

## TYPE 204

Epoxy resin coating  
High reliability



### FEATURES

1. High reliability and small size.
2. Usable at operating temperature range  $-55\sim+125^{\circ}\text{C}$ .
3. Packaging (Reel and Ammo) is available for automatic insertion (up to case code 8).
4. Available for capacitance tolerance code "J" ( $\pm 5\%$ ).

### CAUTIONS

- This capacitor is polarized, do not apply reverse voltage.
- The sum of peak value of AC and DC voltage should not exceed the rated voltage.
- This catalog is designed for providing general information. Please inquire of our Sales Department to confirm specifications prior to use.

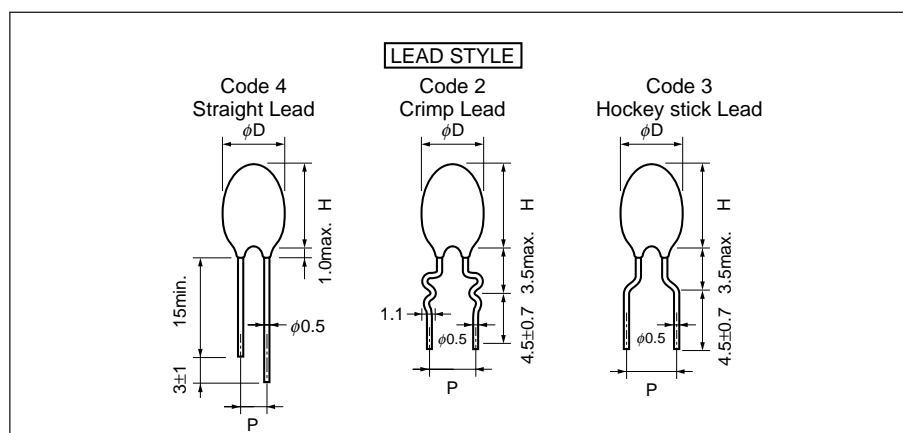
### CHARACTERISTICS

ITEM	CHARACTERISTICS
Failure rate level	1%/1000h(Code M), 0.5%/1000h(Code N),
Operating temperature range	$-55\sim+85^{\circ}\text{C}$ to $+125^{\circ}\text{C}$ with voltage derating
Rated voltage	3.15–6.3–10–16–20–25–35–50VDC
Capacitance range	0.1~470 $\mu\text{F}$ (E6 series)
Capacitance tolerance	$\pm 10\%$ (Code K), $\pm 20\%$ (Code M)

Failure rate level 0.5%/1000h(Code N) is available for rated voltage up to 35V, case size code 10 or less.

### DIMENSIONS

mm

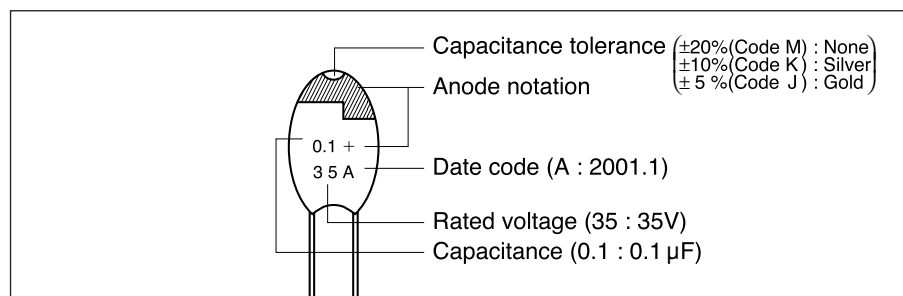


### CASE SIZE

Case code	D max.	H max.	P $\pm$ 0.5		
			Code 2	Code 3	Code 4
1	3.6	6.5	5.0	5.0	2.5
2	3.8	7.0	5.0	5.0	2.5
3	4.0	7.5	5.0	5.0	2.5
4	4.8	8.0	5.0	5.0	2.5
5	5.0	8.5	5.0	5.0	2.5
6	5.5	9.5	5.0	5.0	2.5
7	6.0	10.0	5.0	5.0	2.5
8	6.5	11.5	5.0	5.0	3.2
9	7.5	13.0	—	5.0	5.0
10	8.0	14.0	—	5.0	5.0
11	8.5	20.0	—	5.0	5.0

Case code 11's Dimension H includes resin coating of lead wire.

### MARKING





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### STANDARD RATINGS

R.V.(VDC) Cap.(μF)	3.15	6.3	10	16	20	25	35	50
0.1							1	2
0.15							1	2
0.22							1	2
0.33							1	2
0.47							1	2
0.68							1	2
1.0							1	3
1.5						1	2	4
2.2					1	2	3	5
3.3				1	2	3	4	6
4.7			1	2	3	4	5	7
6.8		1	2	3	4	5	6	8
10	1	2	3	4	5	6	7	9
15	2	3	4	5	6	7	8	10
22	3	4	5	6	7	8	9	11
33	4	5	6	7	8	9	10	
47	5	6	7	8	9	10	11	
68	6	7	8	9	10	11		
100	7	8	9	10	11			
150	8	9	10	11				
220	9	10	11					
330	10	11						
470	11							

### RATINGS AND CATALOG NUMBERS

Catalog number	cap. (μF)	case code	Max DC Lct. (μA)			Max Dissipation factor				
			20°C	85°C	125°C	-55°C	20°C	85°C	125°C	
Rated voltage 3.15VDC/Surge voltage 4VDC										
204 □ <sup>1</sup> 3151 106 □ <sup>2</sup> □ <sup>3</sup>	10	1	0.5	5	6.3	0.08	0.06	0.06	0.06	
204 □ <sup>1</sup> 3151 156 □ <sup>2</sup> □ <sup>3</sup>	15	2	0.5	5	6.3	0.08	0.06	0.06	0.06	
204 □ <sup>1</sup> 3151 226 □ <sup>2</sup> □ <sup>3</sup>	22	3	0.7	7	8.7	0.08	0.06	0.06	0.06	
204 □ <sup>1</sup> 3151 336 □ <sup>2</sup> □ <sup>3</sup>	33	4	1.0	10	13	0.08	0.06	0.06	0.06	
204 □ <sup>1</sup> 3151 476 □ <sup>2</sup> □ <sup>3</sup>	47	5	1.5	15	19	0.08	0.06	0.06	0.06	
204 □ <sup>1</sup> 3151 686 □ <sup>2</sup> □ <sup>3</sup>	68	6	2.1	21	27	0.08	0.06	0.06	0.06	
204 □ <sup>1</sup> 3151 107 □ <sup>2</sup> □ <sup>3</sup>	100	7	3.2	32	39	0.10	0.08	0.08	0.08	
204 □ <sup>1</sup> 3151 157 □ <sup>2</sup> □ <sup>3</sup>	150	8	4.7	47	59	0.10	0.08	0.08	0.08	
204 □ <sup>1</sup> 3151 227 □ <sup>2</sup> □ <sup>3</sup>	220	9	7.0	70	100	0.10	0.08	0.08	0.08	
204 □ <sup>1</sup> 3151 337 □ <sup>2</sup> □ <sup>3</sup>	330	10	10	100	130	0.10	0.08	0.08	0.08	
204 M 3151 477 □ <sup>2</sup> □ <sup>3</sup>	470	11	15	150	185	0.12	0.10	0.10	0.10	
Rated voltage 6.3VDC/Surge voltage 8VDC										
204 □ <sup>1</sup> 6301 685 □ <sup>2</sup> □ <sup>3</sup>	6.8	1	0.5	5	6.3	0.08	0.06	0.06	0.06	
204 □ <sup>1</sup> 6301 106 □ <sup>2</sup> □ <sup>3</sup>	10	2	0.6	6	7.9	0.08	0.06	0.06	0.06	
204 □ <sup>1</sup> 6301 156 □ <sup>2</sup> □ <sup>3</sup>	15	3	0.9	9	12	0.08	0.06	0.06	0.06	
204 □ <sup>1</sup> 6301 226 □ <sup>2</sup> □ <sup>3</sup>	22	4	1.4	14	17	0.08	0.06	0.06	0.06	
204 □ <sup>1</sup> 6301 336 □ <sup>2</sup> □ <sup>3</sup>	33	5	2.1	21	26	0.08	0.06	0.06	0.06	
204 □ <sup>1</sup> 6301 476 □ <sup>2</sup> □ <sup>3</sup>	47	6	3.0	30	37	0.08	0.06	0.06	0.06	
204 □ <sup>1</sup> 6301 686 □ <sup>2</sup> □ <sup>3</sup>	68	7	4.3	43	54	0.08	0.06	0.06	0.06	
204 □ <sup>1</sup> 6301 107 □ <sup>2</sup> □ <sup>3</sup>	100	8	6.3	63	79	0.10	0.08	0.08	0.08	
204 □ <sup>1</sup> 6301 157 □ <sup>2</sup> □ <sup>3</sup>	150	9	9.5	95	118	0.10	0.08	0.08	0.08	
204 □ <sup>1</sup> 6301 227 □ <sup>2</sup> □ <sup>3</sup>	220	10	14	140	173	0.10	0.08	0.08	0.08	
204 M 6301 337 □ <sup>2</sup> □ <sup>3</sup>	330	11	21	210	260	0.10	0.08	0.08	0.08	

- <sup>1</sup> failure rate level code "M" or "N".
- <sup>2</sup> capacitance tolerance code "K" or "M".
- <sup>3</sup> lead style or packaging style code.



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### RATINGS AND CATALOG NUMBERS

	Catalog number	cap. ( $\mu$ F)	case code	Max DC Lct. ( $\mu$ A)			Max Dissipation factor			
				20°C	85°C	125°C	-55°C	20°C	85°C	125°C
Rated voltage 10VDC/Surge voltage 13VDC	204 □ <sup>1</sup> 1002 475 □ <sup>2</sup> □ <sup>3</sup>	4.7	1	0.5	5	6.3	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1002 685 □ <sup>2</sup> □ <sup>3</sup>	6.8	2	0.7	7	8.5	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1002 106 □ <sup>2</sup> □ <sup>3</sup>	10	3	1.0	10	13	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1002 156 □ <sup>2</sup> □ <sup>3</sup>	15	4	1.5	15	19	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1002 226 □ <sup>2</sup> □ <sup>3</sup>	22	5	2.2	22	28	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1002 336 □ <sup>2</sup> □ <sup>3</sup>	33	6	3.3	33	41	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1002 476 □ <sup>2</sup> □ <sup>3</sup>	47	7	4.7	47	59	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1002 686 □ <sup>2</sup> □ <sup>3</sup>	68	8	6.8	68	85	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1002 107 □ <sup>2</sup> □ <sup>3</sup>	100	9	10	100	125	0.10	0.08	0.08	0.08
	204 □ <sup>1</sup> 1002 157 □ <sup>2</sup> □ <sup>3</sup>	150	10	15	150	188	0.10	0.08	0.08	0.08
204 M 1002 227 □ <sup>2</sup> □ <sup>3</sup>	220	11	22	220	275	0.10	0.08	0.08	0.08	
Rated voltage 16VDC/Surge voltage 20VDC	204 □ <sup>1</sup> 1602 335 □ <sup>2</sup> □ <sup>3</sup>	3.3	1	0.5	5	6.6	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1602 475 □ <sup>2</sup> □ <sup>3</sup>	4.7	2	0.8	8	9.4	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1602 685 □ <sup>2</sup> □ <sup>3</sup>	6.8	3	1.1	11	14	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1602 106 □ <sup>2</sup> □ <sup>3</sup>	10	4	1.6	16	20	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1602 156 □ <sup>2</sup> □ <sup>3</sup>	15	5	2.4	24	30	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1602 226 □ <sup>2</sup> □ <sup>3</sup>	22	6	3.5	35	44	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1602 336 □ <sup>2</sup> □ <sup>3</sup>	33	7	5.3	53	66	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1602 476 □ <sup>2</sup> □ <sup>3</sup>	47	8	7.5	75	94	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1602 686 □ <sup>2</sup> □ <sup>3</sup>	68	9	11	110	136	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 1602 107 □ <sup>2</sup> □ <sup>3</sup>	100	10	16	160	200	0.10	0.08	0.08	0.08
204 M 1602 157 □ <sup>2</sup> □ <sup>3</sup>	150	11	24	240	300	0.10	0.08	0.08	0.08	
Rated voltage 20VDC/Surge voltage 25VDC	204 □ <sup>1</sup> 2002 225 □ <sup>2</sup> □ <sup>3</sup>	2.2	1	0.5	5	6.3	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2002 335 □ <sup>2</sup> □ <sup>3</sup>	3.3	2	0.7	7	8.3	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2002 475 □ <sup>2</sup> □ <sup>3</sup>	4.7	3	0.9	9	12	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2002 685 □ <sup>2</sup> □ <sup>3</sup>	6.8	4	1.4	14	17	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2002 106 □ <sup>2</sup> □ <sup>3</sup>	10	5	2.0	20	25	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2002 156 □ <sup>2</sup> □ <sup>3</sup>	15	6	3.0	30	38	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2002 226 □ <sup>2</sup> □ <sup>3</sup>	22	7	4.4	44	55	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2002 336 □ <sup>2</sup> □ <sup>3</sup>	33	8	6.6	66	83	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2002 476 □ <sup>2</sup> □ <sup>3</sup>	47	9	9.4	94	118	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2002 686 □ <sup>2</sup> □ <sup>3</sup>	68	10	14	140	170	0.08	0.06	0.06	0.06
204 M 2002 107 □ <sup>2</sup> □ <sup>3</sup>	100	11	20	200	250	0.10	0.08	0.08	0.08	
Rated voltage 25VDC/Surge voltage 32VDC	204 □ <sup>1</sup> 2502 155 □ <sup>2</sup> □ <sup>3</sup>	1.5	1	0.5	5	6.3	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2502 225 □ <sup>2</sup> □ <sup>3</sup>	2.2	2	0.6	6	6.9	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2502 335 □ <sup>2</sup> □ <sup>3</sup>	3.3	3	0.8	8	10	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2502 475 □ <sup>2</sup> □ <sup>3</sup>	4.7	4	1.2	12	15	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2502 685 □ <sup>2</sup> □ <sup>3</sup>	6.8	5	1.7	17	21	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2502 106 □ <sup>2</sup> □ <sup>3</sup>	10	6	2.5	25	31	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2502 156 □ <sup>2</sup> □ <sup>3</sup>	15	7	3.8	38	47	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2502 226 □ <sup>2</sup> □ <sup>3</sup>	22	8	5.5	55	69	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2502 336 □ <sup>2</sup> □ <sup>3</sup>	33	9	8.3	83	103	0.08	0.06	0.06	0.06
	204 □ <sup>1</sup> 2502 476 □ <sup>2</sup> □ <sup>3</sup>	47	10	12	120	147	0.08	0.06	0.06	0.06
204 M 2502 686 □ <sup>2</sup> □ <sup>3</sup>	68	11	17	170	213	0.08	0.06	0.06	0.06	

□<sup>1</sup> failure rate level code "M" or "N".  
□<sup>2</sup> capacitance tolerance code "K" or "M".  
□<sup>3</sup> lead style or packaging style code.





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### RATINGS AND CATALOG NUMBERS

	Catalog number	cap. ( $\mu$ F)	case code	Max DC Lct. ( $\mu$ A)			Max Dissipation factor				
				20°C	85°C	125°C	-55°C	20°C	85°C	125°C	
Rated voltage 35VDC/Surge voltage 44VDC	204 □ <sup>1</sup> 3502 104 □ <sup>2</sup> □ <sup>3</sup>	0.1	1	0.5	5	6.3	0.05	0.04	0.04	0.05	
	204 □ <sup>1</sup> 3502 154 □ <sup>2</sup> □ <sup>3</sup>	0.15	1	0.5	5	6.3	0.05	0.04	0.04	0.05	
	204 □ <sup>1</sup> 3502 224 □ <sup>2</sup> □ <sup>3</sup>	0.22	1	0.5	5	6.3	0.05	0.04	0.04	0.05	
	204 □ <sup>1</sup> 3502 334 □ <sup>2</sup> □ <sup>3</sup>	0.33	1	0.5	5	6.3	0.05	0.04	0.04	0.05	
	204 □ <sup>1</sup> 3502 474 □ <sup>2</sup> □ <sup>3</sup>	0.47	1	0.5	5	6.3	0.05	0.04	0.04	0.05	
	204 □ <sup>1</sup> 3502 684 □ <sup>2</sup> □ <sup>3</sup>	0.68	1	0.5	5	6.3	0.05	0.04	0.04	0.05	
	204 □ <sup>1</sup> 3502 105 □ <sup>2</sup> □ <sup>3</sup>	1.0	1	0.5	5	6.3	0.05	0.04	0.04	0.05	
	204 □ <sup>1</sup> 3502 155 □ <sup>2</sup> □ <sup>3</sup>	1.5	2	0.5	5	6.6	0.08	0.06	0.06	0.06	
	204 □ <sup>1</sup> 3502 225 □ <sup>2</sup> □ <sup>3</sup>	2.2	3	0.8	8	9.6	0.08	0.06	0.06	0.06	
	204 □ <sup>1</sup> 3502 335 □ <sup>2</sup> □ <sup>3</sup>	3.3	4	1.2	12	14	0.08	0.06	0.06	0.06	
	204 □ <sup>1</sup> 3502 475 □ <sup>2</sup> □ <sup>3</sup>	4.7	5	1.6	16	21	0.08	0.06	0.06	0.06	
	204 □ <sup>1</sup> 3502 685 □ <sup>2</sup> □ <sup>3</sup>	6.8	6	2.4	24	30	0.08	0.06	0.06	0.06	
	204 □ <sup>1</sup> 3502 106 □ <sup>2</sup> □ <sup>3</sup>	10	7	3.5	35	44	0.08	0.06	0.06	0.06	
	204 □ <sup>1</sup> 3502 156 □ <sup>2</sup> □ <sup>3</sup>	15	8	5.3	53	66	0.08	0.06	0.06	0.06	
	204 □ <sup>1</sup> 3502 226 □ <sup>2</sup> □ <sup>3</sup>	22	9	7.7	77	96	0.08	0.06	0.06	0.06	
	204 □ <sup>1</sup> 3502 336 □ <sup>2</sup> □ <sup>3</sup>	33	10	12	120	144	0.08	0.06	0.06	0.06	
	204 M 3502 476 □ <sup>2</sup> □ <sup>3</sup>	47	11	16	160	206	0.08	0.06	0.06	0.06	
	Rated voltage 50VDC/Surge voltage 63VDC	204 M 5002 104 □ <sup>2</sup> □ <sup>3</sup>	0.1	2	0.5	5	6.3	0.05	0.04	0.04	0.05
		204 M 5002 154 □ <sup>2</sup> □ <sup>3</sup>	0.15	2	0.5	5	6.3	0.05	0.04	0.04	0.05
		204 M 5002 224 □ <sup>2</sup> □ <sup>3</sup>	0.22	2	0.5	5	6.3	0.05	0.04	0.04	0.05
204 M 5002 334 □ <sup>2</sup> □ <sup>3</sup>		0.33	2	0.5	5	6.3	0.05	0.04	0.04	0.05	
204 M 5002 474 □ <sup>2</sup> □ <sup>3</sup>		0.47	2	0.5	5	6.3	0.05	0.04	0.04	0.05	
204 M 5002 684 □ <sup>2</sup> □ <sup>3</sup>		0.68	2	0.5	5	6.3	0.05	0.04	0.04	0.05	
204 M 5002 105 □ <sup>2</sup> □ <sup>3</sup>		1.0	3	0.5	5	6.3	0.05	0.04	0.04	0.05	
204 M 5002 155 □ <sup>2</sup> □ <sup>3</sup>		1.5	4	0.8	8	9.4	0.08	0.06	0.06	0.06	
204 M 5002 225 □ <sup>2</sup> □ <sup>3</sup>		2.2	5	1.1	11	14	0.08	0.06	0.06	0.06	
204 M 5002 335 □ <sup>2</sup> □ <sup>3</sup>		3.3	6	1.7	17	21	0.08	0.06	0.06	0.06	
204 M 5002 475 □ <sup>2</sup> □ <sup>3</sup>		4.7	7	2.4	24	29	0.08	0.06	0.06	0.06	
204 M 5002 685 □ <sup>2</sup> □ <sup>3</sup>		6.8	8	3.4	34	43	0.08	0.06	0.06	0.06	
204 M 5002 106 □ <sup>2</sup> □ <sup>3</sup>		10	9	5.0	50	63	0.08	0.06	0.06	0.06	
204 M 5002 156 □ <sup>2</sup> □ <sup>3</sup>		15	10	7.5	75	94	0.08	0.06	0.06	0.06	
204 M 5002 226 □ <sup>2</sup> □ <sup>3</sup>		22	11	11	110	138	0.08	0.06	0.06	0.06	

□<sup>1</sup> failure rate level code "M" or "N".

□<sup>2</sup> capacitance tolerance code "K" or "M".

□<sup>3</sup> lead style or packaging style code.

