●標準低阻抗品

OPAシリーズ JIS C 5101 CE-04

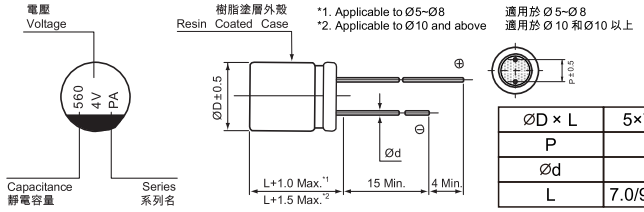
●Standard, Low ESR

TYPE **OPA** JIS C 5101 CE-04

■FEATURES

- ・Operating with wide temperature range −55~+105℃
- ・Low ESR, high ripple current
- ・Load life of 2000 hours
- ・RoHS & REACH compliant, Halogen-free

■寸法図/DIAGRAM OF DIMENSIONS



ØD × L	5×7/9/11	6.3×6/7	6.3×8/9	6.3×10.5/11/12	8×7/8/9	8×11/12	10×8/10/13
P	2.0	2.5	2.5	2.5	3.5	3.5	5.0
Ød	0.5	0.6	0.6	0.6	0.6	0.6	0.6
L	7.0/9.0/11.0	6.0/7.0	8.0/9.0	10.5/11.0/12.0	7.0/8.0/9.0	11.0/12.0	8.0/10.0/13.0

■性　能/PERFORMANCE SPECIFICATIONS

カテゴリー温度範囲	CATEGORY TEMPERATURE RANGE	-55 ~ +105°C
標準静電容量許容差	STANDARD CAPACITANCE TOLERANCE	±20% at 120Hz, 20°C
漏れ電流 （最大値）	LEAKAGE CURRENT （MAX.VALUE）	≤Specified value (after 2 minutes application of rated voltage at 20°C)
損失角の正接 （最大値）	DISSIPASION FACTOR （MAX.VALUE）	≤Specified value at 120KHz, 20°C.
E.S.R	E.S.R.	≤Specified value at 100KHz, 20°C.
低溫特性	Stability at Low Temperatu re	Measurement frequency 測試頻率：100KHz Impedance Ratio 阻抗比 ZT/Z20 (max)：Z(+105℃)/Z(20℃) ≤1.25；Z(−55℃)/Z(20℃) ≤1.25
耐久性	LOAD LIFE TEST	Capacitance Change: Within ±20% of initial value Dissipation Factor: 150% or less of initial specified value ESR: 150% or less of initial specified value Leakage Current: Initial specified value or less After 2000 hours application of the rated voltage at 105°C, they meet the characteristics listed below.
	MOISTURE RESISTANCE	After reflow soldering and restored at room temperature, they meet the characteristics listed below.
定格リプル電流補正係数	RIPPLE CURRENT & FREQUENCY MULTIPLIERS	Frequency(Hz): 120Hz ≤ f ≤ 1KHz / 1KHz ≤ f ≤ 10KHz / 10KHz ≤ f ≤ 100KHz / 100KHz ≤ f ≤ 300KHz Coefficient: 0.10 / 0.40 / 0.70 / 1.00

■定格リプル電流補正係数

リプル周波数が標準品一覧表の規定値と異なる場合には、下表の係数を乗じた値以下でご使用下さい。

When the ripple frequency differs from the spicification shown in the list of standard products, multiply the value with the coefficient shown below, and use the products under the obtained value.

周波数補正係数/FREQUENCY CORRECTION FACTOR

Cap.(μF)	Frequency (Hz)			
	120	1K	10K	100K
27 ~ 180	0.40	0.75	0.90	1.00
220 ~ 560	0.50	0.85	0.94	1.00
680 ~ 1800	0.60	0.87	0.95	1.00
2200 ~ 3900	0.75	0.90	0.95	1.00
4700 ~ 10000	0.85	0.95	0.98	1.00

■品番ご指定法 / HOW TO SPECIFY ITEM NUMBER

1C OPA □□ 101 M □ □□□□□□

- 寸法コード／Size Code
- 付記コード／Additional Code
- 静電容量許容差／Capacitance Tolerance
- 静電容量記号／Capacitance Symbol
- 形状記号／Style Symbol
- シリーズ名／Series Name
- 定格電圧／Rated Voltage

■寸法表／CASE SIZE TABLE

■Impedance[Max.Value Ω] at 20℃ 100kHz
■Ripple Current [Max. value mA] at 105℃ 100kHz

WV (V) / Parameter / Cap. (μF)		2.5 (0E)					4 (0G)				
		Case size ∅D×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20℃, 100KHz	Ripple current (mA rms) 105℃, 100KHz	Case size ∅D×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20℃, 100KHz	Ripple current (mA rms) 105℃, 100KHz
270	271						6.3 × 9 (6.3 × 10.5)	0.08 (0.08)	216 (216)	7 (20)	5600 (3200)
330	331	6.3 × 9	0.08	165	7	5600					
390	391	6.3 × 10.5	0.08	195	20	3200	6.3 × 10.5	0.08	312	24	3300
560	561	6.3 × 9	0.08	280	7	5600	8 × 9 (8 × 12)	0.08 (0.08)	448 (448)	7 (7)	5200 (5500)
680	681	8 × 9	0.08	340	7	4800	8 × 12	0.08	544	6	6200
820	821	6.3 × 9	0.08	410	7	5600	10 × 13	0.08	656	6	6500
1000	102	10 × 13	0.08	500	6	6500	10 × 13	0.08	800	6	6640
1200	122	10 × 13	0.08	600	8	5300	10 × 13	0.08	960	8	5600
1500	152	8 × 12	0.08	750	7	6100					

WV (V) / Parameter / Cap. (μF)		6.3 (0J)					10 (1A)				
		Case size ∅D×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20℃, 100KHz	Ripple current (mA rms) 105℃, 100KHz	Case size ∅D×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20℃, 100KHz	Ripple current (mA rms) 105℃, 100KHz
47	470						6.3 × 10.5	0.08	94	25	2900
68	680						6.3 × 10.5	0.08	136	25	2900
100	101						6.3 × 8 (6.3 × 10.5)	0.08 (0.08)	200 (200)	25 (25)	2900 (2900)
150	151						6.3 × 10.5	0.08	300	25	2900
220	221	5 × 7 (6.3 × 10.5)	0.08 (0.08)	277 (277)	20 (20)	3000 (3200)	6.3 × 7	0.08	440	12	3150
270	271						8 × 12	0.08	540	8	4900
330	331	6.3×10.5	0.08	416	24	3300					
470	471	8 × 9 (8 × 12)	0.08 (0.08)	592 (592)	7 (7)	5200 (5500)	5 × 11 (8 × 8) (10 × 13)	0.08 (0.08) (0.08)	940 (940) (940)	16 (12) (7)	3000 (5300) (5700)
560	561						10 × 13	0.08	1120	7	5900
680	681	10 × 13	0.08	857	6	6300	10 × 13	0.08	1360	7	6100

WV (V) / Parameter / Cap. (μF)		16 (1C)					20 (1D)				
		Case size ∅D×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20℃, 100KHz	Ripple current (mA rms) 105℃, 100KHz	Case size ∅D×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20℃, 100KHz	Ripple current (mA rms) 105℃, 100KHz
22	220						6.3 × 6	0.12	88	50	1700
39	390						8 × 7	0.12	156	45	2000
47	470						8 × 7	0.12	188	45	2000
56	560						10 × 8	0.12	224	40	2400
68	680						10 × 8	0.12	272	40	2600
82	820						10 × 8	0.12	328	40	2600
100	101	5 × 8 (6.3 × 7) (6.3 × 10.5)	0.08 (0.08) (0.08)	320 (320) (320)	25 (25) (24)	2350 (2600) (2900)	8 × 12	0.12	400	22	3320
120	121						10 × 10	0.12	480	35	2800
150	151						10 × 13	0.12	600	20	4320
180	181	5 × 9 (8 × 8) (8 × 12)	0.08 (0.08) (0.08)	576 (576) (576)	12 (10) (9)	2750 (4200) (5000)					
220	221	6.3 × 8 (6.3 × 12)	0.08 (0.08)	704 (704)	12 (12)	3800 (4400)					
270	271	8 × 8 (8 × 12)	0.08 (0.08)	864 (864)	10 (9)	4600 (5100)					
330	331	10 × 13	0.08	1056	9	6100					
470	471	10 × 13	0.08	1504	9	6100					

■寸法表／CASE SIZE TABLE

■Impedance[Max.Value Ω] at 20℃ 100kHz
■Ripple Current [Max. value mA] at 105℃ 100kHz

WV (V) / Parameter / Cap. (μF)		25 (1E)				
		Case size ∅D×L (mm)	Dissipation factor (tan δ)	Leakage current (μA)	ESR (mΩ) max. 20℃, 100KHz	Ripple current (mA rms) 105℃, 100KHz
6.8	6R8	6.3 × 6	0.12	34	80	1200
10	100	6.3 × 6	0.12	50	65	1500
22	220	8 × 7	0.12	110	60	1500
33	330	8 × 7	0.12	165	50	1800
47	470	6.3 × 7 (10 × 13)	0.12 (0.12)	235 (235)	49 (30)	1300 (3000)
56	560	10 × 13	0.12	280	28	3800
100	101	5 × 11 (6.3 × 8) (6.3 × 11)	0.12 (0.12) (0.12)	500 (500) (500)	30 (30) (30)	2500 (2500) (3000)
220	221	6.3 × 12 (8 × 11)	0.12 (0.12)	1100 (1100)	20 (18)	4000 (4300)