

## HU Series 105°C 3000H

### Features

#### Standard capacitors

#### Applications

- Switch-mode power supplies in industrial and entertainment electronics
- Uninterruptible power supplies

#### Features

- High reliability
- Long useful life
- High ripple current capability
- Aluminum case designed explosion-proof vent
- RoHS-compatible

#### Construction

- Charge-discharge proof, polar
- Aluminum case with insulating sleeve
- Aluminum case designed explosion-proof vent
- Snap-in solder pins to hold component in place on PC-board

Specifications

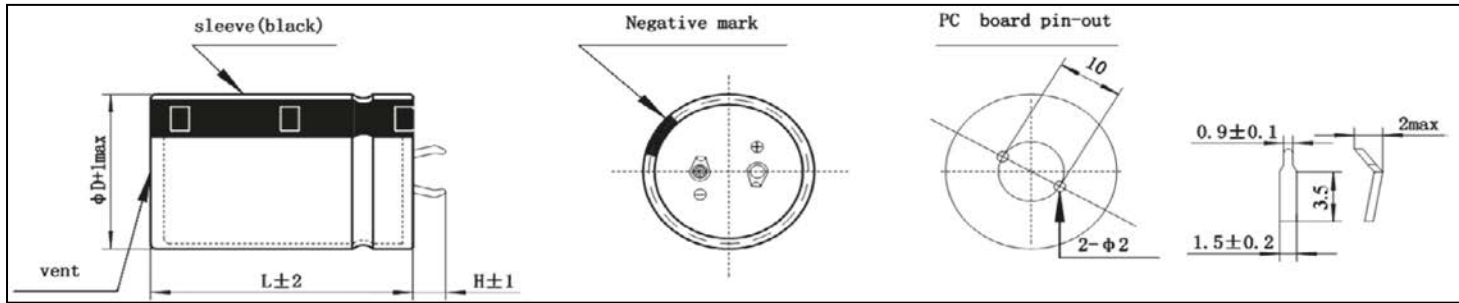
Item	Performance Characteristics												
Operating Temperature Range	-40 to +105°C	-25 to +105°C											
Rated voltage $V_R$	10 to 450 V DC	500 V DC											
Surge voltage $V_S$	VR≤315V 1.15 VR VR > 315V 1.10 VR												
Rated capacitance $C_R$	33 to 82000 μF	39 to 470μF											
Capacitance tolerance	±20%(120Hz,+20°C)												
Leakage Current $I_{leak}$ (+20°C.max.)	$I \leq 3\sqrt{CV}$ (μA)After 5minutes with rated working voltage applied												
Dissipation Factor (tanδ,at 20°C,120Hz)	Less than the value under table(%)												
	μF/Vdc	6.3	10	16	25	35	50	63	80	100	160~420	450~600	
	≤8200	-	35	35	30	25	20	20	15	15	15	20	
	10000 to 22000	55	40	40	35	30	30	25	15	-	-	-	
≥27000	60	50	40	35	35	30	25	-	-	-	-		
Self-inductance ESL	approx. 20 nH												
Useful life 105 °C; $V_R, I_{AC,R}$ 105 °C; $V_R, I_{AC,R}$	$V_R \leq 100V$ :	Requirements: $V_R \leq 100V$ DC/C ≤ ±30% of initial value ESR ≤ 3 times initial specified limit $I_{leak} \leq$ initial specified limit						$V_R > 100V$ DC/C ≤ ±20% of initial value ESR ≤ 2 times initial specified limit $I_{leak} \leq$ initial specified limit					
	$V_R > 100V$ :	>5000 h Failure rate : ≤1%/1000 hour						>8000 h Failure rate : ≤1%/1000 hour					
Voltage Endurance test 105 °C; $V_R$	3000 h	Post test requirements: $V_R \leq 100V$ DC/C ≤ ±15% of initial value ESR ≤ 1.3 times initial specified limit $I_{leak} \leq$ initial specified limit						$V_R > 100V$ DC/C ≤ ±10% of initial value ESR ≤ 1.3 times initial specified limit $I_{leak} \leq$ initial specified limit					
		1000 h						1000 h					
Shelf Life 105 °C	1000 h	Post test requirements: $V_R \leq 100V$ DC/C ≤ ±15% of initial value ESR ≤ 1.3 times initial specified limit $I_{leak} \leq$ initial specified limit						$V_R > 100V$ DC/C ≤ ±10% of initial value ESR ≤ 1.3 times initial specified limit $I_{leak} \leq$ initial specified limit					
		1000 h						1000 h					
Vibration Resistance test	To IEC 60068-2-6, test Fc:												
	Displacement amplitude 0.75 mm, frequency range 10 ... 55 Hz, acceleration max. 10 g, duration 3 ´ 2 h. Capacitor mounted by its body which is rigidly clamped to the work surface.												
Characteristics at low temperature	Max. impedance ratio at 120 Hz □												
	$V_R(V)$	6.3~16	25	35	50~100	160~250	315~450	500~600					
	$Z_{-25°C} / Z_{20°C}$	4	3	3	3	3	8	8					
	$Z_{-40°C} / Z_{20°C}$	15	10	8	6	7	10	-					
Sectional specification	IEC 60384-4 and JIS-C-5101												

Multiplier for Ripple Current vs. Frequency

$V_R(V)/$ Frequency(Hz)	50(60)	120	300	1K	10K	50K-100K
$10 \leq V_R \leq 100$	0.88	1	1.07	1.15	1.15	1.15
$160 \leq V_R \leq 250$	0.81	1	1.17	1.32	1.45	1.5
$315 \leq V_R \leq 600$	0.77	1	1.16	1.30	1.41	1.43

## Dimensional drawings

Standard 2 terminals



Standard snap-in terminals: length  $(6.0 \pm 1)$  mm

Also available with length of  $(4.0 \pm 1)$  mm

## Packing

Capacitor diameter D(mm)	Length L(mm)	Terminal length H(mm)	Each carton packing Qty units(pcs.)	Box/carton units(pcs.)	Each box packing Qty units(pcs.)
20	all	/	720	6	120
22	<55	/	600	6	100
22	$\geq 55$	/	400	4	100
25	<65	/	500	5	100
25	$\geq 65$	/	400	4	100
30	$\leq 36$	<6(L=35、36)	400	8	50
30	$35 \leq L \leq 65$	$\geq 6$ (L=35、36)	300	6	50
30	>65	/	200	4	50
35	$\leq 25$	/	400	8	50
35	$25 < L < 45$	/	300	6	50
35	$45 \leq L \leq 85$	/	200	4	50
35	>85	/	100	2	50
40	35	<6	200	5	40
40	35	$\geq 6$	160	4	40
40	$40 \leq L \leq 45$	/	160	4	40
40	$45 < L \leq 75$	/	120	3	40
40	>75	/	80	2	40
45	$40 \leq L \leq 65$	/	140	4	35
45	$65 < L \leq 105$	/	70	2	35

Packing of snap-in



[www.tocossc.com](http://www.tocossc.com)

## Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/105 °C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MAX ESR 20°C 120Hz mΩ
10	4700	22x25	0.86	76	99
10	6800	22x25	1.31	53	68
10	8200	25x20	1.6	44	57
10	10000	25x20	1.81	36	46
10	12000	22x30	2.11	34	44
10	15000	22x35	2.31	27	35
10	18000	22x40	2.4	23	29
10	22000	25x35	2.6	19	24
10	27000	35x25	3.11	19	25
10	33000	35x30	3.42	15	20
10	39000	35x30	3.7	13	17
10	47000	35x35	4.21	11	14
10	56000	35x40	5.1	9	12
10	68000	35x50	5.51	8	10
16	3300	22x25	1.3	110	140
16	4700	22x25	1.52	76	99
16	6800	22x25	1.81	53	68
16	8200	22x30	2.05	44	57
16	10000	22x30	2.15	36	46
16	10000	25x25	2.2	36	46
16	12000	22x35	2.31	34	44
16	12000	25x30	2.32	34	44
16	12000	30x25	2.4	34	44
16	15000	22x40	2.7	27	35
16	15000	25x35	2.71	27	35
16	15000	30x30	2.73	27	35
16	18000	22x45	2.98	23	29
16	18000	25x40	3.17	23	29
16	18000	30x30	3.2	23	29
16	22000	25x45	3.41	19	24
16	22000	30x35	3.42	19	24
16	22000	35x30	3.43	19	24
16	27000	25x50	3.85	15	20
16	27000	30x40	3.86	15	20
16	27000	35x30	3.87	15	20
16	33000	30x45	4.4	12	16
16	33000	35x35	4.42	12	16
16	39000	30x50	4.82	10	14
16	39000	35x40	4.83	10	14
16	47000	35x45	5.54	9	11
16	56000	35x50	5.9	7	10
16	68000	35x60	6.6	6	8
16	82000	40x60	7.66	5	7
25	2200	22x25	1.3	140	180
25	3300	22x25	1.31	92	120
25	4700	22x25	1.62	65	85
25	5600	22x30	1.8	55	71
25	6800	25x25	1.92	45	59
25	8200	22x35	2.15	37	49
25	8200	30x25	2.3	37	49
25	10000	22x40	2.5	31	40
25	10000	25x30	2.5	31	40
25	10000	30x30	2.68	31	40
25	12000	22x45	2.76	30	39
25	12000	25x40	2.81	30	39
25	12000	30x30	2.82	30	39
25	15000	25x45	3.28	24	31
25	15000	30x35	3.29	24	31
25	15000	35x30	3.3	24	31
25	18000	25x50	3.55	20	26

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/105 °C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MAX ESR 20°C 120Hz mΩ
25	18000	30x40	3.56	20	26
25	22000	30x45	4.25	16	21
25	22000	35x35	4.26	16	21
25	27000	35x45	4.76	13	17
25	33000	35x50	5.5	11	14
35	2200	25x25	1.52	120	150
35	3300	22x25	1.53	77	100
35	3900	22x30	1.7	65	85
35	4700	22x35	2.03	54	71
35	4700	25x25	2.04	54	71
35	5600	22x35	2.13	46	59
35	5600	25x30	2.14	46	59
35	5600	30x25	2.15	46	59
35	6800	22x40	2.6	38	49
35	6800	25x35	2.6	38	49
35	6800	30x25	2.55	38	49
35	8200	22x50	2.85	31	40
35	8200	25x40	2.86	31	40
35	8200	30x30	2.87	31	40
35	10000	25x45	3.07	26	33
35	10000	30x35	3.08	26	33
35	12000	25x50	3.37	26	33
35	12000	30x40	3.38	26	33
35	12000	35x30	3.4	26	33
35	15000	30x45	3.75	20	27
35	15000	35x35	3.76	20	27
35	18000	35x40	4.37	17	22
35	22000	35x50	4.95	14	18
50	1500	25x20	1.15	140	180
50	1800	22x25	1.35	120	150
50	2200	22x25	1.55	92	120
50	2700	22x30	1.75	76	98
50	2700	25x25	1.76	76	98
50	3300	22x35	1.99	62	80
50	3300	25x30	2	62	80
50	3900	22x40	2.25	52	68
50	3900	30x25	2.26	52	68
50	4700	22x45	2.56	43	56
50	4700	25x35	2.62	43	56
50	4700	30x30	2.63	43	56
50	5600	22x50	2.89	36	47
50	5600	25x40	2.9	36	47
50	5600	30x30	2.95	36	47
50	6800	25x45	3.37	30	39
50	6800	30x35	3.39	30	39
50	6800	35x30	3.4	30	39
50	8200	30x40	3.71	25	32
50	8200	35x35	3.72	25	32
50	10000	30x50	4.09	20	27
50	10000	35x40	4.1	20	27
50	12000	35x45	4.56	26	33
50	15000	35x50	4.77	20	27
63	1000	22x25	1.17	210	270
63	1200	22x25	1.25	170	220
63	1500	22x30	1.48	140	180
63	1500	25x25	1.5	140	180
63	1800	22x30	1.59	120	150
63	1800	25x25	1.6	120	150
63	2200	22x35	1.83	92	120
63	2200	25x30	1.84	92	120

## Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/105 °C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MAX ESR 20°C 120Hz mΩ
63	2700	22x40	2.05	76	98
63	2700	25x35	2.05	76	98
63	2700	30x25	2.03	76	98
63	3300	22x45	2.33	62	80
63	3300	30x30	2.4	62	80
63	3900	25x40	2.54	52	68
63	3900	30x35	2.57	52	68
63	4700	25x50	2.98	43	56
63	4700	30x40	3.02	43	56
63	4700	35x30	3.05	43	56
63	5600	30x40	3.28	36	47
63	5600	35x35	3.31	36	47
63	6800	30x50	3.73	30	39
63	6800	35x40	3.75	30	39
63	8200	35x45	4.2	25	32
63	10000	35x50	4.7	20	27
80	680	22x25	1	220	290
80	820	22x25	1.15	180	240
80	1000	22x25	1.29	150	200
80	1200	22x30	1.63	130	170
80	1200	25x25	1.65	130	170
80	1500	22x30	1.75	100	130
80	1500	25x25	1.76	100	130
80	1800	22x35	1.83	85	110
80	1800	25x30	1.86	85	110
80	1800	30x25	1.87	85	110
80	2200	22x40	2.09	70	90
80	2200	25x35	2.1	70	90
80	2200	30x25	2.11	70	90
80	2700	25x40	2.43	57	74
80	2700	30x30	2.44	57	74
80	3300	25x45	2.76	46	60
80	3300	30x35	2.79	46	60
80	3300	35x30	2.8	46	60
80	3900	25x50	3.09	39	51
80	3900	30x40	3.12	39	51
80	3900	35x30	3.13	39	51
80	4700	30x45	3.52	33	42
80	4700	35x35	3.53	33	42
80	5600	30x50	3.8	27	36
80	5600	35x40	3.87	27	36
80	6800	35x45	4.19	23	29
100	330	22x20	0.8	460	600
100	470	22x25	0.92	320	420
100	470	25x20	1	320	420
100	560	22x25	1.1	280	360
100	680	22x30	1.22	220	290
100	680	25x25	1.24	220	290
100	820	22x30	1.88	180	240
100	820	25x25	1.96	180	240
100	1000	22x30	1.93	150	200
100	1000	25x25	1.92	150	200
100	1200	22x40	2.08	130	170
100	1200	25x30	2.08	130	170
100	1200	30x25	2.08	130	170
100	1500	22x45	2.15	100	130
100	1500	25x35	2.15	100	130
100	1500	30x30	2.15	100	130
100	1500	35x25	2.15	100	130
100	1800	25x40	2.37	85	110

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/105 °C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MAX ESR 20°C 120Hz mΩ
100	1800	30x35	2.37	85	110
100	2200	25x50	2.65	70	90
100	2200	30x35	2.61	70	90
100	2200	35x30	2.75	70	90
100	2700	25x50	2.76	57	74
100	2700	30x45	2.96	57	74
100	2700	35x35	2.96	57	74
100	3300	30x50	3.34	46	60
100	3300	35x40	3.34	46	60
100	3900	35x45	3.69	39	51
100	4700	35x50	4.15	33	42
160	220	20x25	0.81	470	900
160	220	22x20	0.78	470	900
160	270	22x25	1.01	390	740
160	270	25x20	1.01	390	740
160	330	22x25	1.17	320	600
160	330	25x20	1.17	320	600
160	390	22x30	1.43	270	510
160	390	25x25	1.43	270	510
160	470	22x30	1.52	220	420
160	470	25x25	1.52	220	420
160	470	30x20	1.53	220	420
160	680	22x40	1.53	150	290
160	680	25x30	1.53	150	290
160	680	30x25	1.53	150	290
160	680	35x20	1.56	150	290
160	820	22x45	1.96	130	240
160	820	25x35	1.96	130	240
160	820	30x30	1.96	130	240
160	820	35x25	1.96	130	240
160	1000	25x40	2.23	110	200
160	1200	25x45	2.4	89	170
160	1200	30x35	2.4	89	170
160	1200	35x30	2.4	89	170
160	1500	25x50	2.6	68	130
160	1500	30x40	2.6	68	130
160	1500	35x30	2.6	68	130
160	1800	30x45	2.82	58	110
160	1800	35x35	2.82	58	110
160	2200	30x50	3.32	48	90
160	2200	35x45	3.5	48	90
160	2700	35x50	3.78	39	74
180	3300	35x55	3.86	32	60
180	220	25x20	0.9	470	900
180	270	22x25	1.02	390	740
180	270	25x20	1.03	390	740
180	330	20x30	1.2	320	600
180	330	22x25	1.2	320	600
180	330	25x20	1.22	320	600
180	390	22x30	1.32	270	510
180	390	25x25	1.35	270	510
180	390	30x20	1.35	270	510
180	470	22x35	1.53	220	420
180	470	25x30	1.54	220	420
180	470	30x25	1.55	220	420
180	560	22x40	1.67	190	360
180	560	25x30	1.67	190	360
180	560	30x25	1.67	190	360
180	560	35x20	1.67	190	360

## Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/105 °C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MAX ESR 20°C 120Hz mΩ
180	680	22x45	1.78	150	290
180	680	25x35	1.78	150	290
180	680	30x30	1.78	150	290
180	680	35x25	1.78	150	290
180	820	22x50	2.09	130	240
180	820	25x40	2.09	130	240
180	820	30x30	2.09	130	240
180	820	35x25	2.09	130	240
180	1000	22x50	2.15	110	200
180	1000	25x45	2.15	110	200
180	1000	30x35	2.15	110	200
180	1000	35x30	2.15	110	200
180	1200	22x60	2.22	89	170
180	1200	25x50	2.22	89	170
180	1200	30x40	2.22	89	170
180	1200	35x30	2.22	89	170
180	1500	25x50	2.24	68	130
180	1500	30x45	2.24	68	130
180	1500	35x35	2.24	68	130
180	1800	30x50	2.88	58	110
180	1800	35x35	2.88	58	110
180	1800	35x40	2.94	58	110
180	2200	30x55	3.12	48	90
180	2200	35x45	3.12	48	90
180	2200	35x50	3.23	48	90
180	2200	35x55	3.32	48	90
180	2700	35x50	3.81	39	74
200	150	20x20	0.74	700	1330
200	180	22x20	0.76	580	1110
200	220	20x25	1.01	470	900
200	220	22x25	1.05	470	900
200	220	25x20	1.06	470	900
200	270	20x25	1.07	390	740
200	270	22x25	1.11	390	740
200	330	20x30	1.21	320	600
200	330	22x30	1.26	320	600
200	330	25x25	1.27	320	600
200	390	20x35	1.35	270	510
200	390	22x25	1.35	270	510
200	390	22x30	1.36	270	510
200	390	25x25	1.37	270	510
200	470	20x40	1.55	220	420
200	470	22x30	1.56	220	420
200	470	22x35	1.57	220	420
200	470	25x30	1.58	220	420
200	470	30x25	1.59	220	420
200	560	20x45	1.73	190	360
200	560	22x35	1.73	190	360
200	560	22x40	1.77	190	360
200	560	25x30	1.77	190	360
200	560	30x25	1.77	190	360
200	680	22x40	2.12	150	290
200	680	22x45	2.15	150	290
200	680	25x35	2.15	150	290
200	680	30x30	2.15	150	290
200	680	35x25	2.15	150	290
200	820	22x50	2.19	130	240
200	820	25x45	2.19	130	240
200	820	30x25	2.2	130	240
200	820	30x30	2.24	130	240

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/105 °C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MAX ESR 20°C 120Hz mΩ
200	820	35x25	2.24	130	240
200	1000	25x40	2.24	110	200
200	1000	30x30	2.24	110	200
200	1000	30x35	2.5	110	200
200	1000	35x30	2.5	110	200
200	1200	25x50	2.95	89	170
200	1200	30x35	2.7	89	170
200	1200	30x40	2.95	89	170
200	1200	35x30	2.95	89	170
200	1200	35x35	3.13	89	170
200	1500	30x50	3.2	68	130
200	1500	35x40	3.2	68	130
200	1800	30x50	3.3	58	110
200	1800	35x40	3.3	58	110
200	1800	35x45	3.55	58	110
200	2200	35x45	3.85	48	90
200	2200	35x50	4	48	90
200	2700	35x55	4.3	39	74
220	150	20x20	0.71	700	1330
220	180	22x20	0.77	580	1110
220	220	20x30	1.07	470	900
220	220	22x25	1.07	470	900
220	270	20x35	1.16	390	740
220	270	22x30	1.17	390	740
220	270	25x25	1.18	390	740
220	330	20x35	1.27	320	600
220	330	22x35	1.28	320	600
220	330	25x25	1.28	320	600
220	330	30x20	1.3	320	600
220	390	20x40	1.35	270	510
220	390	22x35	1.41	270	510
220	390	25x30	1.42	270	510
220	470	20x45	1.63	220	420
220	470	22x40	1.65	220	420
220	470	25x35	1.65	220	420
220	470	30x25	1.64	220	420
220	560	22x40	1.79	190	360
220	560	22x45	1.81	190	360
220	560	25x40	1.83	190	360
220	560	30x30	1.84	190	360
220	680	25x45	2.23	150	290
220	680	30x35	2.23	150	290
220	680	35x25	2.23	150	290
220	820	25x50	2.25	130	240
220	820	30x40	2.25	130	240
220	820	35x30	2.25	130	240
220	1000	25x55	2.28	110	200
220	1000	30x45	2.28	110	200
220	1000	35x35	2.28	110	200
220	1200	30x50	2.32	89	170
220	1200	35x40	2.32	89	170
220	1500	30x55	3.13	68	130
220	1500	35x45	3.23	68	130
220	1800	35x50	3.89	58	110
220	2200	35x60	3.95	48	90
250	150	20x20	0.67	700	1330
250	150	22x25	0.76	700	1330
250	150	25x20	0.77	700	1330
250	180	22x25	0.79	580	1110
250	180	25x25	0.91	580	1110

## Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/105 °C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MAX ESR 20°C 120Hz mΩ
250	220	22x25	1.11	470	900
250	220	25x25	1.12	470	900
250	270	22x30	1.22	390	740
250	270	25x30	1.25	390	740
250	270	30x25	1.25	390	740
250	330	22x35	1.44	320	600
250	330	25x25	1.43	320	600
250	330	25x30	1.45	320	600
250	330	30x25	1.45	320	600
250	390	22x35	1.72	270	510
250	390	22x40	1.75	270	510
250	390	25x35	1.77	270	510
250	390	30x25	1.78	270	510
250	470	22x40	1.85	220	420
250	470	22x45	1.86	220	420
250	470	25x40	1.87	220	420
250	470	30x35	1.88	220	420
250	470	35x30	1.89	220	420
250	560	22x45	2.16	190	360
250	560	25x45	2.17	190	360
250	560	30x30	2.18	190	360
250	560	35x25	2.19	190	360
250	680	22x50	2.25	150	290
250	680	25x40	2.25	150	290
250	680	30x30	2.25	150	290
250	680	30x35	2.4	150	290
250	680	35x30	2.4	150	290
250	820	25x50	2.52	130	240
250	820	30x40	2.52	130	240
250	820	35x35	2.52	130	240
250	1000	30x40	2.75	110	200
250	1000	30x50	2.88	110	200
250	1000	35x40	2.88	110	200
250	1200	30x50	3.15	89	170
250	1200	30x60	3.35	89	170
250	1200	35x45	3.28	89	170
250	1500	35x45	3.76	68	130
250	1800	35x50	4.06	58	110
315	68	22x20	0.48	1540	2930
315	82	22x20	0.52	1280	2430
315	100	25x20	0.58	1050	1990
315	120	22x25	0.76	870	1660
315	120	30x20	0.77	870	1660
315	150	22x30	0.83	700	1330
315	150	25x25	0.85	700	1330
315	150	30x20	0.86	700	1330
315	180	22x30	0.93	580	1110
315	180	25x25	0.95	580	1110
315	220	22x40	1.17	470	900
315	220	25x30	1.14	470	900
315	220	30x25	1.14	470	900
315	270	22x45	1.28	390	740
315	270	25x35	1.26	390	740
315	270	30x25	1.27	390	740
315	330	22x50	1.49	320	600
315	330	25x40	1.49	320	600
315	330	30x30	1.49	320	600
315	330	35x25	1.49	320	600
315	390	25x45	1.86	270	510
315	390	30x35	1.86	270	510

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/105 °C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MAX ESR 20°C 120Hz mΩ
315	390	35x30	1.86	270	510
315	470	25x50	1.96	220	420
315	470	30x40	1.97	220	420
315	470	35x35	1.99	220	420
315	560	30x45	2.35	190	360
315	560	35x35	2.36	190	360
315	680	30x50	2.37	150	290
315	680	35x40	2.37	150	290
315	820	35x45	2.38	130	240
315	1000	35x45	2.46	110	200
350	56	22x20	0.42	1870	3550
350	68	25x20	0.52	1540	2930
350	82	25x20	0.55	1280	2430
350	100	22x30	0.71	1050	1990
350	120	25x25	0.77	870	1660
350	120	30x20	0.77	870	1660
350	150	22x30	0.87	700	1330
350	150	25x25	0.87	700	1330
350	150	30x20	0.89	700	1330
350	180	22x35	0.95	580	1110
350	180	25x30	0.96	580	1110
350	180	30x25	1.05	580	1110
350	220	22x45	1.25	470	900
350	220	25x35	1.26	470	900
350	220	35x25	1.28	470	900
350	270	22x50	1.3	390	740
350	270	25x40	1.31	390	740
350	270	30x30	1.31	390	740
350	270	35x25	1.32	390	740
350	330	25x45	1.52	320	600
350	330	30x35	1.54	320	600
350	330	35x30	1.55	320	600
350	390	25x50	1.94	270	510
350	390	30x35	1.88	270	510
350	390	35x30	1.88	270	510
350	470	25x50	2.1	220	420
350	470	30x40	2.1	220	420
350	470	35x40	2.1	220	420
350	560	30x45	2.39	190	360
350	560	35x40	2.39	190	360
350	680	30x50	2.4	150	290
350	680	35x40	2.41	150	290
350	820	35x45	2.45	130	240
385	33	22x20	0.2	3170	6030
385	39	20x20	0.35	2680	5100
385	56	22x20	0.43	1870	3550
385	68	22x25	0.52	1540	2930
385	68	25x20	0.52	1540	2930
385	82	22x25	0.64	1280	2430
385	82	25x20	0.64	1280	2430
385	100	22x25	0.69	1050	1990
385	100	22x30	0.75	1050	1990
385	100	25x25	0.75	1050	1990
385	120	22x35	0.8	870	1660
385	120	25x25	0.8	870	1660
385	120	30x20	0.8	870	1660
385	150	22x35	0.92	700	1330
385	150	25x35	0.92	700	1330
385	150	30x30	0.92	700	1330
385	180	22x35	1.22	580	1110



## Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/105 °C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MAX ESR 20°C 120Hz mΩ
385	180	22x40	1.25	580	1110
385	180	25x30	1.32	580	1110
385	180	30x30	1.34	580	1110
385	180	35x25	1.34	580	1110
385	270	30x30	1.47	390	740
385	270	35x30	1.48	390	740
385	390	25x50	1.95	270	510
385	390	30x40	1.95	270	510
385	390	35x30	1.95	270	510
385	470	30x50	2.32	220	420
385	470	35x35	2.32	220	420
385	680	30x55	2.55	150	290
385	680	35x50	2.55	150	290
385	820	35x55	2.65	130	240
400	47	22x20	0.44	2230	4230
400	56	22x20	0.45	1870	3550
400	68	22x25	0.53	1540	2930
400	68	25x20	0.53	1540	2930
400	82	22x25	0.7	1280	2430
400	82	25x20	0.7	1280	2430
400	82	25x25	0.8	1280	2430
400	100	22x25	1.03	1050	1990
400	100	22x30	1.08	1050	1990
400	100	25x25	1.08	1050	1990
400	120	22x30	1.15	870	1660
400	120	22x35	1.2	870	1660
400	120	25x25	1.2	870	1660
400	120	25x30	1.25	870	1660
400	120	30x20	1.2	870	1660
400	120	30x25	1.25	870	1660
400	150	22x35	1.25	700	1330
400	150	22x40	1.3	700	1330
400	150	25x25	1.25	700	1330
400	150	25x30	1.3	700	1330
400	150	30x20	1.25	700	1330
400	150	30x25	1.3	700	1330
400	180	22x35	1.39	580	1110
400	180	22x40	1.41	580	1110
400	180	22x45	1.45	580	1110
400	180	25x30	1.41	580	1110
400	180	25x35	1.45	580	1110
400	180	30x30	1.41	580	1110
400	180	35x25	1.41	580	1110
400	220	22x45	1.56	470	900
400	220	22x50	1.58	470	900
400	220	25x35	1.55	470	900
400	220	25x40	1.58	470	900
400	220	25x45	1.62	470	900
400	220	30x25	1.55	470	900
400	220	30x30	1.58	470	900
400	220	30x35	1.62	470	900
400	220	35x25	1.58	470	900
400	270	22x50	1.68	390	740
400	270	25x40	1.68	390	740
400	270	25x45	1.71	390	740
400	270	25x50	1.74	390	740
400	270	30x30	1.68	390	740
400	270	30x35	1.71	390	740
400	270	35x30	1.74	390	740
400	330	25x45	1.77	320	600

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/105 °C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MAX ESR 20°C 120Hz mΩ
400	330	25x50	1.82	320	600
400	330	30x35	1.8	320	600
400	330	30x40	1.92	320	600
400	330	35x30	1.92	320	600
400	330	35x35	1.98	320	600
400	390	25x45	2.04	270	510
400	390	30x40	2.15	270	510
400	390	30x45	2.25	270	510
400	390	35x30	2.15	270	510
400	390	35x35	2.25	270	510
400	390	35x40	2.35	270	510
400	470	30x45	2.46	220	420
400	470	30x50	2.49	220	420
400	470	35x30	2.15	220	420
400	470	35x35	2.46	220	420
400	470	35x40	2.5	220	420
400	560	30x50	2.79	190	360
400	560	35x40	2.79	190	360
400	560	35x45	2.82	190	360
400	560	35x50	2.88	190	360
400	680	30x55	2.86	150	290
400	680	35x40	2.86	150	290
400	680	35x50	2.9	150	290
400	820	35x55	2.9	130	240
420	820	35x60	2.95	170	320
420	1000	35x60	3	140	270
420	1200	35x70	3.12	120	220
420	47	22x20	0.45	2970	5640
420	56	22x20	0.46	2490	4740
420	68	22x25	0.54	2050	3900
420	68	25x20	0.54	2050	3900
420	82	22x25	0.81	1700	3230
420	82	25x25	0.85	1700	3230
420	100	22x25	0.95	1390	2650
420	100	22x30	1.05	1390	2650
420	100	25x25	1.05	1390	2650
420	100	30x20	1.05	1390	2650
420	120	22x30	1.07	1160	2210
420	120	22x35	1.12	1160	2210
420	120	25x25	1.12	1160	2210
420	120	25x30	1.15	1160	2210
420	120	30x25	1.15	1160	2210
420	120	35x20	1.15	1160	2210
420	150	22x35	1.22	930	1770
420	150	22x40	1.25	930	1770
420	150	25x30	1.25	930	1770
420	150	25x35	1.28	930	1770
420	150	30x25	1.28	930	1770
420	180	25x35	1.42	770	1470
420	180	30x30	1.45	770	1470
420	180	35x25	1.45	770	1470
420	220	22x45	1.44	640	1210
420	220	22x50	1.5	640	1210
420	220	25x35	1.44	640	1210
420	220	25x45	1.52	640	1210
420	220	30x30	1.48	640	1210
420	220	30x35	1.53	640	1210
420	220	35x25	1.53	640	1210
420	270	25x40	1.71	520	980
420	270	30x30	1.71	520	980

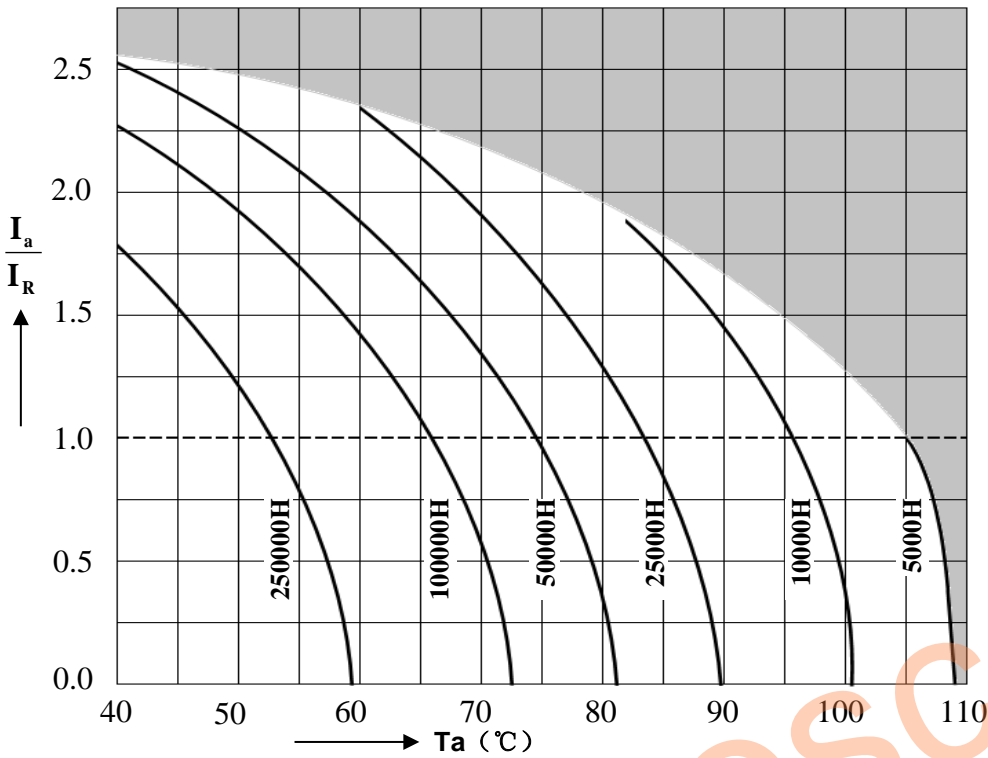
## Case Size

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/105 °C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MAX ESR 20°C 120Hz mΩ
420	270	30x35	1.75	520	980
420	270	30x40	1.82	520	980
420	270	35x25	1.75	520	980
420	270	35x30	1.82	520	980
420	330	25x50	1.92	420	800
420	330	30x35	1.9	420	800
420	330	30x40	1.92	420	800
420	330	30x45	1.93	420	800
420	330	35x30	1.93	420	800
420	330	35x35	2	420	800
420	390	30x40	2.29	360	680
420	390	30x45	2.33	360	680
420	390	30x50	2.38	360	680
420	390	35x35	2.34	360	680
420	390	35x40	2.38	360	680
420	470	30x50	2.51	290	560
420	470	30x60	2.6	290	560
420	470	35x40	2.52	290	560
420	470	35x45	2.6	290	560
420	560	35x45	2.8	250	470
420	560	35x50	2.88	250	470
420	680	35x50	2.88	210	390
420	680	35x55	2.93	210	390
420	820	30x60	2.9	170	320
420	820	35x55	2.95	170	320
420	820	35x60	3	170	320
450	56	22x25	0.67	2490	4740
450	68	22x25	0.93	2050	3900
450	68	22x30	0.98	2050	3900
450	68	25x25	0.99	2050	3900
450	82	22x25	0.95	1700	3230
450	82	22x30	1.01	1700	3230
450	82	25x25	1.01	1700	3230
450	100	22x30	1.05	1390	2650
450	100	22x35	1.1	1390	2650
450	100	25x25	1.1	1390	2650
450	100	25x30	1.15	1390	2650
450	100	30x25	1.15	1390	2650
450	120	22x35	1.16	1160	2210
450	120	22x40	1.18	1160	2210
450	120	25x30	1.18	1160	2210
450	120	25x35	1.23	1160	2210
450	120	30x25	1.23	1160	2210
450	150	22x40	1.3	930	1770
450	150	22x45	1.35	930	1770
450	150	25x30	1.3	930	1770
450	150	25x35	1.35	930	1770
450	150	25x40	1.38	930	1770
450	150	30x25	1.35	930	1770
450	150	30x30	1.38	930	1770
450	150	35x25	1.38	930	1770
450	180	25x35	1.55	770	1470
450	180	25x40	1.6	770	1470
450	180	25x45	1.65	770	1470
450	180	30x30	1.61	770	1470
450	180	30x35	1.65	770	1470
450	180	35x25	1.65	770	1470
450	220	22x50	1.63	640	1210
450	220	25x40	1.63	640	1210
450	220	25x45	1.68	640	1210

WV (Vdc)	Cap (uF)	Size mm	Rated Ripple current (Arms/105 °C /120Hz)	Typ. ESR 20°C 120Hz mΩ	MAX ESR 20°C 120Hz mΩ
450	220	25x50	1.73	640	1210
450	220	30x30	1.63	640	1210
450	220	30x35	1.68	640	1210
450	220	30x40	1.73	640	1210
450	220	35x25	1.68	640	1210
450	220	35x30	1.73	640	1210
450	270	25x50	1.91	520	980
450	270	30x30	1.66	520	980
450	270	30x35	1.86	520	980
450	270	30x40	1.91	520	980
450	270	30x45	1.95	520	980
450	270	35x30	1.92	520	980
450	270	35x35	1.97	520	980
450	330	30x40	2.15	420	800
450	330	30x45	2.23	420	800
450	330	30x50	2.3	420	800
450	330	35x35	2.24	420	800
450	330	35x40	2.33	420	800
450	390	30x50	2.41	360	680
450	390	35x40	2.43	360	680
450	390	35x45	2.5	360	680
450	470	35x40	2.63	290	560
450	470	35x45	2.68	290	560
450	560	30x60	2.76	250	470
450	560	35x50	2.86	250	470
450	560	35x55	2.89	250	470
450	680	35x50	2.92	210	390
450	680	35x55	2.98	210	390
500	39	22x25	0.52	3580	6800
500	47	22x25	0.54	2970	5640
500	56	22x30	0.61	2490	4740
500	68	22x30	0.71	2050	3900
500	68	25x25	0.73	2050	3900
500	82	22x35	0.8	1700	3230
500	82	25x30	0.81	1700	3230
500	82	30x25	0.84	1700	3230
500	100	22x40	0.92	1390	2650
500	100	25x35	0.94	1390	2650
500	100	30x25	0.95	1390	2650
500	120	22x45	0.95	1160	2210
500	120	25x35	0.95	1160	2210
500	120	30x30	1.02	1160	2210
500	120	35x30	1.05	1160	2210
500	150	22x50	1.08	930	1770
500	150	25x45	1.22	930	1770
500	150	30x35	1.23	930	1770
500	150	35x30	1.24	930	1770
500	180	25x50	1.31	770	1470
500	180	30x40	1.35	770	1470
500	180	35x30	1.36	770	1470
500	220	30x45	1.51	640	1210
500	220	35x35	1.52	640	1210
500	270	30x50	1.55	520	980
500	270	35x40	1.63	520	980
500	330	35x45	1.83	420	800
500	390	35x50	1.88	360	680
500	470	35x55	2.2	290	560

Useful life

depending on ambient temperature  $T_a$  versus under ripple current operating conditions  $V_R \leq 100V$



depending on ambient temperature  $T_a$  versus under ripple current operating conditions  $V_R \geq 160V$

