UFZ

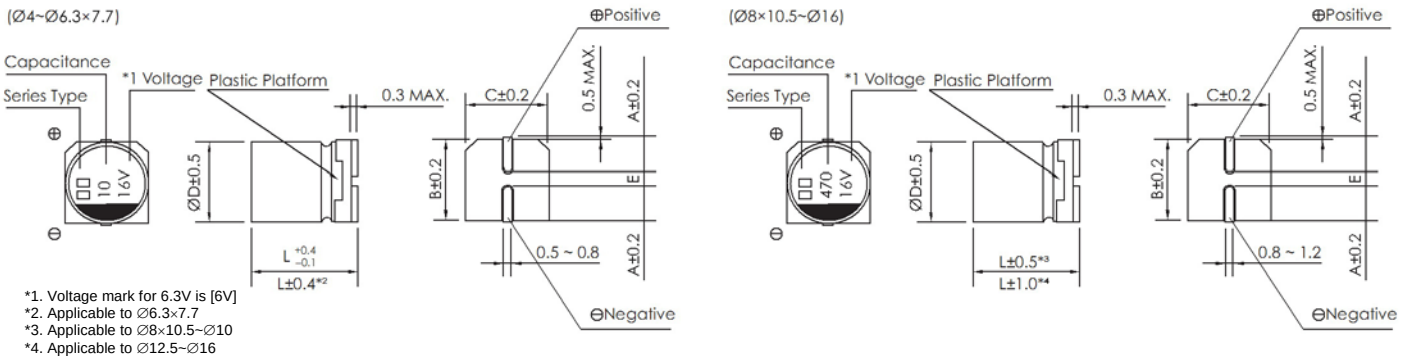
チップ 低インピーダンス品
Series, SMD 105°C, Low Impedance

- 小形・薄形セットへの高密度表面実装に対応
  Chip type for high-density circuit use
- 105℃ 2,000~5,000時間保証
  Load life: 2,000~5,000 hours
- 定格電圧範囲 Rated voltage range：6.3～100V
- 静電容量範囲 Capacitance range： 3.3～4,700μF
- RoHS指令対応済/RoHS Compliant

■ 仕様 SPECIFICATIONS

項 目 Items	特 性 Characteristics									
カテゴリ温度範囲 Operating Temperature Range	-55 ~ +105°C									
定格電圧範囲 Rated Voltage Range	6.3V ~ 100V									
静電容量範囲 Nominal Capacitance Range	3.3 ~ 4700 μF									
静電容量許容差 Capacitance Tolerance	±20% (120Hz, 20°C)									
漏れ電流 Leakage Current	φ4~10	I ≤ 0.01CV 又は 3 μA のいずれか大きい値以下(2 分値) I ≤ 0.01CV or 3 μA whichever is greater, after 2 minutes application of rated voltage.								
	φ12.5~16	I ≤ 0.03CV 又は 4 μA のいずれか大きい値以下(1 分値) I ≤ 0.03CV or 4 μA whichever is greater, after 1 minutes application of rated voltage.								
損失角の正接 Dissipation Factor	定格電圧(V) Rated voltage		6.3	10	16	25	35	50	63~80	100
	tan δ (max.)	φ4~10	0.26	0.19	0.16	0.14	0.12	0.10	0.08	0.07
		φ12.5~16	0.26	0.19	0.18	0.16	0.14	0.10	0.08	0.07
	1,000μF を越えるものについては, 1,000μF を増す毎に 0.02 を加えた値とする。 For capacitance of more than 1,000μF, add 0.02 for every increase of 1,000 μF (120Hz,20°C)									
温度特性 Temperature Characteristics	インピーダンス比 Impedance Ratio /120 Hz									
	定格電圧(V) Rated voltage		6.3~16	25~100						
	インピーダンス比 Impedance Ratio ZT/Z20(max)	Z(-25°C) / Z(+20°C)	2	2						
		Z(-40°C) / Z(+20°C)	3	3						
		Z(-55°C) / Z(+20°C)	4	3						
高温負荷特性 Load Life	105°C 5,000(∅4~∅6.3×5.8 は 2,000 時間)時間定格電圧連続印加後、20°Cに戻し測定を行ったとき、下記項目を満足する After 5,000(2000 hrs. for ∅4~∅6.3×5.8) hours application of rated voltage at 105°C, capacitor meet the characteristic requirements as below.									
	静電容量変化率 Capacitance change	初期値の±30%以内 Within ±30% of initial value								
	損失角の正接 Dissipation Factor	初期規格値の 200%以下 200% or less of initial specified value								
	漏れ電流 Leakage current	初期規格値以下 Initial specified value or less								
高温無負荷特性 Shelf Life	105°C 1,000 時間無負荷放置後,下記規格を滿足する。(但し,JIS C-5102 4.4 項の電圧処理後) After storing the capacitors under no load at 105°C for 1,000 hours, capacitors meet the characteristic requirements as below. Be sure to apply voltage to the capacitors before test according to JIS-C-5101-4 4.1									
	静電容量変化率 Capacitance change	初期値の±30%以内 Within ±30%of initial value								
	損失角の正接 Dissipation Factor	初期規格値の 200%以下 200% or less of initial specified value								
	漏れ電流 Leakage current	初期規格値以下 Initial specified value or less								
はんだ耐熱性 Resistance to soldering heat	電極端子面を 250°Cの熱板上に 30 秒間放置後、20°Cに戻し測定を行ったとき、下記項目を満足する Capacitors placed on a 250°C hot plate for 30 seconds with their electrode terminals facing downward will fulfill the following requirements after being cooled to room temperature.									
	静電容量変化率 Capacitance change	初期値の±10%以内 Within ±10% of initial value								
	損失角の正接 Dissipation Factor	初期規格値以下 Initial specified value or less								
	漏れ電流 Leakage current	初期規格値以下 Initial specified value or less								

■ 寸法図 Dimensions



*1. Voltage mark for 6.3V is [6V]
*2. Applicable to ∅6.3×7.7
*3. Applicable to ∅8×10.5~∅10
*4. Applicable to ∅12.5~∅16

ØD x L	4 x 5.8	5 x 5.8	6.3 x 5.8	6.3 x 7.7	8 x 10.5	10 x 10.5	10 x 13.5	12.5 x 13.5	12.5 x 16	16 x 16.5
A	2.0	2.2	2.6	2.6	3.0	3.3	3.3	4.9	4.9	5.8
B	4.3	5.3	6.6	6.6	8.4	10.4	10.4	13.0	13.0	17.0
C	4.3	5.3	6.6	6.6	8.4	10.4	10.4	13.0	13.0	17.0
E ± 0.2	1.0	1.4	1.9	1.9	3.1	4.7	4.7	4.7	4.7	6.4
L	5.8	5.8	5.8	7.7	10.5	10.5	13.5	13.5	16.0	16.5

品名コード体系 Part Numbering (例 example: 25V 470 µF)

U	F	Z	1	E	4	7	1	M		
シリーズ名 Series Name			定格電圧 Rated Voltage		静電容量 Capacitance			容量許容差 Capacitance Tolerance (±20%)	個別指定 Reserved	

許容リプル電流周波数補正係数 Frequency coefficient of allowable ripple current

Frequency 頻率			50Hz	120Hz	300Hz	1KHz	10KHz~
Coefficient 系數	∅4 ~ ∅10	4.7 ~ 68µF	0.35	0.50	0.64	0.83	1.00
		100 ~ 1500µF	0.40	0.55	0.70	0.85	1.00
	∅12.5 ~ ∅16	~ 68µF	0.40	0.55	0.70	0.85	1.00
		100 ~ 680µF	0.40	0.65	0.80	0.90	1.00
		1000 ~ 4700µF	0.65	0.85	0.95	1.00	1.00

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WV / Code 代碼 / µF		6.3			10			16		
		0J			1A			1C		
10	100							4 × 5.8	1.35	90
15	150							4 × 5.8	1.35	90
22	220	4 × 5.8	1.35	90	4 × 5.8	1.35	90	5 × 5.8	0.70	160
33	330	5 × 5.8 (4 × 5.8)	0.76 (1.35)	160 (90)	5 × 5.8	0.76	160	5 × 5.8	0.76	160
47	470	5 × 5.8 (4 × 5.8)	0.76 (1.35)	160 (90)	6.3 × 5.8	0.44	240	6.3 × 5.8	0.44	240
56	560	5 × 5.8	0.76	160	6.3 × 5.8	0.44	240	6.3 × 5.8 (5 × 5.8)	0.44 (0.76)	240 (160)
68	680	6.3 × 5.8	0.44	240	6.3 × 5.8	0.44	240	6.3 × 5.8	0.44	240
100	101	6.3 × 5.8	0.44	240	6.3 × 7.7	0.34	300	6.3 × 7.7 (6.3 × 5.8)	0.34 (0.44)	300 (240)
150	151	6.3 × 5.8	0.44	240	6.3 × 7.7	0.34	300	6.3 × 7.7 (6.3 × 5.8)	0.34 (0.44)	300 (240)
220	221	6.3 × 7.7 (6.3 × 5.8)	0.34 (0.44)	300 (240)	6.3 × 7.7	0.34	300	6.3 × 7.7	0.34	300
330	331	8 × 10.5	0.17	600	10 × 10.5 (8 × 10.5)	0.09 (0.17)	850 (600)	8 × 10.5 (6.3 × 7.7)	0.17 (0.34)	600 (300)
470	471	8 × 10.5	0.17	600	10 × 10.5 (8 × 10.5)	0.09 (0.17)	850 (600)	10 × 10.5 (8 × 10.5)	0.08 (0.17)	850 (600)
680	681	10 × 10.5 (8 × 10.5)	0.09 (0.17)	850 (600)	10 × 10.5	0.09	850	10 × 10.5 (8 × 10.5)	0.09 (0.17)	850 (600)
1000	102	10 × 10.5 (8 × 10.5)	0.09 (0.17)	850 (600)	10 × 13.5 (10 × 10.5)	0.07 (0.09)	950 (850)	16 × 16.5 (12.5 × 16) (12.5 × 13.5)	0.05 (0.055) (0.06)	1450 (1200) (1100)
1500	152	10 × 13.5	0.09	950	12.5 × 13.5	0.06	1100	16 × 16.5	0.05	1450
2200	222	12.5 × 13.5	0.06	1100	12.5 × 16	0.055	1200			
3300	332	12.5 × 16	0.055	1200	16 × 16.5	0.05	1450	Case size 尺寸	Impedance 阻抗值	Ripple current 紋波電流
4700	472	16 × 16.5	0.05	1450						

WV / Code 代碼 / μF		25			35			50		
		1E			1V			1H		
4.7	4R7				4 × 5.8	1.35	90	5 × 5.8	1.52	85
10	100	4 × 5.8	1.35	90	5 × 5.8	0.76	160	6.3 × 5.8 (5 × 5.8)	0.88 (1.35)	165 (115)
15	150	5 × 5.8	0.76	160	5 × 5.8	0.76	160	6.3 × 5.8	0.88	165
22	220	6.3 × 5.8 (5 × 5.8)	0.44 (0.76)	240 (160)	6.3 × 5.8	0.44	240	6.3 × 7.7 (6.3 × 5.8)	0.68 (0.88)	195 (165)
33	330	6.3 × 5.8	0.44	240	6.3 × 5.8	0.44	240	6.3 × 7.7	0.68	195
47	470	6.3 × 7.7 (6.3 × 5.8)	0.34 (0.44)	300 (240)	6.3 × 7.7 (6.3 × 5.8)	0.34 (0.88)	300 (165)	8 × 10.5 (6.3 × 7.7)	0.34 (0.68)	350 (195)
56	560	6.3 × 7.7	0.34	300	6.3 × 7.7	0.34	300	8 × 10.5	0.34	350
68	680	6.3 × 7.7	0.34	300	8 × 10.5	0.17	600	8 × 10.5	0.34	350
100	101	8 × 10.5 (6.3 × 7.7)	0.17 (0.34)	600 (300)	8 × 10.5	0.17	600	10 × 10.5 (8 × 10.5)	0.18 (0.34)	670 (350)
150	151	8 × 10.5 (6.3 × 7.7)	0.16 (0.34)	600 (300)	10 × 10.5	0.09	850	10 × 13.5 (10 × 10.5)	0.14 (0.18)	780 (670)
220	221	8 × 10.5	0.17	600	10 × 10.5 (8 × 10.5)	0.09 (0.16)	850 (600)	(10 × 13.5) (10 × 10.5)	(0.14) (0.26)	(780) (750)
330	331	10 × 10.5 (8 × 10.5)	0.09 (0.17)	850 (600)	(10 × 13.5) (10 × 10.5)	(0.07) (0.10)	(950) (850)	12.5×13.5	0.12	900
470	471	10 × 13.5 (10 × 10.5)	0.07 (0.09)	950 (850)	12.5 × 13.5 (10 × 13.5) (10 × 10.5)	0.06 (0.07) (0.10)	1100 (1000) (950)	16 × 16.5 (12.5 × 16) (12.5 × 13.5)	0.08 (0.10) (0.08)	1250 (1050) (1100)
680	681	12.5 × 13.5	0.06	1100	12.5 × 16 (12.5 × 13.5)	0.055 (0.06)	1200 (1100)			
1000	102	16 × 16.5 (12.5 × 16) (12.5 × 13.5)	0.05 (0.055) (0.06)	1450 (1200) (1100)	16 × 16.5	0.05	1450	Case size 尺寸	Impedance 阻抗值	Ripple current 紋波電流
1500	152	16 × 16.5	0.05	1450						

•Case size 尺寸 ∅D×L(mm), Impedance 阻抗值 (Ω) at 20°C, 100KHz, Ripple current 紋波電流 (mA rms) at 105°C, 100KHz

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WV / Code 代碼 / μF		63			80			100		
		1J			1K			2A		
3.3	3R3				5 × 5.8	5.0	25			
4.7	4R7	5 × 5.8	3.0	50	6.3 × 5.8	3.0	40			
10	100	6.3 × 7.7 (6.3 × 5.8)	1.2 (1.5)	120 (80)	6.3 × 7.7	2.4	60	8 × 10.5	1.3	130
22	220	8 × 10.5 (6.3 × 7.7)	0.65 (1.2)	250 (120)	8 × 10.5	1.3	130	10 × 10.5 (8 × 10.5)	0.7 (1.3)	200 (160)
33	330	8 × 10.5	0.65	250	10 × 10.5	0.7	200	10 × 10.5	0.7	200
47	470	10 × 10.5 (8 × 10.5)	0.50 (0.65)	300 (250)	10 × 10.5	0.7	200	10 × 10.5	0.7	200
68	680	12.5 × 13.5 (10 × 10.5)	0.16 (0.50)	800 (300)	12.5 × 13.5	0.32	500	12.5 × 13.5	0.32	500
100	101	12.5 × 13.5 (10 × 13.5) (10 × 10.5)	0.16 (0.25) (0.50)	800 (400) (300)	12.5 × 13.5 (10 × 13.5)	0.32 (0.18)	500 (750)	16 × 16.5 (12.5 × 16) (12.5 × 13.5)	0.22 (0.26) (0.32)	670 (550) (500)
150	151	12.5 × 13.5 (10 × 13.5)	0.16 (0.25)	800 (650)	12.5 × 13.5	0.32	500			
220	221	12.5 × 13.5	0.16	800	12.5 × 16 (12.5 × 13.5)	0.26 (0.12)	550 (900)	Case size 尺寸	Impedance 阻抗值	Ripple current 紋波電流
330	331	16 × 16.5	0.082	1400	16 × 16.5	0.17	795			

•Case size 尺寸 ∅D×L(mm), Impedance 阻抗值 (Ω) at 20°C, 100KHz, Ripple current 紋波電流 (mA rms) at 105°C, 100KHz