Panasonic INDUSTRY

⚠ Some part numbers are discontinued.

Aluminum Electrolytic Capacitors

Radial Lead Type

ED-A series

✻Propose EE series for New design

■ Not available in Japan

Features

- Endurance : 105 ℃ 8000 h to 10000 h
- High ripple current (at high frequency)
- Including low profile products (20 mm height)
- RoHS compliant

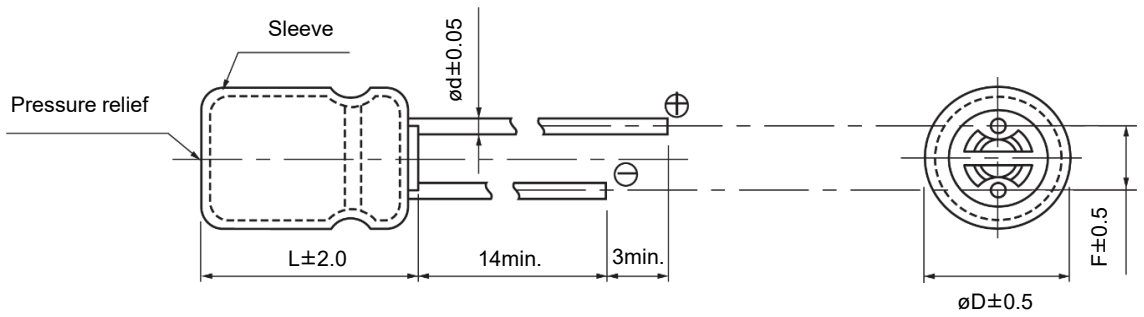
Specifications

Category temp. range	–25 ℃ to +105 ℃							
Rated voltage range	160 V to 450 V							
Capacitance range	10 μF to 330 μF							
Capacitance tolerance	±20 % (120 Hz / +20℃)							
Leakage current	I ≦ 0.06 CV +10 (μA) After 2 minutes application of rated working voltage at +20 ℃							
Dissipation factor (tan δ)	Please see the attached characteristics list							
Characteristics at low temperature	Rated voltage (V)	160	200	250	350	400	450	(Impedance ratio at 120 Hz)
	Z(–25 ℃) / Z(+20 ℃)	3	3	3	6	6	6	
Endurance	After following life test with DC voltage and +105 ℃±2 ℃ ripple current value applied (The sum of DC and ripple peak voltage shall not exceed the rated working voltage) when the capacitors are restored to 20 ℃, the capacitors shall meet the limits specified bellow. Duration ø10 : 8000 h ø12.5 to ø18 : 10000 h							
	Capacitance change	Within ±20 % of the initial value						
	Dissipation factor (tan δ)	≦ 200 % of the initial limit						
	DC leakage current	Within the initial limit						
Shelf life	After storage for 1000 h at +105 ℃±2 ℃ with no voltage applied and then being stabilized at +20 ℃, capacitors shall meet the limits specified in endurance. (With voltage treatment)							

Frequency correction factor for ripple current

Freq. (Hz) / Cap. (μF)	50	120	300	1 k	10 k	100 k to
10 to 82	0.30	0.40	0.55	0.70	0.90	1.00
100 to 330	0.35	0.45	0.60	0.75	0.90	1.00

Dimensions



Unit : mm

øD	10.0	12.5	16.0	18.0
ød	0.6	0.6	0.8	0.8
F	5.0	5.0	7.5	7.5

Characteristics list

Endurance : 105 ℃ 8000 h / ø10, 105 ℃ 10000 h / ø12.5 to ø18

Rated voltage (V)	Capacitance (±20 %) (μF)	Case size (mm)		Specification			Lead length (mm)			Part No.	Min. Packaging Q'ty (PCS)	
								Lead space				
		øD	L	Ripple current*1 (mA rms)	tan δ*2	Endu-rance (h)	Lead dia. (ød)	Straight	Taping ✻B		Straight leads	Taping
160	22	10.0	20.0	500	0.15	8000	0.6	5.0	5.0	EEUED2C220( )	200	500
	33	10.0	20.0	580	0.15	8000	0.6	5.0	5.0	EEUED2C330( )	200	500
	47	10.0	20.0	750	0.15	8000	0.6	5.0	5.0	EEUED2C470( )	200	500
	68	12.5	20.0	950	0.15	10000	0.6	5.0	5.0	EEUED2C680( )	200	500
	82	12.5	25.0	1060	0.15	10000	0.6	5.0	5.0	EEUED2C820( )	200	500
	100	12.5	25.0	1170	0.15	10000	0.6	5.0	5.0	EEUED2C101( )	200	500
		16.0	20.0	1280	0.15	10000	0.8	7.5	7.5	EEUED2C101S( )	100	250
	150	16.0	25.0	1400	0.15	10000	0.8	7.5	7.5	EEUED2C151( )	100	250
		18.0	20.0	1400	0.15	10000	0.8	7.5	7.5	EEUED2C151S( )	100	250
	220	16.0	31.5	1700	0.15	10000	0.8	7.5	—	EEUED2C221	100	—
		18.0	25.0	1500	0.15	10000	0.8	7.5	7.5	EEUED2C221S( )	100	250
EOL	330	18.0	31.5	2000	0.15	10000	0.8	7.5	—	EEUED2C331	50	—
200	22	10.0	20.0	600	0.15	8000	0.6	5.0	5.0	EEUED2D220( )	200	500
	33	10.0	20.0	650	0.15	8000	0.6	5.0	5.0	EEUED2D330( )	200	500
	47	12.5	20.0	790	0.15	10000	0.6	5.0	5.0	EEUED2D470( )	200	500
	68	12.5	25.0	950	0.15	10000	0.6	5.0	5.0	EEUED2D680( )	200	500
		16.0	20.0	1000	0.15	10000	0.8	7.5	7.5	EEUED2D680S( )	100	250
	82	16.0	20.0	1100	0.15	10000	0.8	7.5	7.5	EEUED2D820S( )	100	250
	100	16.0	25.0	1300	0.15	10000	0.8	7.5	7.5	EEUED2D101( )	100	250
		18.0	20.0	1280	0.15	10000	0.8	7.5	7.5	EEUED2D101S( )	100	250
	150	16.0	25.0	1400	0.15	10000	0.8	7.5	7.5	EEUED2D151( )	100	250
EOL	220	18.0	31.5	2000	0.15	10000	0.8	7.5	—	EEUED2D221	50	—
EOL	330	18.0	40.0	2400	0.15	10000	0.8	7.5	—	EEUED2D331	50	—
250	22	10.0	20.0	560	0.15	8000	0.6	5.0	5.0	EEUED2E220( )	200	500
	33	12.5	20.0	710	0.15	10000	0.6	5.0	5.0	EEUED2E330( )	200	500
	47	12.5	25.0	920	0.15	10000	0.6	5.0	5.0	EEUED2E470( )	200	500
		16.0	20.0	990	0.15	10000	0.8	7.5	7.5	EEUED2E470S( )	100	250
	68	16.0	20.0	1000	0.15	10000	0.8	7.5	7.5	EEUED2E680S( )	100	250
	82	16.0	25.0	1200	0.15	10000	0.8	7.5	7.5	EEUED2E820( )	100	250
		18.0	20.0	1200	0.15	10000	0.8	7.5	7.5	EEUED2E820S( )	100	250
	100	16.0	31.5	1500	0.15	10000	0.8	7.5	—	EEUED2E101	100	—
		18.0	25.0	1500	0.15	10000	0.8	7.5	7.5	EEUED2E101S( )	100	250
EOL	150	18.0	31.5	1800	0.15	10000	0.8	7.5	—	EEUED2E151	50	—
EOL	220	18.0	40.0	2100	0.15	10000	0.8	7.5	—	EEUED2E221	50	—
350	10	10.0	20.0	350	0.20	8000	0.6	5.0	5.0	EEUED2V100( )	200	500
	22	12.5	20.0	480	0.20	10000	0.6	5.0	5.0	EEUED2V220( )	200	500
	33	16.0	20.0	640	0.20	10000	0.8	7.5	7.5	EEUED2V330S( )	100	250
	47	16.0	25.0	800	0.20	10000	0.8	7.5	7.5	EEUED2V470( )	100	250
		18.0	20.0	800	0.20	10000	0.8	7.5	7.5	EEUED2V470S( )	100	250
	68	16.0	31.5	1100	0.20	10000	0.8	7.5	—	EEUED2V680	100	—
		18.0	25.0	1000	0.20	10000	0.8	7.5	7.5	EEUED2V680S( )	100	250
	82	18.0	25.0	1100	0.20	10000	0.8	7.5	7.5	EEUED2V820S( )	100	250
EOL	100	18.0	31.5	1200	0.20	10000	0.8	7.5	—	EEUED2V101	50	—

*1: Ripple current (100 kHz / +105 ℃)

*2: tan δ (120 Hz / +20 ℃)

EOL End of life

・When requesting taped product, please put the letter "B". Lead wire pitch ✻B=5 mm, 7.5 mm.

・Please refer to the page of “Taping dimensions”.

Characteristics list

Endurance : 105 ℃ 8000 h / ø10, 105 ℃ 10000 h / ø12.5 to ø18

Rated voltage (V)	Capacitance (±20 %) (μF)	Case size (mm)		Specification			Lead length (mm)			Part No.	Min. Packaging Q'ty (PCS)	
								Lead space				
		øD	L	Ripple current*1 (mA rms)	tan δ*2	Endu-rance (h)	Lead dia. (ød)	Straight	Taping ✻B		Straight leads	Taping
400	10	10.0	20.0	300	0.24	8000	0.6	5.0	5.0	EEUED2G100( )	200	500
	15	12.5	20.0	410	0.24	10000	0.6	5.0	5.0	EEUED2G150( )	200	500
	22	12.5	25.0	500	0.24	10000	0.6	5.0	5.0	EEUED2G220( )	200	500
		16.0	20.0	600	0.24	10000	0.8	7.5	7.5	EEUED2G220S( )	100	250
	33	16.0	20.0	730	0.24	10000	0.8	7.5	7.5	EEUED2G330S( )	100	250
	47	16.0	25.0	840	0.24	10000	0.8	7.5	7.5	EEUED2G470( )	100	250
		18.0	20.0	840	0.24	10000	0.8	7.5	7.5	EEUED2G470S( )	100	250
EOL	68	18.0	31.5	1200	0.24	10000	0.8	7.5	—	EEUED2G680	50	—
EOL	82	18.0	40.0	1500	0.24	10000	0.8	7.5	—	EEUED2G820	50	—
450	10	12.5	20.0	350	0.24	10000	0.6	5.0	5.0	EEUED2W100( )	200	500
	15	12.5	25.0	560	0.24	10000	0.6	5.0	5.0	EEUED2W150( )	200	500
	22	16.0	20.0	680	0.24	10000	0.8	7.5	7.5	EEUED2W220S( )	100	250
	33	16.0	31.5	850	0.24	10000	0.8	7.5	—	EEUED2W330	100	—
		18.0	25.0	850	0.24	10000	0.8	7.5	7.5	EEUED2W330S( )	100	250
EOL	47	18.0	31.5	1000	0.24	10000	0.8	7.5	—	EEUED2W470	50	—
EOL	68	18.0	40.0	1300	0.24	10000	0.8	7.5	—	EEUED2W680	50	—

*1: Ripple current (100 kHz / +105 ℃)
*2: tan δ (120 Hz / +20 ℃)
EOL End of life
・When requesting taped product, please put the letter "B". Lead wire pitch ✻B=5 mm, 7.5 mm.
・Please refer to the page of “Taping dimensions”.