12A3NE104--	0.10	3	20	1.062	(26.97)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1172	1292	1412
Rated voltage 400 V continued																		
CHR12A1NE224--	0.22	1	10	1.125	(28.58)	0.562	(14,27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1173	1293	1413
CHR12A1NE224--	0.22	1	20	1.125	(28.58)	0.562	(14,27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1174	1294	1414
CHR12A3NE224--	0.22	3	10	1.062	(26.97)	0.562	(14,27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1175	1295	1415
CHR12A3NE224--	0.22	3	20	1.062	(26.97)	0.562	(14,27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1176	1296	1416
CHR12A1NE474--	0.47	1	10	1.625	(41.28)	0.552	(14,02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1177	1297	1417
CHR12A1NE474--	0.47	1	20	1.625	(41.28)	0.562	(14,27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1178	1298	1418
CHR12A3NE474--	0.47	3	10	1.562	(39.67)	0.562	(14,27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1179	1299	1419
CHR12A3NE474--	0.47	3	20	1.562	(39.67)	0.562	(14,27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1180	1300	1420
CHR12A1NE105--	1.0	1	10	1.875	(47.63)	0.750	(19,05)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1181	1301	1421
CHR12A1NE105--	1.0	1	20	1.875	(47.63)	0.750	(19,05)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1182	1302	1422
CHR12A3NE105--	1.0	3	10	1.812	(46.02)	0.750	(19,05)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1183	1303	1423
CHR12A3NE105--	1.0	3	20	1.812	(46.02)	0.750	(19,05)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1184	1304	1424
CHR12A1NE225--	2.2	1	10	1.875	(47.63)	1.000	(25,40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1185	1305	1425
CHR12A1NE225--	2.2	1	20	1.875	(47.63)	1.000	(25,40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1186	1306	1426
CHR12A3NE225--	2.2	3	10	1.812	(46.02)	1.000	(25,40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1187	1307	1427
CHR12A3NE225--	2.2	3	20	1.812	(46.02)	1.000	(25,40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1188	1308	1428
CHR12A1NE335--	3.3	1	10	2.625	(66.68)	1.000	(25,40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1189	1309	1429
CHR12A1NE335--	3.3	1	20	2.625	(66.68)	1.000	(25,40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1190	1310	1430
CHR12A3NE335--	3.3	3	10	2.562	(65.07)	1.000	(25,40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1191	1311	1431
CHR12A3NE335--	3.3	3	20	2,562	(65.07)	1.000	(25,40)	0,438	(11.13)	0,500	(12.70)	0,250	(6.35)	0,156	(3.96)	1192	1312	1432

* Complete type designation will include additional symbols for capacitance tolerance and failure rate level.

** FRL L for revision C only.

CHR12

MIL-PRF-39022/8

Type 118P/218P

ELECTRICAL CHARACTERISTICS, DIMENSIONS, AND DASH NUMBERS

Type designation in MIL-C-39022/1B *	Nominal capacitance (µF)	Capacitance Tolerance (%)	Circuit diagram	Dimensions**												Dash number in Failure rate level (%/1,000 hr)		
				A ±0.062 (±1.57mm)		B ±0.031 (±0.79mm)		J ±0.062 (±1.57mm)		G ±0.062 (±1.57mm)		H ±0.031 (±0.79mm)		F ±0.005 (±0.13mm)				
				Inches	(mm)	Inches	(mm)	Inches	(mm)	Inches	(mm)	Inches	(mm)	Inches	(mm)	M(1.0)	P(0.1)	R(0.01)
Rated voltage 600 V																		
CHR12A1NF103--	0.01	1	10	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1193	1313	1433
CHR12A1NF103--	0.01	1	20	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1194	1314	1434
CHR12A3NF103--	0.01	3	10	0.750	(19.05)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1195	1315	1435
CHR12A3NF103--	0.01	3	20	0.750	(19.05)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1196	1316	1436
CHR12A1NF223--	0.022	1	10	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1197	1317	1437
CHR12A1NF223--	0.022	1	20	0.812	(20.62)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1198	1318	1438
CHR12A3NF223--	0.022	3	10	0.750	(19.05)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1199	1319	1439
CHR12A3NF223--	0.022	3	20	0.750	(19.05)	0.312	(7.92)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1200	1320	1440
CHR12A1NF473--	0.047	1	10	1.125	(28.58)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1201	1321	1441
CHR12A1NF473--	0.047	1	20	1.125	(28.58)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1202	1322	1442
CHR12A3NF473--	0.047	3	10	1.062	(26.97)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1203	1323	1443
CHR12A3NF473--	0.047	3	20	1.062	(26.97)	0.400	(10.16)	0.312	(7.92)	0.250	(6.35)	0.188	(4.78)	0.144	(3.66)	1204	1324	1444
CHR12A1NF104--	0.10	1	10	1.125	(28.58)	0.500	(12.70)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1205	1325	1445
CHR12A1NF104--	0.10	1	20	1.125	(28.58)	0.500	(12.70)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1206	1326	1446
CHR12A3NF104--	0.10	3	10	1.062	(26.97)	0.500	(12.70)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1207	1327	1447
CHR12A3NF104--	0.10	3	20	1.062	(26.97)	0.500	(12.70)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1208	1328	1448
	0.15	1	10	1.125	(28.58)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1229	1349	1469
	0.15	1	20	1.125	(28.58)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1230	1350	1470
	0.15	3	10	1.062	(26.97)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1231	1351	1471
	0.15	3	20	1.062	(26.97)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1232	1352	1472
CHR12A1NF224--	0.22	1	10	1.375	(34.93)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1209	1329	1449
CHR12A1NF224--	0.22	1	20	1.375	(34.93)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1210	1330	1450
CHR12A3NF224--	0.22	3	10	1.312	(33.32)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1211	1331	1451
CHR12A3NF224--	0.22	3	20	1.312	(33.32)	0.562	(14.27)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1212	1332	1452
CHR12A1NF474--	0.47	1	10	1.625	(41.28)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1213	1333	1453
CHR12A1NF474--	0.47	1	20	1.625	(41.28)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1214	1334	1454
CHR12A3NF474--	0.47	3	10	1.562	(39.67)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1215	1335	1455
CHR12A3NF474--	0.47	3	20	1.562	(39.67)	0.670	(17.02)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1216	1336	1456
CHR12A1NF105--	1.0	1	10	1.844	(46.84)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1217	1337	1457
Rated voltage 600 V continued																		
CHR12A1NF105--	1.0	1	20	1.844	(46.84)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1218	1338	1458
CHR12A3NF105--	1.0	3	10	1.781	(45.24)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1219	1339	1459
CHR12A3NF105--	1.0	3	20	1.781	(45.24)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1220	1340	1460
CHR12A1NF155--	1.5	1	10	1.875	(47.63)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1221	1341	1461
CHR12A1NF155--	1.5	1	20	1.875	(47.63)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1222	1342	1462
CHR12A3NF155--	1.5	3	10	1.812	(46.02)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1223	1343	1463
CHR12A3NF155--	1.5	3	20	1.812	(46.02)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1224	1344	1464
CHR12A1NF225--	2.2	1	10	2.625	(66.68)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1225	1345	1465
CHR12A1NF225--	2.2	1	20	2.625	(66.68)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1226	1346	1466
CHR12A3NF225--	2.2	3	10	2.562	(65.07)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1227	1347	1467
CHR12A3NF225--	2.2	3	20	2.562	(65.07)	1.000	(25.40)	0.438	(11.13)	0.500	(12.70)	0.250	(6.35)	0.156	(3.96)	1228	1348	1468

* Complete type designation will include additional symbols for capacitance tolerance and failure rate level.

** FRL L for revision C only.

Technical Informations

TERMINAL

The terminal is identified by a single letter in accordance with table below.

Symbol	Type of terminal
A	Axial wire lead
B	Solder lug (nonremovable)
C	Threaded stud and nuts
D and H	Pillar insulator for use at altitudes up to 7,500 feet (22.8 inches of mercury)
E	Pillar insulator for use at altitudes up to 50,000 feet (3.4 inches of mercury)
R	Radial wire-lead
L	Lugs

CHARACTERISTIC

The characteristic is identified by a single letter in accordance with table below.

Characteristic	Values of characteristics								
	E	F	G	K [2]	M	P	Q [4]	T	V
High ambient test temperature ±3°C [1]	+85°C	+85°C	+85°C	+125°C	+85°C	+65°C	+125°C	+170°C	+125°C
Low ambient test temperature +0°C, −5°C	−65°C	−55°C	−55°C	−65°C	−65°C	−65°C	−55°C	−65°C	−55°C

Life-test dc voltage, percent of the dc voltage rating: Watt-second group:									
I (0.5 watt-second and less)	140	140	140	140	140	140	150	140	150
II (0.5+ to 5 watt-seconds)	140	130	130	140 [3]	–	–	–	–	–
III (5+ to 50 watt-seconds)	140	110	110	140	–	–	–	–	–
IV (greater than 50 watt-seconds)	140	90	90	140	–	–	–	–	–
Flashpoint of impregnant of filling compound (°C)	+142°C	+135°C	+135°C	+142°C	+142°C	+142°C	+142°C	+217°C	+142°C

[1] For characteristic K, voltage derating may be necessary at the high ambient test temperature.
[2] For tubular units of characteristic K rated at 1,000 volts dc, life test voltage is 1,200 volts.
[3] For tubular units of characteristic K in watt-seconds group II, use 130 percent of the dc voltage at +40°C for the life-test dc voltage.
[4] Characteristic Q capacitors are no longer available

Characteristic	Construction		Operating temperature range
	Dielectric material	Electrode	
K	Polypropylene	Foil	−55°C to +105°C
L	Polypropylene	Metallized polypropylene	−55°C to +105°C
M	Polyethylene terephthalate	Foil	−55°C to +85°C
N	Polyethylene terephthalate	Metallized polyethylene terephthalate	−55°C to +85°C
Q	Polycarbonate	Foil	−55°C to +125°C [1]
R	Polycarbonate	Metallized polycarbonate	−55°C to +125°C [1]
U	Polyphenylene sulfide	Metallized polyphenylene sulfide	−55°C to +125°C [1]
V	Polyphenylene sulfide	Foil	−55°C to +125°C [1]

[1] For operation at +125°C, characteristics Q, R, U and V capacitors are voltage derated (see table below)

Symbol	DC voltage rating at +85°C [1]	Characteristics Q and V DC voltage rating at +125°C	Characteristics R and U DC voltage rating at +125°C
A	50 V	33.3 V	25 V
B	100 V	66.7 V	50 V
C	200 V	133.3 V	100 V
D	300 V	200.0 V	150 V
E	400 V	266.7 V	200 V
F	600 V	400.0 V	300 V
G	75 V	50.0 V	37.5 V
H	150 V	100.0 V	75 V
J	25 V	16.7 V	12.5 V
K	250 V	166.7 V	125 V
L	800 V	533.3 V	400 V

[1] DC voltage rating for characteristics K and L at +105°C are the same as those at +85°C.

VOLTAGE

The dc voltage rating for continuous operation at the high ambient test temperature specified in table III (except for characteristic K which is for +85°C operation), is identified by a single letter in accordance with table below.

Symbol	DC voltage rating (Volts)	Symbol	DC voltage rating (Volts)
Z	30 V	K	2,500 V
A	50 V	L	3,000 V
B	100 V	M	4,000 V
C	200 V	N	5,000 V
D	300 V	P	6,000 V
E	400 V	R	7,500 V
F	600 V	S	10,000 V
G	1,000 V	T	12,500 V
H	1,500 V	U	15,000 V
J	2,000 V		

CAPACITANCE TOLERANCE

The capacitance tolerance in percent is identified by a single letter in accordance with table below.

Symbol	Capacitance tolerance
C	±0.25%
D	±0.5%
F	±1%
G	±2%
J	±5%
K	±10%
M	±20%

CIRCUIT AND VOLTAGE CODES

Code	Circuit	Voltage (V)
A	1	50
B	3	50
C	1	100
D	3	100
E	1	200
F	3	200
G	1	400
H	3	400
J	1	600
K	3	600
L	1	300
M	3	300

Government Documents

Specifications. standards. and handbooks.
The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract (see 6.2).

FEDERAL STANDARDS

FED-STD-H28 - Screw-Thread Standards for Federal Services

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-C-18312 - Capacitors, Fixed, Metallized (Paper, Paper-Plastic, or Plastic Film) Dielectric, Direct Current (Hermetically Sealed in Metal Cases), General Specification for

MIL-PRF-83421/1 - Capacitors, Fixed, Metallized, Plastic Film Dielectric, DC and AC, Hermetically Sealed In Metal Cases, Established Reliability,

MIL-PRF-83421/2 - Capacitor, Fixed, Metallized Plastic Film, Dielectric, (DC, AC, or DC and AC), Hermetically Sealed in Metal Cases, Established Reliability,

MIL-PRF-83421/6 - Capacitor, Fixed, Metallized Plastic Film Dielectric, DC and AC, Hermetically Sealed in Metal Cases, Established Reliability,

MIL-PRF-11693/7 - Capacitors, Feed Through, Radio-Interference Reduction, DC (Hermetically Sealed in Metal Cases), Established and Non-Established Reliability,

MIL-PRF-83421/6 - Capacitors, Fixed, Metallized Plastic Film Dielectric, DC and AC, Hermetically Sealed In Metal Cases, Established Reliability.

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-202 - Test Methods Standard Electronic and Electrical Component Parts
MIL-STD-202-101 - Method 101, Salt Atmosphere (Corrosion)
MIL-STD-202-104 - Method 104, Immersion
MIL-STD-202-105 - Method 105, Barometric Pressure (Reduced)
MIL-STD-202-106 - Method 106, Moisture Resistance
MIL-STD-202-107 - Method 107, Thermal Shock
MIL-STD-202-108 - Method 108, Life (at Elevated Ambient Temperature)
MIL-STD-202-112 - Method 112, Seal
MIL-STD-202-201 - Method 201, Vibration
MIL-STD-202-204 - Method 204, Vibration, High Frequency
MIL-STD-202-208 - Method 208, Solderability
MIL-STD-202-209 - Method 209, Radiographic Inspection
MIL-STD-202-210 - Method 210, Resistance to Soldering Heat
MIL-STD-202-211 - Method 211, Terminal Strength
MIL-STD-202-213 - Method 213, Shock (Specified Pulse)
MIL-STD-202-214 - Method 214, Random Vibration
MIL-STD-202-215 - Method 215, Resistance to Solvents
MIL-STD-202-301 - Method 301, Dielectric Withstanding Voltage
MIL-STD-202-302 - Method 302, Insulation Resistance
MIL-STD-202-305 - Method 305, Capacitance
MIL-STD-220 - Method of Insertion Loss Measurement
MIL-STD-690 - Failure Rate Sampling Plans and Procedures
MIL-STD-790 - Standard Practice for Established Reliability and High Reliability Qualified Products List (QPL) Systems for Electrical, Electronic, and Fiber Optic Parts Specifications
MIL-STD-810 - Environmental Engineering Considerations and Laboratory Tests
MIL-STD-1276 - Leads for Electronic Component Parts
MIL-STD-1285 - Marking of Electrical and Electronic Parts

Government Documents

Non-Government publications.
The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents are those listed in the solicitation or contract.

ASTM INTERNATIONAL (ASTM)

ASTM D92 - Standard Test Method for Flash and Fire Points by Cleveland Open Cup Tester

SAE INTERNATIONAL (SAE)

SAE EIA-554-1 - Assessment of Average Outgoing Quality Levels in Parts Per Million (PPM)

ASSOCIATION CONNECTING ELECTRONICS INDUSTRIES (IPC)

IPC/JEDEC J-STD-002 - Solderability Tests for Component Leads, Terminations, Lugs, Terminals and Wires

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

ISO/IEC 17025 - General Requirements for the Competence of Testing and Calibration laboratories

ISO 10012 - Measurement Management Systems - Requirements for Measurement Processes and Measuring Equipment

NATIONAL CONFERENCE OF STANDARDS LABORATORIES (NCSL)

NCSL Z540.3 - Requirements for the Calibration of Measuring and Test Equipment

SAE INTERNATIONAL (SAE)

SAE EIA-554-1 - Assessment of Average Outgoing Quality Levels in Parts per Million (PPM)

SOLID STATE TECHNOLOGY ASSOCIATION (JEDEC)

JEDEC JESD557 - Statistical Process Control Systems

Order of precedence.
Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein (except for related specification sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.