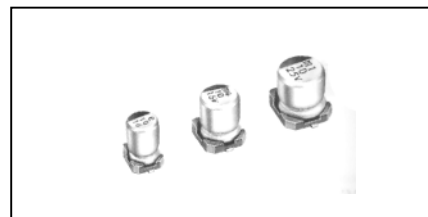


## Chip type with 5.5mm height

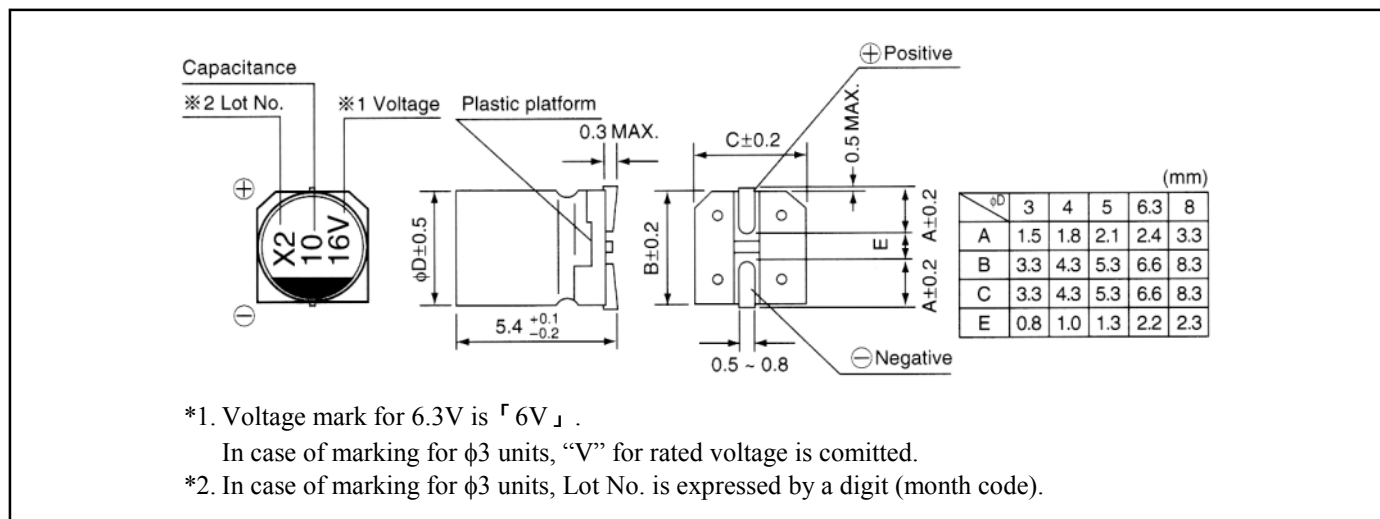
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine using carrier tape.
- Load life of 2000 hours at 85 °C.



### SPECIFICATIONS

Item	Performance								
Category temperature range ( °C )	-40~+85								
Rated voltage range	4~50V								
Rated capacitance range	0.1~330μF								
Capacitance tolerance	±20% (20 μF, 120Hz)								
Leakage current (μA)	After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3 (μA), whichever is greater.								
Tangent of loss angle (tan δ)	Rated voltage (V)	4	6.3	10	16	25	35	50	
	tan δ (max.)	0.35 (0.40)	0.26 (0.30)	0.20 (0.24)	0.16 (0.19)	0.14 (0.16)	0.12 (0.14)	0.12 (0.14)	
Values in ( ) applicable to WR, 3φ case size (20 μF, 120Hz)									
Stability at low temperature	Rated voltage (V)		4	6.3	10	16	25	35	50
	Impedance ratio (max.)	Z25 /Z+20	7	4	3	2	2	2	2
Z40 /Z+20		15	8	8	4	4	3	3	
(120Hz)									
Endurance (85 °C) (Applied ripple current)	Capacitance change	Within ±20% of initial value (Within ±25% for 4 V and φ3, WR series units)							
	tan δ	200% or less of initial specified value							
	Leakage Current	Initial specified value or less							
After 2000 hours' application of rated voltage at 85 °C, capacitors meet the characteristic requirements listed at right.									
Shelf life	After leaving capacitors under no load at 85 °C for 1000 hours, they meet the specified value for endurance characteristics listed above.								
Resistance to soldering heat	Capacitance change	Within ±10% of initial value							
	tan δ	Initial specified value or less							
	Leakage Current	Initial specified value or less							
The capacitors shall be kept on the hot plate maintained at 250 °C for 30 seconds. After removing from the hot plate and restored at room temperature, they meet the characteristic requirements listed at right.									
Frequency coefficient of rated ripple current	Frequency (Hz)	50	120	300	1k	10k~			
	Coefficient	0.70	1.00	1.17	1.36	1.50			

### CHIP TYPE



\*1. Voltage mark for 6.3V is 「6V」.

In case of marking for φ3 units, "V" for rated voltage is omitted.

\*2. In case of marking for φ3 units, Lot No. is expressed by a digit (month code).

## WX series

### DIMENSIONS

V		4		6.3		10		16		25		35		50	
Cap. (μF)	Code	0G		0J		1A		1C		1E		1V		1H	
0.1	0R1													3×5.5 4×5.5	1.0
0.22	R22													3×5.5 4×5.5	2.0
0.33	R33													3×5.5 4×5.5	2.8
0.47	R47													3×5.5 4×5.5	4.0
1	010													3×5.5 4×5.5	8.0 8.4
2.2	2R2											3×5.5	8.4	3×5.5 4×5.5	10 13
3.3	3R3											3×5.5	10	4×5.5	17
4.7	4R7									3×5.5 4×5.5	12 16	4×5.5	18	4×5.5 5×5.5	20
10	100							3×5.5 4×5.5	18 23	5×5.5	27	5×5.5	29	5×5.5 6.3×5.5	33
22	220	3×5.5	19	3×5.5 4×5.5	21 28	5×5.5	33	5×5.5	37	6.3×5.5	42	6.3×5.5	46	6.3×5.5 8×5.5	52
33	330	4×5.5	28	5×5.5	37	5×5.5	41	6.3×5.5	49	6.3×5.5	52	8×5.5	62	8×5.5	71
47	470	4×5.5	33	5×5.5	45	6.3×5.5	52	6.3×5.5	58	8×5.5	70	8×5.5	80		
56	560	5×5.5	42	6.3×5.5	52	6.3×5.5	57	6.3×5.5	63	8×5.5	76				
100	101	5×5.5	56	6.3×5.5	70	6.3×5.5	76	6.3×5.5	86	8×5.5	110				
150	151	6.3×5.5	79	6.3×5.5	71	8×5.5	111								
220	221	6.3×5.5	96	8×5.5	110	8×5.5	135								
330	331	8×5.5	145	8×5.5	170									Case size	Rated ripple

( ) is also available with φ3mm upon request.

• In the case of size φ3 in ( ), parentheses, use WX at 2nd and 3rd digit and put [2] at the 12th digit of type numbering system.

Rated Ripple (mA rms) at 85 120Hz

( ) = φ3 units and WR Series

## WR series

### DIMENSIONS

V		6.3		10		16		25		35		50	
Cap. (μF)	Code	0J		1A		1C		1E		1V		1H	
4.7	4R7											4×5.5	18
10	100							4×5.5	24	4×5.5	24	5×5.5	30
22	220			4×5.5	30	4×5.5	30	5×5.5	38	5×5.5	39	6.3×5.5	43
33	330	4×5.5	34	4×5.5	34	5×5.5	44	5×5.5	46	6.3×5.5	53		
47	470	4×5.5	40	5×5.5	47	5×5.5	52	6.3×5.5	60				
56	560	5×5.5	46	5×5.5	50	5×5.5	57	6.3×5.5	65				
100	101	5×5.5	47	5×5.5	54								
150	151			6.3×5.5	76								
220	221	6.3×5.5	74										

• In the case, WR will be put at 2nd and 3rd digit of type numbering system.