

Panasonic EF Series

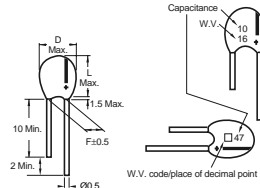
Resin Dipped Solid Tantalum Capacitors

Specifications:

- Operating Temperature Range: -55° to +105°C (4 to 6.3V, -55° to +85°C)
- Rated Working Voltage Range: 6.3 to 50 WV DC
- Rated Capacitance Range: .1 to 330 µF
- Capacitance Tolerance: As Specified
- Leakage Current: I = 0.008 CV or 0.05 µA whichever is greater: I in µA, C in µF, V in volts
- Leads are not less than 0.394" in length

Surge Voltage:

Working Voltage	Surge Voltage
3.15V, DC	4V, DC
6.3	8
10	13
16	20
25	32
35	44
50	63



PANASONIC EF CROSS REFERENCES
 Sprague: 196D; Kemet: T350/T360; Mepco: 49GS;
 NEC: DN; Nichicon: 599; Hitachi: TSD-3;
 Matsuo: 202; AVX: Tap.

Panasonic Tantalum Capacitors

Assortment of 15 Popular Values — Panasonic Quality

Digi-Key® EF-Series Capacitors Kit

F-KIT-ND ONLY

\$39.95

180 TANTALUM CAPACITORS. Price includes notebook style storage case and bin storage guide for easy storage and quick access.

Voltage Volt. DC	Cap. (µF)	Cap. Tol. (%)	Dimensions (mm)			Digi-Key Part No.	Pricing						Panasonic Part No.
			D	L	F		1	10	100	1,000	5,000	10,000	
6.3	4.7	±10	3.5	5.5	2.5	P2011-ND	.29	2.52	19.74	125.00	117.00/M	109.00/M	ECS-F0JE475K
	6.8	±10	3.5	5.5	2.5	P2012-ND	.32	2.72	21.32	135.00	126.00/M	118.00/M	ECS-F0JE685K
	10	±10	3.7	6.5	2.5	P2013-ND	.39	3.36	26.32	167.00	156.00/M	145.00/M	ECS-F0JE106K
	15	±10	4.0	7.0	2.5	P2014-ND	.42	3.60	28.16	179.00	166.00/M	156.00/M	ECS-F0JE156K
	22	±10	4.5	7.0	2.5	P2015-ND	.54	4.59	35.96	228.00	212.00/M	199.00/M	ECS-F0JE226K
	33	±10	4.7	8.0	2.5	P2016-ND	.58	5.01	39.22	249.00	232.00/M	217.00/M	ECS-F0JE336K
	47	±20	5.2	8.5	2.5	P2017-ND	.83	7.08	55.46	352.00	328.00/M	306.00/M	ECS-F0JE476
	68	±20	5.5	9.5	2.5	P2018-ND	1.09	9.31	72.91	463.00	431.00/M	403.00/M	ECS-F0JE686
	100	±20	6.0	11.0	2.5	P2019-ND	1.72	14.72	115.28	732.00	681.00/M	637.00/M	ECS-F0JE107
	150	±20	7.5	12.5	5.0	P2020-ND	3.90	33.40	261.62	1662.00	1546.00/M	1446.00/M	ECS-F0JE157
10	2.2	±10	3.3	5.5	2.5	P2022-ND	.26	2.22	17.37	110.00	103.00/M	96.00/M	ECS-F1AE225K
	3.3	±10	3.5	5.5	2.5	P2023-ND	.29	2.52	19.74	125.00	117.00/M	109.00/M	ECS-F1AE335K
	4.7	±10	3.5	5.5	2.5	P2024-ND	.32	2.72	21.32	135.00	126.00/M	118.00/M	ECS-F1AE475K
	6.8	±10	3.7	6.5	2.5	P2025-ND	.36	3.09	24.21	154.00	143.00/M	134.00/M	ECS-F1AE685K
	10	±10	4.0	7.0	2.5	P2026-ND	.49	4.20	32.90	209.00	194.00/M	182.00/M	ECS-F1AE106K
	15	±10	4.5	7.0	2.5	P2027-ND	.49	4.20	32.90	209.00	194.00/M	182.00/M	ECS-F1AE156K
	22	±10	4.7	8.0	2.5	P2028-ND	.71	6.09	47.71	303.00	282.00/M	264.00/M	ECS-F1AE226K
	33	±10	5.2	8.5	2.5	P2029-ND	.86	7.38	57.81	367.00	342.00/M	319.00/M	ECS-F1AE336K
	47	±10	5.5	9.5	2.5	P2030-ND	1.11	9.54	74.75	475.00	442.00/M	413.00/M	ECS-F1AE476K
	68	±20	6.0	11.0	2.5	P2031-ND	1.72	14.72	115.28	732.00	681.00/M	637.00/M	ECS-F1AE686
100	±20	7.5	12.5	5.0	P2032-ND	3.90	33.40	261.62	1662.00	1546.00/M	1446.00/M	ECS-F1AE107	
16	1.0	±10	3.3	5.0	2.5	P2105-ND	.28	2.42	19.04	121.00	112.00/M	105.00/M	ECS-F1CE105K
	1.5	±10	3.3	5.5	2.5	P2033-ND*	.27	2.35	18.42	117.00	109.00/M	102.00/M	ECS-F1CE155K
	2.2	±10	3.5	5.5	2.5	P2034-ND*	.32	2.73	21.39	136.00	126.00/M	118.00/M	ECS-F1CE225K
	3.3	±10	3.5	5.5	2.5	P2035-ND*	.33	2.85	22.33	142.00	132.00/M	123.00/M	ECS-F1CE335K
	4.7	±10	3.7	6.5	2.5	P2036-ND*	.39	3.30	25.85	164.00	153.00/M	143.00/M	ECS-F1CE475K
	6.8	±10	4.0	7.0	2.5	P2037-ND*	.43	3.66	28.69	182.00	170.00/M	159.00/M	ECS-F1CE685K
	10	±10	4.5	7.0	2.5	P2038-ND	.58	4.98	39.01	248.00	231.00/M	216.00/M	ECS-F1CE106K
	15	±10	4.7	8.0	2.5	P2039-ND*	.69	5.88	46.06	293.00	272.00/M	255.00/M	ECS-F1CE156K
	22	±10	5.2	8.5	2.5	P2040-ND*	.86	7.35	57.58	366.00	340.00/M	318.00/M	ECS-F1CE226K
	33	±10	5.5	9.5	2.5	P2041-ND	1.12	9.58	75.01	476.00	443.00/M	415.00/M	ECS-F1CE336K
25	47	±20	6.0	11.0	2.5	P2042-ND	1.72	14.72	115.28	732.00	681.00/M	637.00/M	ECS-F1CE476
	68	±20	7.5	12.5	5.0	P2043-ND	3.90	33.40	261.62	1662.00	1546.00/M	1446.00/M	ECS-F1CE686
	1.5	±10	3.5	5.5	2.5	P2044-ND	.29	2.52	19.74	125.00	117.00/M	109.00/M	ECS-F1EE155K
	2.2	±10	3.5	5.5	2.5	P2045-ND	.36	3.09	24.21	154.00	143.00/M	134.00/M	ECS-F1EE225K
	3.3	±10	3.7	6.5	2.5	P2046-ND	.42	3.63	28.44	181.00	168.00/M	157.00/M	ECS-F1EE335K
	4.7	±10	4.0	7.0	2.5	P2047-ND	.55	4.71	36.90	234.00	218.00/M	204.00/M	ECS-F1EE475K
	6.8	±10	4.5	7.0	2.5	P2048-ND	.59	5.07	39.74	252.00	235.00/M	220.00/M	ECS-F1EE685K
	10	±10	5.2	8.5	2.5	P2049-ND	1.06	9.09	71.21	452.00	421.00/M	394.00/M	ECS-F1EE106K
	15	±10	5.5	9.5	2.5	P2050-ND	1.12	9.61	75.28	478.00	445.00/M	416.00/M	ECS-F1EE156K
	22	±20	6.0	11.0	2.5	P2051-ND	1.74	14.88	116.56	740.00	689.00/M	644.00/M	ECS-F1EE226
35	33	±20	7.5	12.5	5.0	P2052-ND	2.36	20.26	158.71	1008.00	938.00/M	877.00/M	ECS-F1EE336
	0.1	±20	3.3	5.0	2.5	P2053-ND*	.25	2.16	16.92	107.00	100.00/M	94.00/M	ECS-F1VE104
	0.15	±20	3.3	5.0	2.5	P2054-ND*	.24	2.02	15.79	100.00	93.00/M	87.00/M	ECS-F1VE154
	0.22	±20	3.3	5.0	2.5	P2055-ND*	.24	2.02	15.79	100.00	93.00/M	87.00/M	ECS-F1VE224
	0.33	±20	3.3	5.0	2.5	P2056-ND*	.26	2.22	17.39	110.00	103.00/M	96.00/M	ECS-F1VE334
	0.47	±20	3.3	5.5	2.5	P2057-ND*	.25	2.15	16.84	107.00	100.00/M	93.00/M	ECS-F1VE474
	0.68	±20	3.3	5.5	2.5	P2058-ND*	.27	2.35	18.42	117.00	109.00/M	102.00/M	ECS-F1VE684
	1.0	±10	3.5	5.5	2.5	P2059-ND*	.32	2.73	21.39	136.00	126.00/M	118.00/M	ECS-F1VE105K
	1.5	±10	3.5	5.5	2.5	P2060-ND	.33	2.79	21.85	139.00	129.00/M	121.00/M	ECS-F1VE155K
	2.2	±10	3.7	6.5	2.5	P2061-ND	.42	3.63	28.44	181.00	168.00/M	157.00/M	ECS-F1VE225K
50	3.3	±10	4.0	7.0	2.5	P2062-ND	.50	4.27	33.43	212.00	198.00/M	185.00/M	ECS-F1VE335K
	4.7	±10	4.5	7.0	2.5	P2063-ND	.65	5.55	43.48	276.00	257.00/M	240.00/M	ECS-F1VE475K
	6.8	±10	5.2	8.5	2.5	P2064-ND	.99	8.50	66.59	423.00	394.00/M	368.00/M	ECS-F1VE685K
	10	±10	5.5	9.5	2.5	P2065-ND	1.23	10.50	82.25	522.00	486.00/M	455.00/M	ECS-F1VE106K
	15	±20	6.0	11.0	2.5	P2066-ND	1.78	15.25	119.49	759.00	706.00/M	660.00/M	ECS-F1VE156
	22	±20	7.5	12.5	5.0	P2101-ND	2.42	20.76	162.66	1033.00	961.00/M	899.00/M	ECS-F1VE226
	0.1	±20	3.3	5.0	2.5	P2067-ND	.26	2.22	17.37	110.00	103.00/M	96.00/M	ECS-F1HE104
	0.15	±20	3.3	5.0	2.5	P2068-ND	.26	2.22	17.37	110.00	103.00/M	96.00/M	ECS-F1HE154
	0.22	±20	3.3	5.5	2.5	P2069-ND	.29	2.45	19.21	122.00	114.00/M	106.00/M	ECS-F1HE224
	0.33	±20	3.5	5.5	2.5	P2070-ND	.29	2.45	19.21	122.00	114.00/M	106.00/M	ECS-F1HE334
50	0.47	±20	3.7	6.5	2.5	P2071-ND	.31	2.65	20.79	132.00	123.00/M	115.00/M	ECS-F1HE474
	0.68	±20	3.7	6.5	2.5	P2072-ND	.38	3.26	25.53	162.00	151.00/M	141.00/M	ECS-F1HE684
	1.0	±10	4.0	7.0	2.5	P2073-ND	.51	4.41	34.55	219.00	204.00/M	191.00/M	ECS-F1HE105K
	1.5	±10	4.5	7.0	2.5	P2074-ND	.79	6.79	53.17	338.00	314.00/M	294.00/M	ECS-F1HE155K
	2.2	±10	4.7	8.0	2.5	P2075-ND	.96	8.27	64.75	411.00	383.00/M	358.00/M	ECS-F1HE225K
	3.3	±10	5.2	8.5	2.5	P2076-ND	1.39	11.89	93.17	592.00	551.00/M	515.00/M	ECS-F1HE335K
	4.7	±10	5.5	9.5	2.5	P2077-ND	1.84	15.76	123.44	784.00	730.00/M	682.00/M	ECS-F1HE475K

*Included in F-KIT-ND.