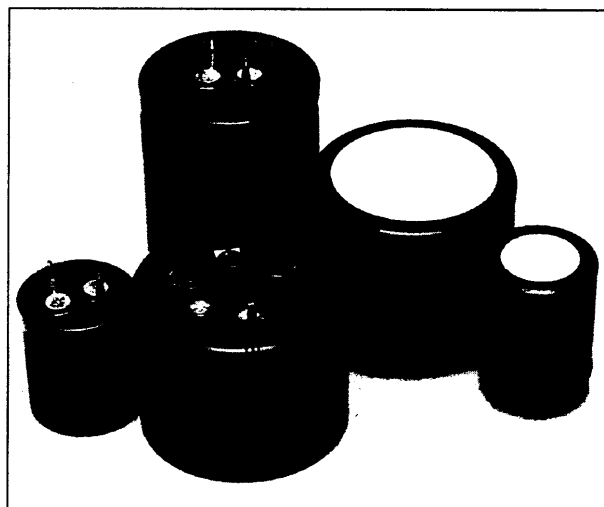


+ 85°C General Purpose Snap Mount Aluminum Capacitors

Features —

- Maximum CV
- General Purpose Design
- Wide Voltage Range
- Molded Cover Available In 2 or 3 Terminal Design with Standoffs
- Replaces Type 82D



L85-15

DC Leakage Current: 5 min. charge time.

$$I = K\sqrt{CV}$$

$$K = 4.0 @ +25^{\circ}\text{C}$$

I in μa , C in μF , V in Volts

Ripple Current Multipliers:

TEMPERATURE

Ambient Temp.	+55°C	+65°C	+75°C	+85°C
Multipliers	2.0	1.7	1.4	1.0

FREQUENCY (HZ)

Rated VDC	50-60	300-1000	Above 1000
16-49	0.85	1.10	1.15
50-199	0.83	1.15	1.20
200-500	0.80	1.30	1.40

Operating Temperature:

–40°C to +85°C.

Voltage Range: 6.3 - 500 VDC.

Capacitance Range: 33 μF - 270,000 μF .

Capacitance Tolerance: $\pm 20\%$.

Case Size Range: 22 x 25mm - 40 x 80mm.

Termination: See outline drawings.

Life Validation Test: 2000 hrs @ +85°C:

- $\Delta \text{CAP} \leq 15\%$ from initial measurement.
- $\Delta \text{ESR} \leq 1.5\text{x}$ initial specified limit.
- $\Delta \text{DCL} \leq$ initial specified limit.

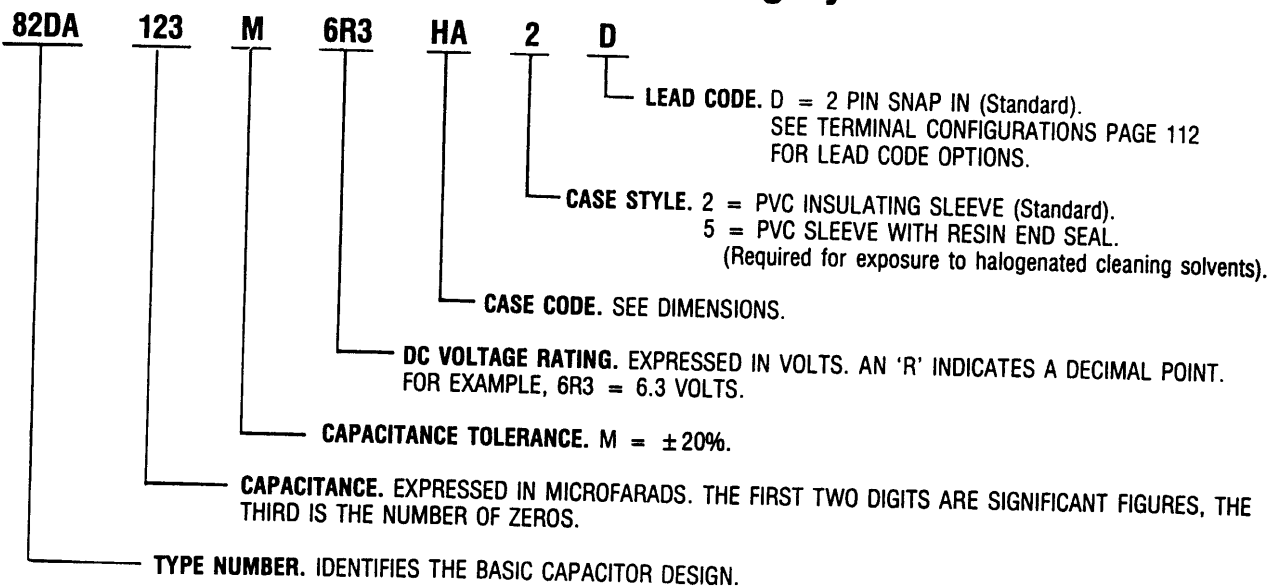
Shelf Test: 500 hrs @ +85°C:

- $\Delta \text{CAP} \leq 15\%$ from initial measurement.
- $\Delta \text{ESR} \leq 1.3\text{x}$ initial specified limit.
- $\Delta \text{DCL} \leq 2\text{x}$ initial specified limit.

Performance Characteristics —

SEE PAGE 2.

Catalog Numbering System



DIMENSIONS

CASE CODE	MILLIMETERS		INCHES		STYLE 2 TYPICAL WEIGHT GRAMS
	DIAMETER D + 1/-0	LENGTH L ± 2	DIAMETER D, + 0.04/-0	LENGTH L, ± 0.08	
HA	22	25	0.87	1.00	16
HB	22	30	0.87	1.18	19
HD	22	40	0.87	1.57	24
JA	25	25	1.00	1.00	20
JB	25	30	1.00	1.18	24
JC	25	35	1.00	1.38	27
JD	25	40	1.00	1.57	31
JE	25	50	1.00	2.00	38
KA	30	25	1.18	1.00	30
KB	30	30	1.18	1.18	35
KC	30	35	1.18	1.38	39
KD	30	40	1.18	1.57	44
KE	30	50	1.18	2.00	53
MB	35	30	1.38	1.18	48
MC	35	35	1.38	1.38	54
MD	35	40	1.38	1.57	61
ME	35	50	1.38	2.00	74
MF	35	63	1.38	2.50	91
MG	35	80	1.38	3.18	113
NA	40	25	1.58	1.00	48
NB	40	30	1.58	1.18	58
NC	40	35	1.58	1.38	66
ND	40	40	1.58	1.57	81
NE	40	50	1.58	2.00	103
NF	40	63	1.58	2.50	128
NG	40	80	1.58	3.18	183

STANDARD RATINGS

μF	Catalog Number	Nominal Case Size Millimeters		Max. ESR @ +25°C (mΩ)		Max. Ripple Current @ +85°C (A)	
		D	x L	120Hz	20k-40kHz	120Hz	20k-40kHz
6.3 VOLTS DC WORKING; 8 VOLTS SURGE							
12000	82DA123M6R3HA2D	22	x 25	87.0	68.0	2.23	2.52
18000	82DA183M6R3HB2D	22	x 30	79.0	61.0	2.47	2.84
27000	82DA273M6R3HD2D	22	x 40	52.0	40.0	3.43	3.90
18000	82DA183M6R3JA2D	25	x 25	73.0	58.0	2.62	2.97
27000	82DA273M6R3JB2D	25	x 30	65.0	50.0	2.97	3.39
33000	82DA333M6R3JC2D	25	x 35	52.0	41.0	3.52	3.94
39000	82DA393M6R3JD2D	25	x 40	42.0	33.0	4.29	4.85
56000	82DA563M6R3JE2D	25	x 50	33.0	26.0	5.09	5.62
27000	82DA273M6R3KA2D	30	x 25	66.0	54.0	3.11	3.48
39000	82DA393M6R3KB2D	30	x 30	51.0	41.0	3.76	4.20
47000	82DA473M6R3KC2D	30	x 35	41.0	33.0	4.42	4.98
68000	82DA683M6R3KD2D	30	x 40	33.0	27.0	5.22	5.77
82000	82DA823M6R3KE2D	30	x 50	27.0	21.0	6.29	7.13
56000	82DA563M6R3MB2D	35	x 30	31.0	25.0	5.37	5.97
68000	82DA683M6R3MC2D	35	x 35	26.0	20.0	6.12	6.94
82000	82DA823M6R3MD2D	35	x 40	21.0	16.3	7.24	8.17
120000	82DA124M6R3ME2D	35	x 50	17.0	13.5	8.66	9.68
150000	82DA154M6R3MF2D	35	x 63	13.3	10.6	10.80	12.20
180000	82DA184M6R3MG2D	35	x 80	11.0	9.0	12.80	14.20
56000	82DA563M6R3NA2F	40	x 25	32.0	25.5	5.52	6.18
68000	82DA683M6R3NB2F	40	x 30	24.0	19.5	6.69	7.41
100000	82DA104M6R3NC2F	40	x 35	19.6	16.0	6.94	7.69
120000	82DA124M6R3ND2F	40	x 40	15.9	13.0	8.04	8.89
180000	82DA184M6R3NE2F	40	x 50	12.7	10.5	9.78	10.76
220000	82DA224M6R3NF2F	40	x 63	10.3	8.5	11.77	12.95
270000	82DA274M6R3NG2F	40	x 80	8.4	7.0	14.32	15.67
10 VOLTS DC WORKING; 12 VOLTS SURGE							
10000	82DA103M010HA2D	22	x 25	92.0	70.0	2.17	2.49
12000	82DA123M010HB2D	22	x 30	85.0	64.0	2.40	2.77
22000	82DA223M010HD2D	22	x 40	54.0	41.0	3.38	3.91
15000	82DA153M010JA2D	25	x 25	74.0	57.0	2.62	3.01
18000	82DA183M010JB2D	25	x 30	67.0	51.0	2.94	3.38
22000	82DA223M010JC2D	25	x 35	55.0	42.0	3.42	3.94
27000	82DA273M010JD2D	25	x 40	44.4	34.0	4.15	4.74
39000	82DA393M010JE2D	25	x 50	34.6	26.0	4.97	5.79
22000	82DA223M010KA2D	30	x 25	67.0	54.0	3.10	3.47
27000	82DA273M010KB2D	30	x 30	53.0	41.0	3.70	4.20
39000	82DA393M010KC2D	30	x 35	43.0	34.0	4.34	4.87
47000	82DA473M010KD2D	30	x 40	34.7	27.0	5.10	5.77
56000	82DA563M010KE2D	30	x 50	27.7	21.0	6.29	7.13
39000	82DA393M010MB2D	35	x 30	33.0	26.0	5.21	5.85
47000	82DA473M010MC2D	35	x 35	27.0	21.0	6.05	6.87
56000	82DA563M010MD2D	35	x 40	22.0	17.0	7.00	7.96
82000	82DA823M010ME2D	35	x 50	17.1	13.4	8.62	9.73
100000	82DA104M010MF2D	35	x 63	14.1	11.0	10.50	11.90
150000	82DA154M010MG2D	35	x 80	11.1	9.0	12.80	14.10
47000	82DA473M010NA2F	40	x 25	32.2	25.7	5.50	6.15
56000	82DA563M010NB2F	40	x 30	24.5	19.6	6.61	7.40
68000	82DA683M010NC2F	40	x 35	20.0	16.1	6.87	7.66
82000	82DA823M010ND2F	40	x 40	16.3	13.1	7.94	8.86
120000	82DA124M010NE2F	40	x 50	13.0	10.5	9.67	10.76
150000	82DA154M010NF2F	40	x 63	10.5	8.5	11.65	12.95
220000	82DA224M010NG2F	40	x 80	8.5	7.0	14.22	15.67

STANDARD RATINGS

μF	Catalog Number	Nominal Case Size Millimeters		Max. ESR @ +25°C (m Ω)		Max. Ripple Current @ +85°C (A)	
		D	x L	120Hz	20k-40kHz	120Hz	20k-40kHz
16 VOLTS DC WORKING; 20 VOLTS SURGE							
6800	82DA682M016HA2D	22	x 25	96.0	71.0	2.12	2.46
10000	82DA103M016HB2D	22	x 30	86.0	63.0	2.38	2.80
15000	82DA153M016HD2D	22	x 40	57.7	42.0	3.25	3.83
10000	82DA103M016JA2D	25	x 25	77.0	58.0	2.57	2.97
12000	82DA123M016JB2D	25	x 30	71.0	53.0	2.85	3.29
15000	82DA153M016JC2D	25	x 35	58.0	43.0	3.33	3.87
22000	82DA223M016JD2D	25	x 40	44.8	33.0	4.15	4.85
27000	82DA273M016JE2D	25	x 50	35.0	26.0	4.89	5.69
15000	82DA153M016KA2D	30	x 25	67.7	54.0	3.07	3.47
22000	82DA223M016KB2D	30	x 30	53.7	41.0	3.70	4.20
27000	82DA273M016KC2D	30	x 35	43.8	33.0	4.27	4.98
33000	82DA333M016KD2D	30	x 40	35.3	27.0	5.00	5.77
39000	82DA393M016KE2D	30	x 50	28.0	21.8	6.12	6.89
27000	82DA273M016MB2D	35	x 30	35.0	26.0	5.05	5.85
33000	82DA333M016MC2D	35	x 35	28.0	21.0	5.96	6.87
47000	82DA473M016MD2D	35	x 40	23.0	17.0	7.29	8.48
56000	82DA563M016ME2D	35	x 50	17.5	13.3	8.51	9.78
82000	82DA823M016MF2D	35	x 63	14.0	11.0	10.60	11.90
100000	82DA104M016MG2D	35	x 80	11.2	9.0	12.70	14.10
27000	82DA273M016NA2F	40	x 25	33.3	25.8	5.41	6.14
39000	82DA393M016NB2F	40	x 30	25.4	19.7	6.50	7.38
47000	82DA473M016NC2F	40	x 35	20.7	16.1	6.76	7.66
56000	82DA563M016ND2F	40	x 40	16.8	13.2	7.82	8.83
82000	82DA823M016NE2F	40	x 50	13.4	10.6	9.53	10.71
100000	82DA104M016NF2F	40	x 63	10.8	8.6	11.49	12.87
150000	82DA154M016NG2F	40	x 80	8.8	7.0	13.97	15.67
25 VOLTS DC WORKING; 30 VOLTS SURGE							
4700	82DA472M025HA2D	22	x 25	97.5	74.2	2.10	2.41
6800	82DA682M025HB2D	22	x 30	73.5	56.1	2.57	2.94
10000	82DA103M025HD2D	22	x 40	47.8	36.7	3.55	4.06
6800	82DA682M025JA2D	25	x 25	83.8	60.0	2.48	2.93
8200	82DA822M025JB2D	25	x 30	63.4	47.0	3.03	3.49
12000	82DA123M025JC2D	25	x 35	51.4	38.0	3.56	4.09
15000	82DA153M025JD2D	25	x 40	41.5	31.0	4.22	4.96
18000	82DA183M025JE2D	25	x 50	32.7	24.0	5.14	5.96
10000	82DA103M025KA2D	30	x 25	71.0	54.0	3.00	3.47
12000	82DA123M025KB2D	30	x 30	54.0	41.0	3.70	4.20
18000	82DA183M025KC2D	30	x 35	44.0	33.0	4.27	4.98
22000	82DA223M025KD2D	30	x 40	36.4	27.0	5.00	5.77
27000	82DA273M025KE2D	30	x 50	28.1	22.0	6.12	6.89
18000	82DA183M025MB2D	35	x 30	31.5	24.6	5.32	6.02
22000	82DA223M025MC2D	35	x 35	25.5	20.0	6.22	7.04
27000	82DA273M025MD2D	35	x 40	20.6	16.2	7.24	8.16
39000	82DA393M025ME2D	35	x 50	16.3	12.9	8.51	9.87
47000	82DA473M025MF2D	35	x 63	13.0	10.0	10.60	12.50
68000	82DA683M025MG2D	35	x 80	10.4	8.3	12.70	14.10
22000	82DA223M025NA2F	40	x 25	41.3	34.2	4.85	5.33
27000	82DA273M025NB2F	40	x 30	31.3	25.9	5.85	6.43
33000	82DA333M025NC2F	40	x 35	25.4	21.1	6.10	6.69
47000	82DA473M025ND2F	40	x 40	20.5	17.1	7.08	7.75
56000	82DA563M025NE2F	40	x 50	16.2	13.5	9.02	9.49
68000	82DA683M025NF2F	40	x 63	12.9	10.8	10.51	11.49
100000	82DA104M025NG2F	40	x 80	10.3	8.7	12.91	14.05

STANDARD RATINGS

μF	Catalog Number	Nominal Case Size		Max. ESR		Max. Ripple Current	
		Millimeters		@ +25°C (mΩ)		@ +85°C (A)	
		D	x L	120Hz	20k-40kHz	120Hz	20k-40kHz
35 VOLTS DC WORKING; 40 VOLTS SURGE							
3300	82DA332M035HA2D	22	x 25	105.0	75.0	2.03	2.39
4700	82DA472M035HB2D	22	x 30	79.0	56.6	2.48	2.94
6800	82DA682M035HD2D	22	x 40	51.0	37.0	3.44	4.06
4700	82DA472M035JA2D	25	x 25	89.0	62.0	2.42	2.86
5600	82DA562M035JB2D	25	x 30	67.0	47.0	2.94	3.49
8200	82DA822M035JC2D	25	x 35	55.0	38.0	3.46	4.09
10000	82DA103M035JD2D	25	x 40	43.8	30.0	4.08	5.08
12000	82DA123M035JE2D	25	x 50	34.4	24.0	5.01	5.96
6800	82DA682M035KA2D	30	x 25	75.0	54.0	2.92	3.42
10000	82DA103M035KB2D	30	x 30	57.0	41.0	3.60	4.20
12000	82DA123M035KC2D	30	x 35	46.6	33.0	4.20	4.98
15000	82DA153M035KD2D	30	x 40	37.7	27.0	4.89	5.77
18000	82DA183M035KE2D	30	x 50	30.5	22.0	5.96	6.89
12000	82DA123M035MB2D	35	x 30	33.2	24.0	5.18	6.10
15000	82DA153M035MC2D	35	x 35	26.9	20.0	6.06	7.04
18000	82DA183M035MD2D	35	x 40	21.7	16.3	7.05	8.13
27000	82DA273M035ME2D	35	x 50	17.1	12.9	8.17	9.87
33000	82DA333M035MF2D	35	x 63	13.6	10.0	10.20	12.50
47000	82DA473M035MG2D	35	x 80	10.8	8.3	12.20	14.10
15000	82DA153M035NA2F	40	x 25	42.1	34.0	4.81	5.35
18000	82DA183M035NB2F	40	x 30	31.9	25.8	5.80	6.45
22000	82DA223M035NC2F	40	x 35	25.8	21.0	6.05	6.71
27000	82DA273M035ND2F	40	x 40	20.9	17.0	7.01	7.78
39000	82DA393M035NE2F	40	x 50	16.4	13.4	8.61	9.53
56000	82DA563M035NF2F	40	x 63	13.1	10.7	10.43	11.54
68000	82DA683M035NG2F	40	x 80	10.5	8.6	12.79	14.13
50 VOLTS DC WORKING; 63 VOLTS SURGE							
2200	82DA222M050HA2D	22	x 25	115.0	76.0	1.94	2.39
3300	82DA332M050HB2D	22	x 30	86.0	57.0	2.38	2.92
4700	82DA472M050HD2D	22	x 40	56.0	37.3	3.30	4.02
3300	82DA332M050JA2D	25	x 25	96.0	62.0	2.33	2.86
3900	82DA392M050JB2D	25	x 30	83.0	48.0	2.84	3.49
5600	82DA562M050JC2D	25	x 35	59.0	38.0	3.34	4.17
6800	82DA682M050JD2D	25	x 40	47.0	31.0	3.91	4.96
8200	82DA822M050JE2D	25	x 50	36.8	24.0	4.85	5.96
4700	82DA472M050KA2D	30	x 25	85.0	54.0	2.73	3.42
6800	82DA682M050KB2D	30	x 30	65.0	41.0	3.35	4.20
8200	82DA822M050KC2D	30	x 35	53.0	33.0	3.89	4.98
10000	82DA103M050KD2D	30	x 40	42.4	27.7	4.54	5.61
12000	82DA123M050KE2D	30	x 50	33.0	22.0	5.69	6.89
8200	82DA822M050MB2D	35	x 30	35.7	24.0	4.96	6.10
10000	82DA103M050MC2D	35	x 35	28.9	20.0	5.85	7.04
12000	82DA123M050MD2D	35	x 40	23.3	16.0	6.81	8.21
18000	82DA183M050ME2D	35	x 50	18.3	13.0	7.60	9.87
22000	82DA223M050MF2D	35	x 63	14.5	10.4	9.53	12.20
33000	82DA333M050MG2D	35	x 80	11.5	8.4	11.40	14.10
10000	82DA103M050NA2F	40	x 25	43.5	33.9	4.73	5.36
12000	82DA123M050NB2F	40	x 30	32.9	25.7	5.71	6.51
15000	82DA153M050NC2F	40	x 35	26.7	20.9	5.95	6.72
22000	82DA223M050ND2F	40	x 40	21.5	16.9	6.91	7.80
27000	82DA273M050NE2F	40	x 50	16.9	13.4	8.48	9.53
33000	82DA333M050NF2F	40	x 63	13.5	10.7	10.27	11.54
47000	82DA473M050NG2F	40	x 80	10.8	8.6	12.61	14.13

STANDARD RATINGS

μF	Catalog Number	Nominal Case Size Millimeters		Max. ESR @ +25°C (m Ω)		Max. Ripple Current @ +85°C (A)	
		D	x L	120Hz	20k-40kHz	120Hz	20k-40kHz
63 VOLTS DC WORKING; 79 VOLTS SURGE							
1500	82DA152M063HA2D	22	x 25	135.0	75.0	1.79	2.39
1800	82DA182M063HB2D	22	x 30	102.0	58.0	2.19	2.87
2700	82DA272M063HD2D	22	x 40	65.0	37.5	3.04	3.98
1800	82DA182M063JA2D	25	x 25	111.0	63.0	2.16	2.86
2700	82DA272M063JB2D	25	x 30	83.1	46.0	2.64	3.54
3300	82DA332M063JC2D	25	x 35	67.1	38.0	3.11	4.09
3900	82DA392M063JD2D	25	x 40	53.8	30.0	3.69	5.08
5600	82DA562M063JE2D	25	x 50	42.0	24.0	4.54	5.96
2700	82DA272M063KA2D	30	x 25	90.0	54.0	2.68	3.42
3900	82DA392M063KB2D	30	x 30	68.0	41.0	3.28	4.20
4700	82DA472M063KC2D	30	x 35	55.0	33.0	3.84	4.98
6800	82DA682M063KD2D	30	x 40	44.0	27.0	4.47	5.77
8200	82DA822M063KE2D	30	x 50	34.0	22.0	5.56	6.89
5600	82DA562M063MB2D	35	x 30	41.1	24.0	4.66	6.10
6800	82DA682M063MC2D	35	x 35	33.2	20.0	5.45	7.04
8200	82DA822M063MD2D	35	x 40	26.6	16.0	6.37	8.21
12000	82DA123M063ME2D	35	x 50	20.8	13.0	7.43	9.87
15000	82DA153M063MF2D	35	x 63	16.4	10.4	9.26	12.30
18000	82DA183M063MG2D	35	x 80	12.9	8.4	11.30	14.10
5600	82DA562M063NA2F	40	x 25	46.8	33.8	4.56	5.37
8200	82DA822M063NB2F	40	x 30	35.3	25.6	5.51	6.47
10000	82DA103M063NC2F	40	x 35	28.6	20.8	5.75	6.74
12000	82DA123M063ND2F	40	x 40	23.0	16.8	6.69	7.82
18000	82DA183M063NE2F	40	x 50	18.1	13.3	8.20	9.56
22000	82DA223M063NF2F	40	x 63	14.3	10.6	9.98	11.60
27000	82DA273M063NG2F	40	x 80	11.4	8.6	12.28	14.13
100 VOLTS DC WORKING; 125 VOLTS SURGE							
560	82DA561M100HA2D	22	x 25	271.0	141.0	1.26	1.75
820	82DA821M100HB2D	22	x 30	202.0	105.0	1.55	2.15
1200	82DA122M100HD2D	22	x 40	128.0	68.0	2.17	3.00
820	82DA821M100JA2D	25	x 25	209.0	113.0	1.57	2.14
1000	82DA102M100JB2D	25	x 30	156.0	85.0	1.93	2.62
1200	82DA122M100JC2D	25	x 35	125.0	68.0	2.28	3.09
1800	82DA182M100JD2D	25	x 40	100.0	55.0	2.69	3.99
2200	82DA222M100JE2D	25	x 50	77.0	42.0	3.37	4.52
1200	82DA122M100KA2D	30	x 25	158.0	86.0	2.02	2.73
1500	82DA152M100KB2D	30	x 30	119.0	66.0	2.46	3.31
2200	82DA222M100KC2D	30	x 35	95.0	52.0	2.91	3.95
2700	82DA272M100KD2D	30	x 40	76.0	42.0	3.41	4.62
3300	82DA332M100KE2D	30	x 50	59.0	33.0	4.25	5.69
2200	82DA222M100MB2D	35	x 30	77.0	41.8	3.41	4.62
2700	82DA272M100MC2D	35	x 35	62.0	33.6	4.01	5.42
3300	82DA332M100MD2D	35	x 40	49.0	26.9	4.70	6.33
4700	82DA472M100ME2D	35	x 50	38.0	20.9	5.23	7.58
5600	82DA562M100MF2D	35	x 63	29.0	16.4	6.46	9.57
8200	82DA822M100MG2D	35	x 80	22.4	12.8	8.09	11.50
2200	82DA222M100NA2F	40	x 25	80.0	46.5	3.50	4.57
3300	82DA332M100NB2F	40	x 30	60.0	35.0	4.25	5.53
3900	82DA392M100NC2F	40	x 35	48.0	28.3	4.45	5.78
5600	82DA562M100ND2F	40	x 40	37.9	22.7	5.21	6.73
6800	82DA682M100NE2F	40	x 50	29.3	17.7	6.44	8.29
8200	82DA822M100NF2F	40	x 63	22.8	14.0	7.90	10.09
12000	82DA123M100NG2F	40	x 80	17.8	11.1	9.82	12.44

STANDARD RATINGS

μF	Catalog Number	Nominal Case Size Millimeters			Max. ESR @ +25°C (mΩ)		Max. Ripple Current @ +85°C (A)	
		D	x	L	120Hz	20k-40kHz	120Hz	20k-40kHz
160 VOLTS DC WORKING; 200 VOLTS SURGE								
270	82DA271M160HA2D	22	x	25	656.0	345.0	0.86	1.19
330	82DA331M160HB2D	22	x	30	487.0	256.0	1.06	1.46
560	82DA561M160HD2D	22	x	40	305.0	161.0	1.50	2.06
330	82DA331M160JA2D	25	x	25	475.0	255.0	1.11	1.52
470	82DA471M160JB2D	25	x	30	353.0	190.0	1.36	1.86
560	82DA561M160JC2D	25	x	35	281.0	152.0	1.62	2.20
680	82DA681M160JD2D	25	x	40	221.0	120.0	1.91	2.60
1000	82DA102M160JE2D	25	x	50	169.0	92.0	2.41	3.27
560	82DA561M160KA2D	30	x	25	341.0	192.0	1.47	1.96
680	82DA681M160KB2D	30	x	30	253.0	143.0	1.79	2.38
820	82DA821M160KC2D	30	x	35	202.0	115.0	2.12	2.82
1200	82DA122M160KD2D	30	x	40	160.0	91.0	2.50	3.32
1500	82DA152M160KE2D	30	x	50	122.0	70.0	3.13	4.14
1000	82DA102M160MB2D	35	x	30	209.0	125.0	2.20	2.85
1200	82DA122M160MC2D	35	x	35	167.0	100.0	2.59	3.35
1500	82DA152M160MD2D	35	x	40	132.0	80.0	3.05	3.93
1800	82DA182M160ME2D	35	x	50	107.0	61.0	3.65	4.72
2700	82DA272M160MF2D	35	x	63	78.0	47.0	4.64	5.99
3300	82DA332M160MG2D	35	x	80	60.0	36.5	5.72	7.31
1000	82DA102M160NA2F	40	x	25	169.0	96.0	2.55	3.40
1500	82DA152M160NB2F	40	x	30	126.0	71.0	3.11	4.14
1800	82DA182M160NC2F	40	x	35	100.0	57.0	3.27	4.34
2200	82DA222M160ND2F	40	x	40	79.0	46.0	3.84	5.08
2700	82DA272M160NE2F	40	x	50	61.0	34.6	4.78	6.31
3900	82DA392M160NF2F	40	x	63	47.0	26.7	5.91	7.78
5600	82DA562M160NG2F	40	x	80	35.2	20.6	7.44	9.72
200 VOLTS DC WORKING; 250 VOLTS SURGE								
180	82DA181M200HA2D	22	x	25	750.0	346.0	0.80	1.19
270	82DA271M200HB2D	22	x	30	556.0	255.0	0.99	1.48
390	82DA391M200HD2D	22	x	40	348.0	162.0	1.40	2.06
270	82DA271M200JA2D	25	x	25	540.0	256.0	1.04	1.51
330	82DA331M200JB2D	25	x	30	401.0	191.0	1.28	1.86
470	82DA471M200JC2D	25	x	35	319.0	151.0	1.52	2.22
560	82DA561M200JD2D	25	x	40	252.0	121.0	1.79	2.68
680	82DA681M200JE2D	25	x	50	191.0	91.0	2.26	3.28
390	82DA391M200KA2D	30	x	25	384.0	192.0	1.38	1.96
560	82DA561M200KB2D	30	x	30	286.0	136.0	1.69	2.48
680	82DA681M200KC2D	30	x	35	228.0	107.0	2.00	2.95
820	82DA821M200KD2D	30	x	40	180.0	87.0	2.36	3.41
1200	82DA122M200KE2D	30	x	50	137.0	67.0	2.96	4.23
680	82DA681M200MB2D	35	x	30	233.0	116.0	2.08	2.97
1000	82DA102M200MC2D	35	x	35	186.0	93.0	2.46	3.51
1200	82DA122M200MD2D	35	x	40	147.0	74.0	2.89	4.06
1500	82DA152M200ME2D	35	x	50	112.0	58.0	3.54	5.01
2200	82DA222M200MF2D	35	x	63	86.0	45.0	4.51	6.35
2700	82DA272M200MG2D	35	x	80	66.0	30.0	5.58	7.58
820	82DA821M200NA2F	40	x	25	191.0	96.0	2.41	3.40
1000	82DA102M200NB2F	40	x	30	142.0	72.0	2.93	4.13
1200	82DA122M200NC2F	40	x	35	113.0	57.0	3.08	4.33
1800	82DA182M200ND2F	40	x	40	89.0	46.0	3.62	5.08
2200	82DA222M200NE2F	40	x	50	68.0	34.7	4.51	6.30
2700	82DA272M200NF2F	40	x	63	52.0	26.8	5.58	7.76
3900	82DA392M200NG2F	40	x	80	40.0	20.6	7.03	9.72

STANDARD RATINGS

μ F	Catalog Number	Nominal Case Size		Max. ESR		Max. Ripple Current	
		Millimeters		@ +25°C (m Ω)		@ +85°C (A)	
		D	x L	120Hz	20k-40kHz	120Hz	20k-40kHz
250 VOLTS DC WORKING; 300 VOLTS SURGE							
120	82DA121M250HA2D	22	x 25	899.0	347.0	0.74	1.19
180	82DA181M250HB2D	22	x 30	666.0	258.0	0.91	1.52
270	82DA271M250HD2D	22	x 40	416.0	162.0	1.28	2.12
180	82DA181M250JA2D	25	x 25	644.0	256.0	0.96	1.52
270	82DA271M250JB2D	25	x 30	477.0	189.0	1.17	1.94
330	82DA331M250JC2D	25	x 35	380.0	151.0	1.39	2.31
390	82DA391M250JD2D	25	x 40	299.0	120.0	1.65	2.79
560	82DA561M250JE2D	25	x 50	227.0	92.0	2.08	3.35
270	82DA271M250KA2D	30	x 25	453.0	192.0	1.27	2.02
390	82DA391M250KB2D	30	x 30	336.0	135.0	1.55	2.58
470	82DA471M250KC2D	30	x 35	267.0	109.0	1.85	3.03
560	82DA561M250KD2D	30	x 40	211.0	87.0	2.18	3.54
820	82DA821M250KE2D	30	x 50	160.0	67.0	2.74	4.41
560	82DA561M250MB2D	35	x 30	270.0	116.0	1.93	3.07
680	82DA681M250MC2D	35	x 35	215.0	94.0	2.28	3.62
820	82DA821M250MD2D	35	x 40	170.0	74.0	2.68	4.26
1000	82DA102M250ME2D	35	x 50	129.0	58.0	3.32	5.21
1500	82DA152M250MF2D	35	x 63	99.0	40.0	4.09	6.49
1800	82DA182M250MG2D	35	x 80	75.0	35.0	4.73	8.01
560	82DA561M250NA2F	40	x 25	224.0	96.0	2.22	3.39
820	82DA821M250NB2F	40	x 30	166.0	71.0	2.70	4.14
1000	82DA102M250NC2F	40	x 35	132.0	57.0	2.85	4.33
1200	82DA122M250ND2F	40	x 40	104.0	45.0	3.35	5.09
1500	82DA152M250NE2F	40	x 50	79.0	34.0	4.18	6.37
2200	82DA222M250NF2F	40	x 63	60.0	26.9	5.19	7.75
2700	82DA272M250NG2F	40	x 80	46.0	20.7	6.51	9.70
300 VOLTS DC WORKING; 350 VOLTS SURGE							
82	82DA820M300HA2D	22	x 25	2637.0	1650.0	0.43	0.54
120	82DA121M300HB2D	22	x 30	1886.2	1180.5	0.54	0.68
220	82DA221M300HD2D	22	x 40	1134.3	710.0	0.78	0.98
120	82DA121M300JA2D	25	x 25	1889.1	1186.6	0.56	0.70
180	82DA181M300JB2D	25	x 30	1351.4	849.0	0.69	1.13
220	82DA221M300JC2D	25	x 35	1052.0	662.0	0.97	1.26
270	82DA271M300JD2D	25	x 40	813.0	512.0	1.20	1.58
390	82DA391M300JE2D	25	x 50	607.0	382.0	1.46	1.91
180	82DA181M300KA2D	30	x 25	1255.0	796.0	0.76	0.96
270	82DA271M300KB2D	30	x 30	898.0	570.0	0.95	1.20
330	82DA331M300KC2D	30	x 35	700.0	445.0	1.14	1.43
470	82DA471M300KD2D	30	x 40	542.0	344.0	1.36	1.70
560	82DA561M300KE2D	30	x 50	405.0	258.0	1.72	2.16
330	82DA331M300MB2D	35	x 30	713.0	450.0	1.19	1.50
470	82DA471M300MC2D	35	x 35	556.0	350.0	1.42	1.80
560	82DA561M300MD2D	35	x 40	430.0	270.0	1.69	2.13
820	82DA821M300ME2D	35	x 50	322.0	200.0	2.06	2.68
1000	82DA102M300MF2D	35	x 63	242.0	150.0	2.67	3.45
1500	82DA152M300MG2D	35	x 80	181.0	110.0	3.29	4.33
390	82DA391M300NA2F	40	x 25	643.0	407.0	1.31	1.64
560	82DA561M300NB2F	40	x 30	460.0	292.0	1.62	2.04
680	82DA681M300NC2F	40	x 35	358.0	228.0	1.73	2.17
820	82DA821M300ND2F	40	x 40	277.0	176.0	2.05	2.57
1200	82DA122M300NE2F	40	x 50	207.0	132.0	2.58	3.23
1500	82DA152M300NF2F	40	x 63	155.0	99.0	3.23	4.04
2200	82DA222M300NG2F	40	x 80	116.0	74.0	4.09	5.13

STANDARD RATINGS

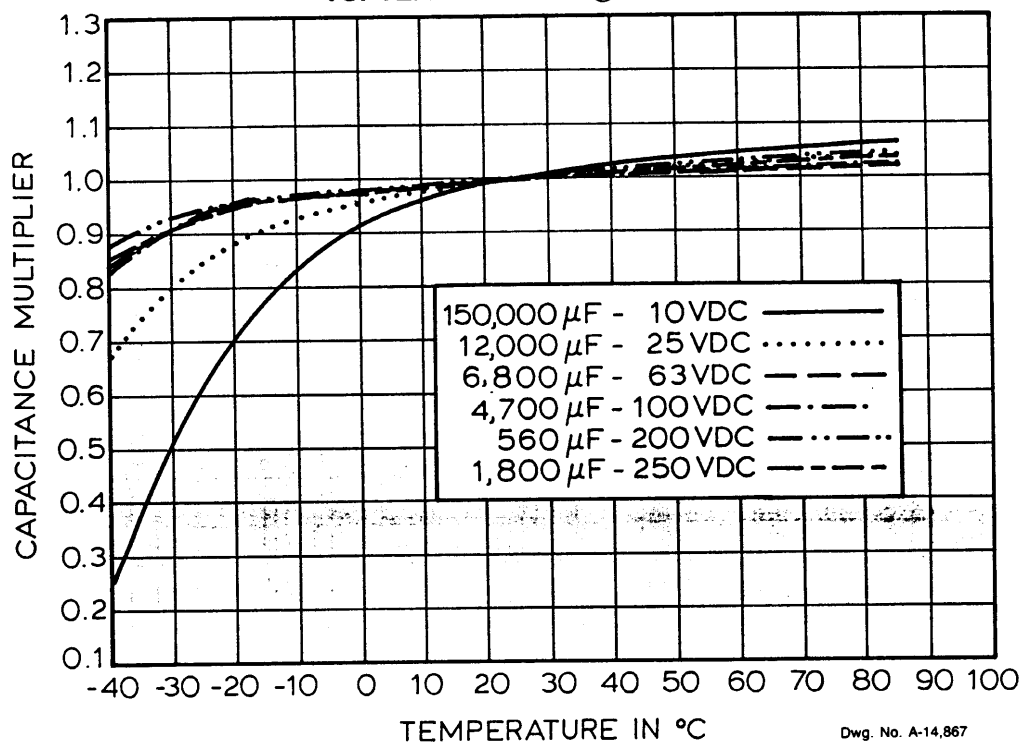
μ F	Catalog Number	Nominal Case Size Millimeters		Max. ESR @ +25°C (m Ω)		Max. Ripple Current @ +85°C (A)	
		D	x L	120Hz	20k-40kHz	120Hz	20k-40kHz
350 VOLTS DC WORKING; 400 VOLTS SURGE							
82	82DA820M350HA2D	22	x 25	2700.0	1652.0	0.42	0.54
120	82DA121M350HB2D	22	x 30	1931.0	1182.0	0.53	0.68
180	82DA181M350HD2D	22	x 40	1161.0	711.0	0.76	0.98
120	82DA121M350JA2D	25	x 25	1934.0	1188.0	0.55	0.70
150	82DA151M350JB2D	25	x 30	1383.0	850.0	0.69	0.88
220	82DA221M350JC2D	25	x 35	1077.0	663.0	0.82	1.05
270	82DA271M350JD2D	25	x 40	833.0	512.0	0.99	1.26
330	82DA331M350JE2D	25	x 50	622.0	383.0	1.25	1.60
180	82DA181M350KA2D	30	x 25	1284.0	797.0	0.75	0.96
270	82DA271M350KB2D	30	x 30	919.0	571.0	0.94	1.19
330	82DA331M350KC2D	30	x 35	716.0	445.0	1.13	1.43
390	82DA391M350KD2D	30	x 40	554.0	345.0	1.34	1.70
560	82DA561M350KE2D	30	x 50	414.0	258.0	1.70	2.157
330	82DA331M350MB2D	35	x 30	729.0	458.0	1.18	1.48
390	82DA391M350MC2D	35	x 35	568.0	358.0	1.40	1.77
560	82DA561M350MD2D	35	x 40	440.0	270.0	1.67	2.13
680	82DA681M350ME2D	35	x 50	329.0	200.0	2.00	2.68
1000	82DA102M350MF2D	35	x 63	247.0	150.0	2.57	3.45
1200	82DA122M350MG2D	35	x 80	185.0	115.0	3.20	4.23
390	82DA391M350NA2F	40	x 25	658.0	407.0	1.29	1.64
470	82DA471M350NB2F	40	x 30	471.0	292.0	1.60	2.04
680	82DA681M350NC2F	40	x 35	367.0	228.0	1.71	2.16
820	82DA821M350ND2F	40	x 40	284.0	176.0	2.02	2.57
1000	82DA102M350NE2F	40	x 50	212.0	132.0	2.55	3.23
1500	82DA152M350NF2F	40	x 63	159.0	99.0	3.19	4.04
1800	82DA182M350NG2F	40	x 80	118.0	74.0	4.06	5.13
400 VOLTS DC WORKING; 450 VOLTS SURGE							
68	82DA680M400HA2D	22	x 25	3585.0	2220.0	0.37	0.47
82	82DA820M400HB2D	22	x 30	2563.0	1588.0	0.46	0.59
150	82DA151M400HD2D	22	x 40	1541.0	955.0	0.66	0.84
100	82DA101M400JA2D	25	x 25	2561.0	1591.0	0.48	0.60
120	82DA121M400JB2D	25	x 30	1832.0	1138.0	0.60	0.76
150	82DA151M400JC2D	25	x 35	1426.0	887.0	0.72	0.91
220	82DA221M400JD2D	25	x 40	1102.0	685.0	0.86	1.09
270	82DA271M400JE2D	25	x 50	822.0	512.0	1.09	1.38
150	82DA151M400KA2D	30	x 25	1690.0	1058.0	0.66	0.83
180	82DA181M400KB2D	30	x 30	1209.0	757.0	0.82	1.03
270	82DA271M400KC2D	30	x 35	942.0	590.0	0.98	1.24
330	82DA331M400KD2D	30	x 40	728.0	457.0	1.17	1.48
390	82DA391M400KE2D	30	x 50	544.0	341.0	1.48	1.87
270	82DA271M400MB2D	35	x 30	953.0	602.0	1.03	1.29
330	82DA331M400MC2D	35	x 35	742.0	469.0	1.23	1.54
390	82DA391M400MD2D	35	x 40	574.0	360.0	1.46	1.85
560	82DA561M400ME2D	35	x 50	429.0	270.0	1.73	2.31
680	82DA681M400MF2D	35	x 63	322.0	200.0	2.26	2.99
1000	82DA102M400MG2D	35	x 80	240.0	150.0	2.82	3.71
270	82DA271M400NA2F	40	x 25	866.0	542.0	1.13	1.43
390	82DA391M400NB2F	40	x 30	619.0	388.0	1.40	1.77
470	82DA471M400NC2F	40	x 35	483.0	302.0	1.49	1.88
680	82DA681M400ND2F	40	x 40	373.0	234.0	1.77	2.23
820	82DA821M400NE2F	40	x 50	278.0	175.0	2.22	2.80
1200	82DA122M400NF2F	40	x 63	209.0	131.0	2.78	3.51
1500	82DA152M400NG2F	40	x 80	155.0	98.0	3.54	4.46

STANDARD RATINGS

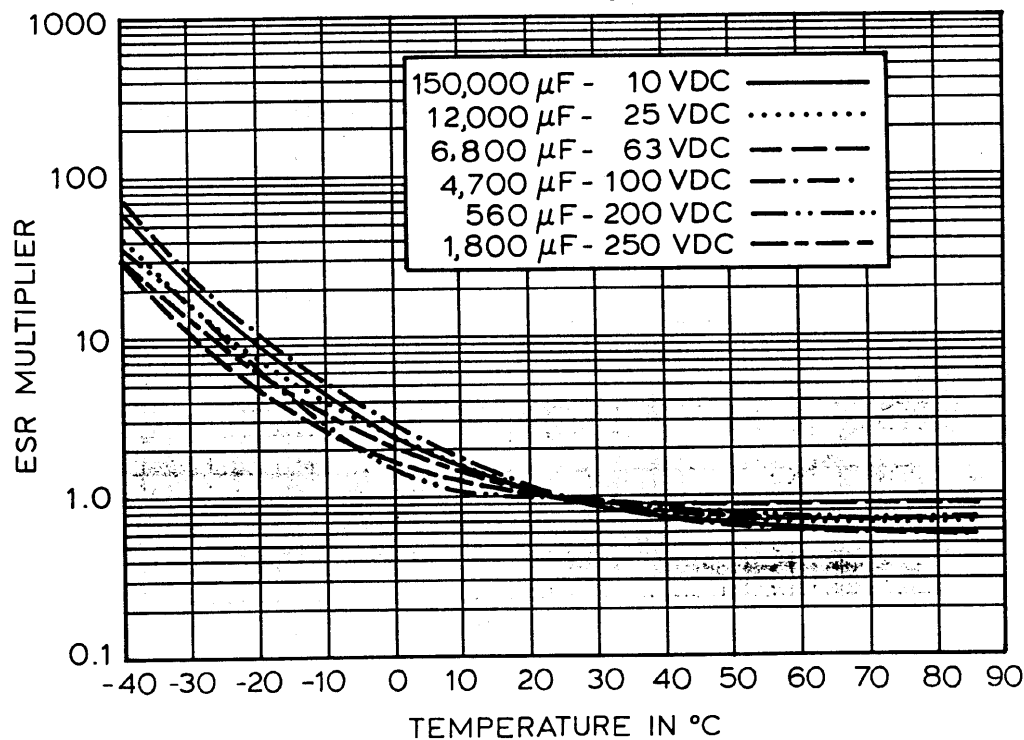
μF	Catalog Number	Nominal Case Size Millimeters		Max. ESR @ +25°C (m Ω)		Max. Ripple Current @ +85°C (A)	
		D	x L	120Hz	20k-40kHz	120Hz	20k-40kHz
450 VOLTS DC WORKING; 500 VOLTS SURGE							
56	82DA560M450HA2D	22	x 25	3812.0	2222.0	0.36	0.47
68	82DA680M450HB2D	22	x 30	2725.0	1589.0	0.45	0.59
120	82DA121M450HD2D	22	x 40	1637.0	956.0	0.64	0.84
82	82DA820M450JA2D	25	x 25	2722.0	1593.0	0.46	0.60
100	82DA101M450JB2D	25	x 30	1947.0	1139.0	0.58	0.76
120	82DA121M450JC2D	25	x 35	1516.0	887.0	0.69	0.91
180	82DA181M450JD2D	25	x 40	1171.0	686.0	0.83	1.09
220	82DA221M450JE2D	25	x 50	873.0	512.0	1.06	1.38
120	82DA121M450KA2D	30	x 25	1794.0	1059.0	0.64	0.83
150	82DA151M450KB2D	30	x 30	1284.0	758.0	0.79	1.03
220	82DA221M450KC2D	30	x 35	999.0	591.0	0.95	1.24
270	82DA271M450KD2D	30	x 40	773.0	457.0	1.13	1.48
330	82DA331M450KE2D	30	x 50	577.0	341.0	1.44	1.87
220	82DA221M450MB2D	35	x 30	1010.0	602.0	1.00	1.29
270	82DA271M450MC2D	35	x 35	787.0	460.0	1.19	1.56
330	82DA331M450MD2D	35	x 40	609.0	363.0	1.41	1.83
470	82DA471M450ME2D	35	x 50	455.0	272.0	1.68	2.29
560	82DA561M450MF2D	35	x 63	341.0	204.0	2.17	2.95
820	82DA821M450MG2D	35	x 80	254.0	150.0	2.71	3.71
220	82DA221M450NA2F	40	x 25	919.0	542.0	1.09	1.42
330	82DA331M450NB2F	40	x 30	657.0	388.0	1.36	1.77
390	82DA391M450NC2F	40	x 35	512.0	302.0	1.44	1.88
560	82DA561M450ND2F	40	x 40	396.0	234.0	1.71	2.23
680	82DA681M450NE2F	40	x 50	296.0	175.0	2.16	2.80
1000	82DA102M450NF2F	40	x 63	221.0	131.0	2.70	3.51
1200	82DA122M450NG2F	40	x 80	165.0	98.0	3.43	4.46
500 VOLTS DC WORKING; 525 VOLTS SURGE							
33	82DA330M500HA2D	22	x 25	6113.0	3535.0	0.28	0.37
47	82DA470M500HB2D	22	x 30	4369.0	2527.0	0.35	0.46
68	82DA680M500HD2D	22	x 40	2624.0	1519.0	0.51	0.67
47	82DA470M500JA2D	25	x 25	4471.0	2588.0	0.36	0.47
56	82DA560M500JB2D	25	x 30	3196.0	1851.0	0.45	0.59
82	82DA820M500JC2D	25	x 35	2488.0	1441.0	0.54	0.71
100	82DA101M500JD2D	25	x 40	1920.0	1113.0	0.65	0.85
120	82DA121M500JE2D	25	x 50	1432.0	830.0	0.82	1.08
68	82DA680M500KA2D	30	x 25	2887.0	1677.0	0.50	0.66
100	82DA101M500KB2D	30	x 30	2065.0	1200.0	0.62	0.82
120	82DA121M500KC2D	30	x 35	1607.0	935.0	0.75	0.98
150	82DA151M500KD2D	30	x 40	1241.0	722.0	0.89	1.17
220	82DA221M500KE2D	30	x 50	926.0	539.0	1.13	1.49
120	82DA121M500MB2D	35	x 30	1557.0	908.0	0.80	1.05
150	82DA151M500MC2D	35	x 35	1212.0	708.0	0.96	1.26
220	82DA221M500MD2D	35	x 40	936.0	547.0	1.14	1.49
270	82DA271M500ME2D	35	x 50	698.0	408.0	1.29	1.69
390	82DA391M500MF2D	35	x 63	523.0	306.0	1.62	2.12
470	82DA471M500MG2D	35	x 80	389.0	228.0	2.07	2.70
120	82DA121M500NA2F	40	x 25	1444.0	839.0	0.87	1.14
180	82DA181M500NB2F	40	x 30	1032.0	600.0	1.08	1.42
220	82DA221M500NC2F	40	x 35	804.0	467.0	1.15	1.51
330	82DA331M500ND2F	40	x 40	621.0	361.0	1.37	1.79
390	82DA391M500NE2F	40	x 50	463.0	269.0	1.72	2.26
560	82DA561M500NF2F	40	x 63	346.0	202.0	2.16	2.83
680	82DA681M500NG2F	40	x 80	257.0	150.0	2.75	3.60

TYPICAL CURVES

**TYPE 82DA — TYPICAL CAPACITANCE RATIO
VS. TEMPERATURE @ 120 Hz**

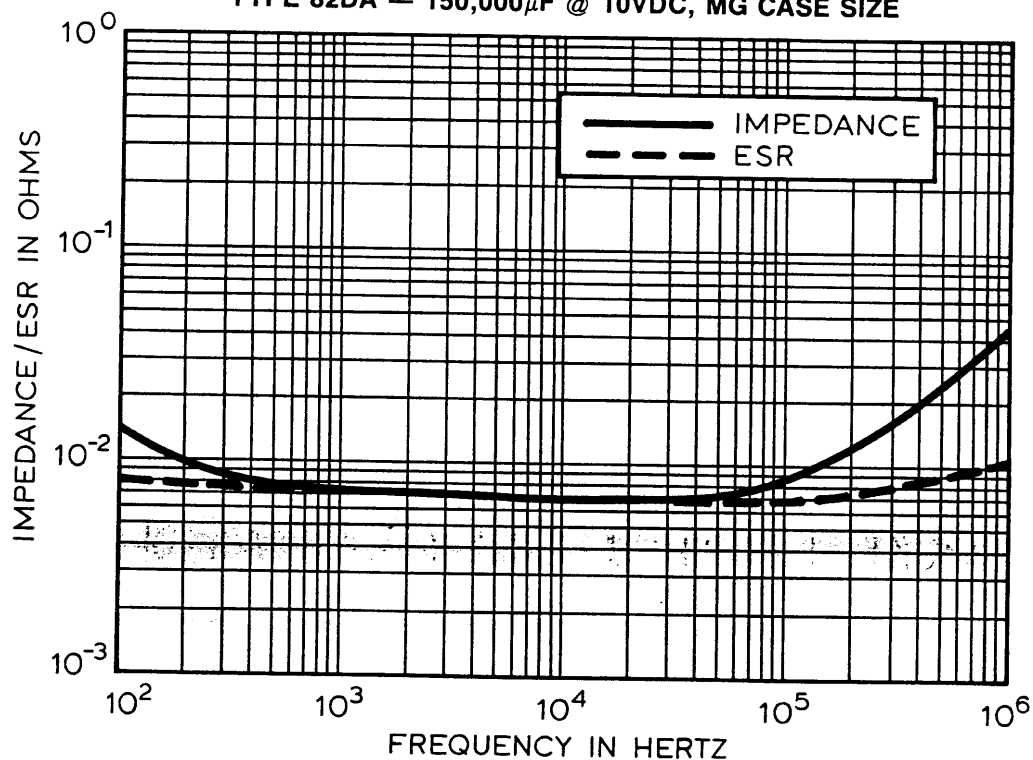


**TYPE 82DA — TYPICAL ESR MULTIPLIER
VS. TEMPERATURE @ 120 Hz**



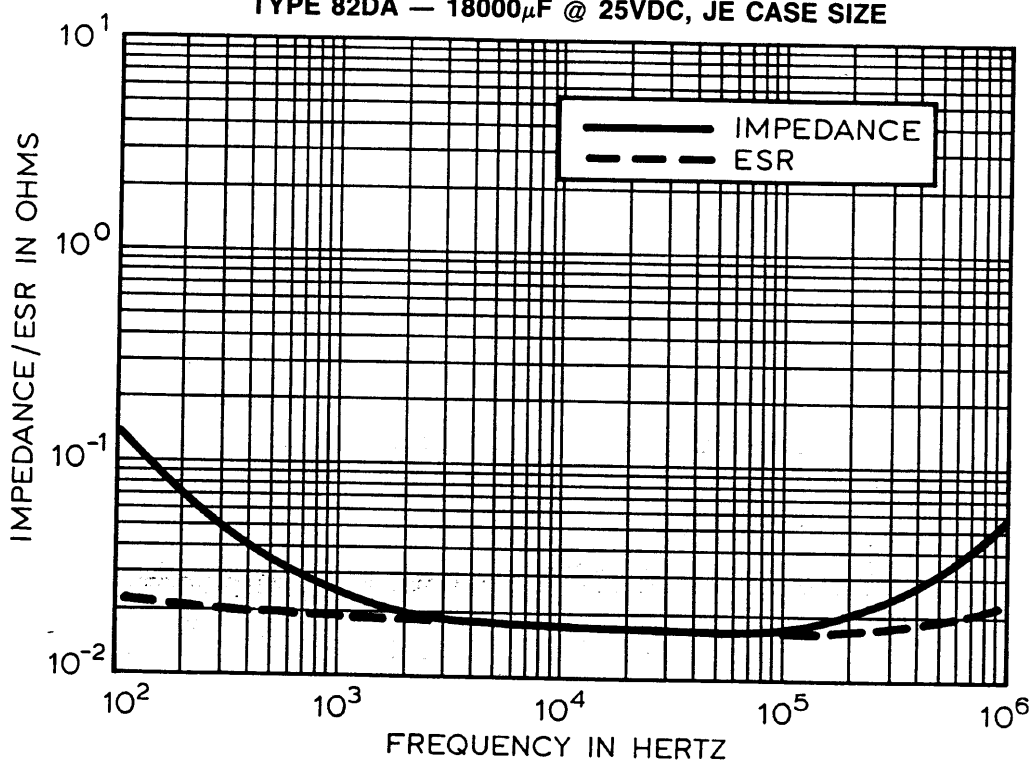
TYPICAL CURVES @ +25°C

TYPE 82DA — 150,000 μ F @ 10VDC, MG CASE SIZE



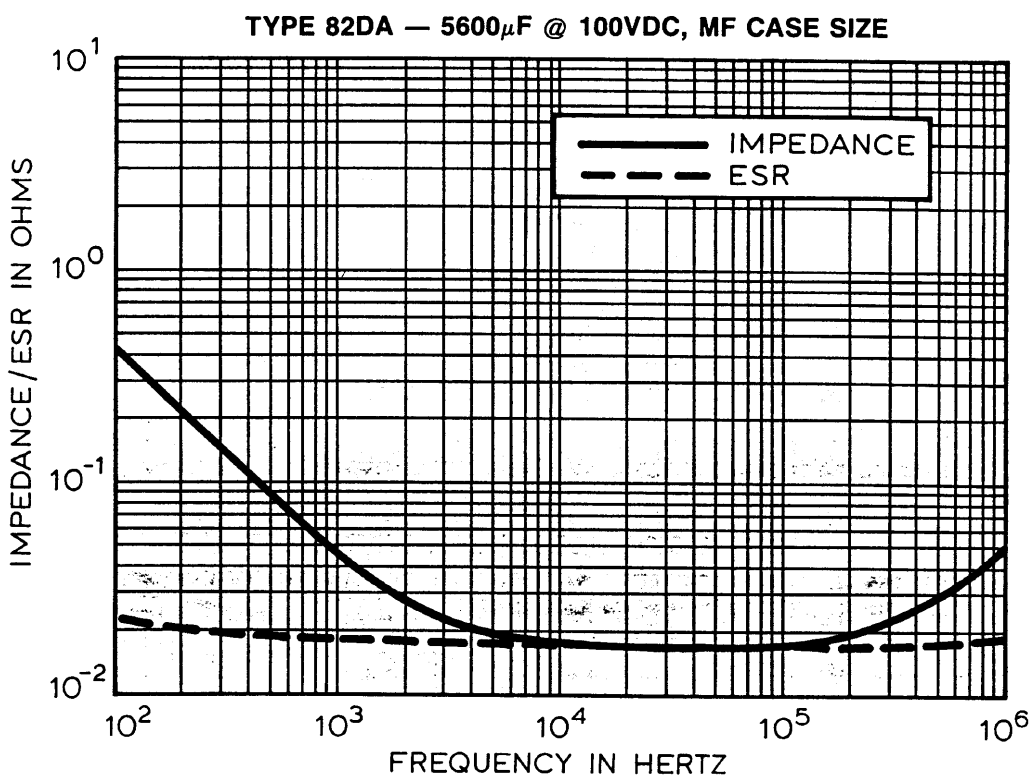
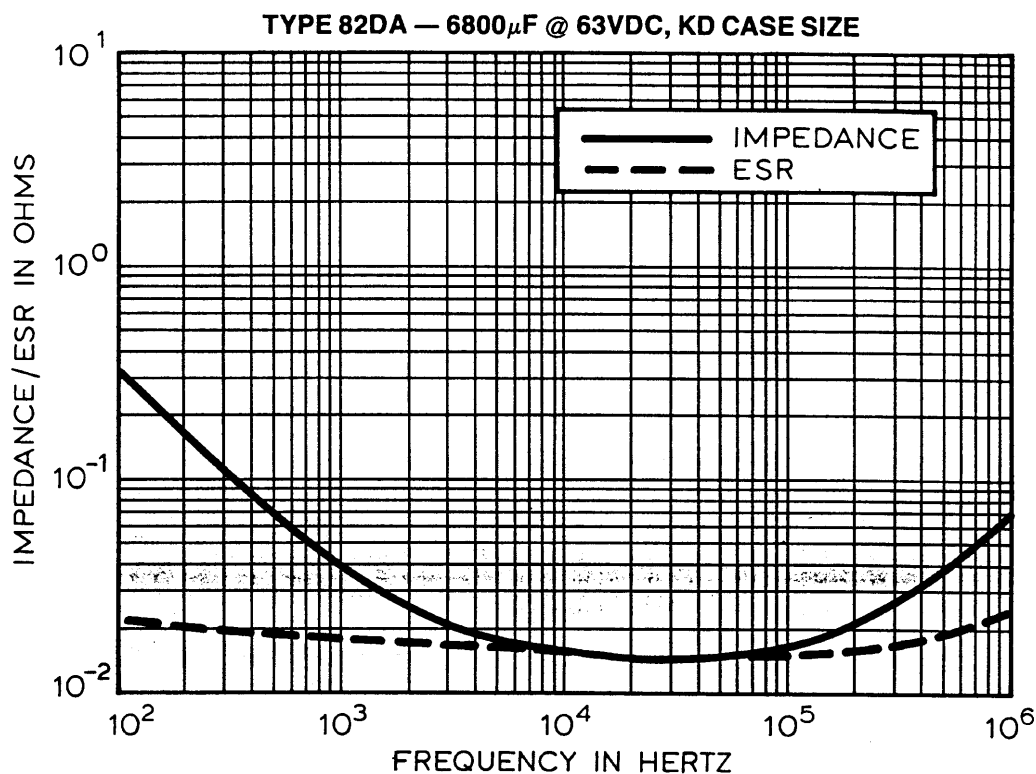
Dwg. No. A-14,869

TYPE 82DA — 18000 μ F @ 25VDC, JE CASE SIZE



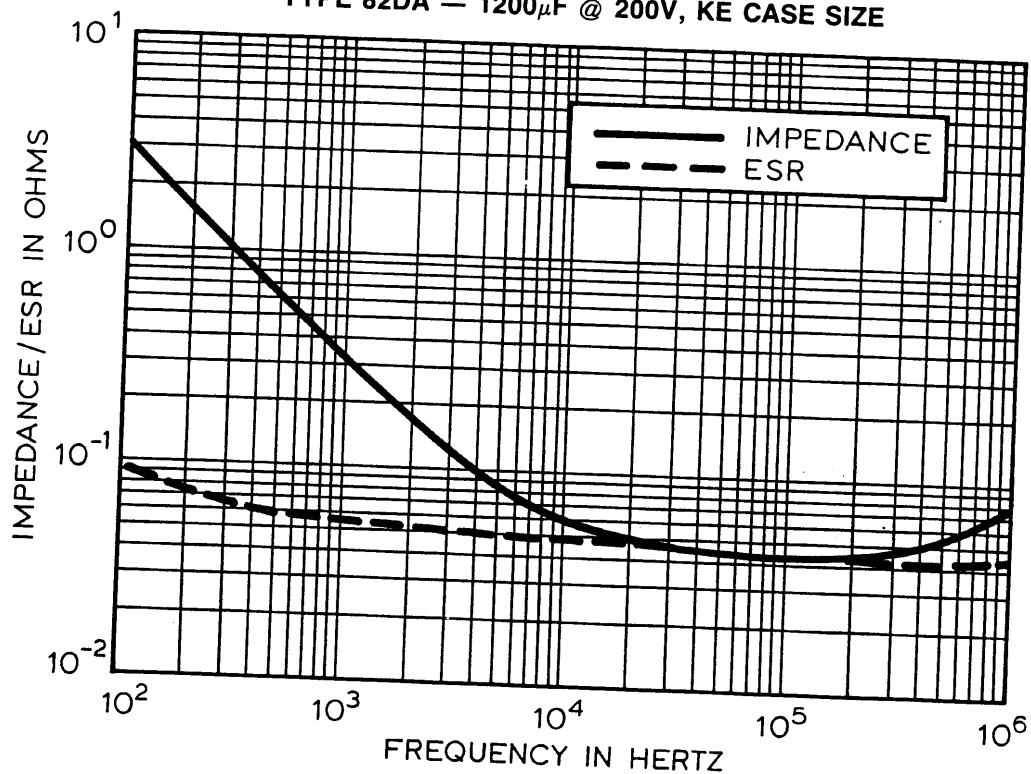
Dwg. No. A-14,870

TYPICAL CURVES @ +25°C



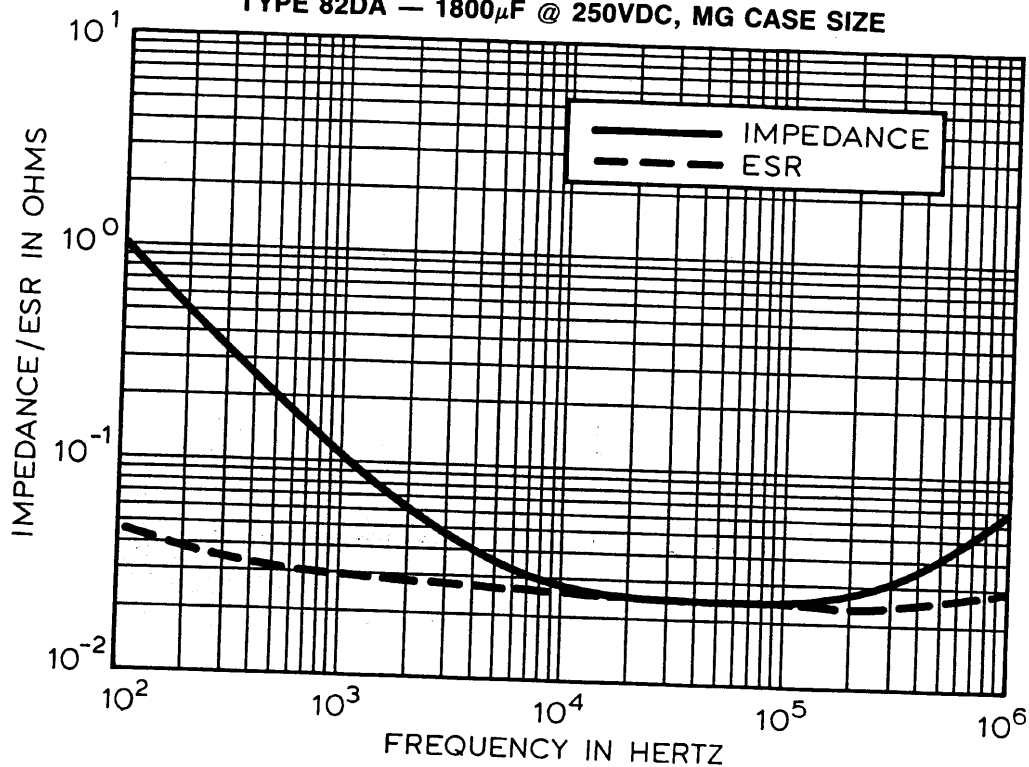
TYPICAL CURVES @ +25°C

TYPE 82DA — 1200 μ F @ 200V, KE CASE SIZE



Dwg. No. A-14,873

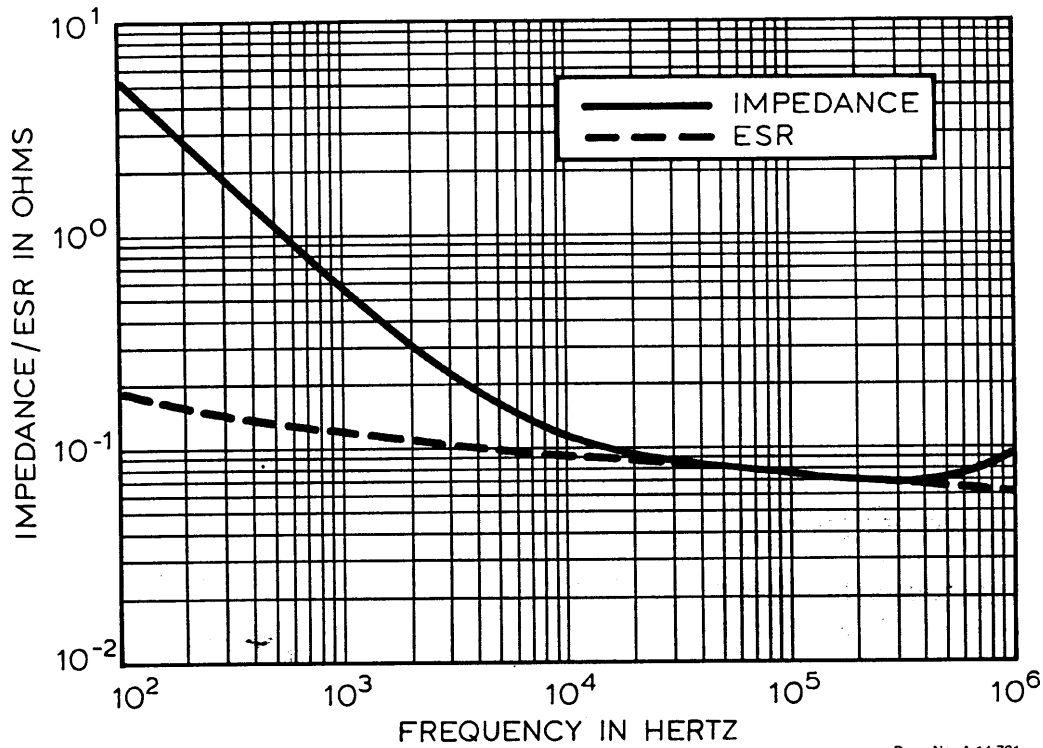
TYPE 82DA — 1800 μ F @ 250VDC, MG CASE SIZE



Dwg. No. A-14,874

TYPICAL CURVES @ +25°C

TYPE 82DA — 150 μ F @ 350VDC, JB CASE SIZE



TYPE 82DA — 470 μ F @ 450VDC, ME CASE SIZE

