

Chip Solid MnO₂ Tantalum Capacitors – TC2 Series

Operating temp. : -55°C ~ +125°C



FEATURES

- ◆ Meets or exceeds EIA-535BAAC standard
- ◆ Self-healing capability, high reliability
- ◆ Excellent stability of capacitance during operating temperature range
- ◆ High volumetric efficiency
- ◆ 100% surge current test

APPLICATIONS

- ◆ Communication
- ◆ Consumer electronics
- ◆ Instruments
- ◆ Medical electronics

PRODUCT IDENTIFICATION

1	2	3	4	5	6	7
TC	212	B	105	M	035	B

1 Type	
TC	Solid Tantalum Chip Capacitor

2 Series	
211	Industrial
212	Low ESR

3 External Dimensions (L×W) (mm)	
A	3.2×1.6
B	3.5×2.8
C	6.0×3.2
D/E	7.3×4.3

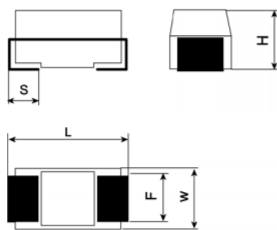
4 Nominal Capacitance	
Example	Nominal Value
105	1.0μF
106	1.0μF

6 Rated DC Voltage	
002	2.5Vdc
004	4Vdc
006	6.3Vdc
010	10Vdc
016	16Vdc
020	20Vdc
025	25Vdc
035	35Vdc
050	50Vdc

5 Capacitance Tolerance	
K	±10%
M	±20%

7 Internal Code	
B	Black Molded Case, Laser Marking
Y	Yellow Molded Case, Laser Marking

SHAPE AND DIMENSIONS



Case	EIA	Unit: mm [inch]				
		L	W	H	F	S
A	3216-18	3.20±0.20 [.126±.008]	1.60±0.20 [.063±.008]	1.60±0.20 [.063±.008]	1.20±0.10 [.040±.004]	0.80±0.30 [.031±.012]
B	3528-21	3.50±0.20 [.138±.008]	2.80±0.20 [.110±.008]	1.90±0.20 [.075±.008]	2.20±0.10 [.087±.004]	0.80±0.30 [.030±.012]
C	6032-28	6.00±0.30 [.236±.012]	3.20±0.30 [.126±.012]	2.50±0.30 [.098±.012]	2.20±0.10 [.087±.004]	1.30±0.30 [.051±.012]
D	7343-31	7.30±0.30 [.287±.012]	4.30±0.30 [.169±.012]	2.80±0.30 [.110±.012]	2.40±0.10 [.094±.004]	1.30±0.30 [.051±.012]
E	7343-43	7.30±0.30 [.287±.012]	4.30±0.30 [.169±.012]	4.00±0.30 [.161±.012]	2.40±0.10 [.094±.004]	1.30±0.30 [.051±.012]

Chip Solid MnO₂ Tantalum Capacitor
Chip Solid Polymer Tantalum Capacitor
Chip Solid MnO₂ Tantalum Capacitor
Chip Solid Polymer Tantalum Capacitor

TECHNICAL SPECIFICATION

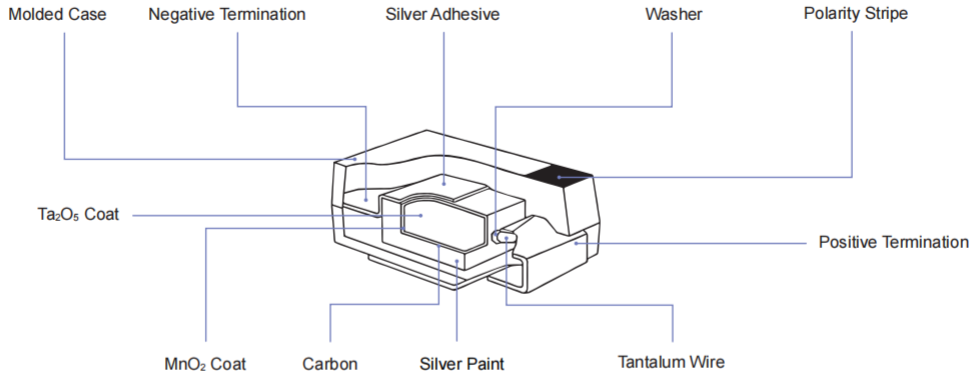
Item	SPEC										Test Condition
Operating Temp	-55°C ~+125°C										/
C _R Range	0.15μF~680μF										25°C , 120Hz
C _R Tolerance	±10% or ±20%										25°C , 120Hz
Rated Voltage (V _R)	2.5V	4V	6.3V	10V	16V	20V	25V	35V	50V	85°C	
Category Voltage (V _C)	1.6V	2.5V	4V	6.3V	10V	13V	16V	20V	32V	125°C	
Surge Voltage (V _S)	3.3V	5.2V	8V	13V	20V	26V	32V	46V	65V	85°C	
Surge Voltage (V _S)	2.2V	3.4V	5V	8V	13V	16V	20V	28V	40V	125°C	

STANDARD C-V VALUE BY CASE CODE

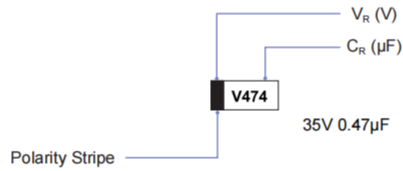
Rated Voltage (V _R)	2.5	4	6.3	10	16	20	25	35	50	
Voltage Code	e	G	J	A	C	D	E	V	T	
C _R (μF)	C Code	Case Code								
0.15	154									B
0.22	224									B/A
0.33	334						A	A		B/A
0.47	474						A	B/A		C/B/A
0.68	684					A	A	B/A		C/B/A
1.0	105			A	A	A	A	B/A	B/A	C/B
1.5	155			A	A	A	B/A	B/A	C/B	C/B
2.2	225		A	A	A	B/A	B/A	C/B/A	C/B/A	D/C/B
3.3	335		A	A	A	B/A	B/A	C/B/A	C/B	D/C/B
4.7	475		A	A	B/A	C/B/A	C/B/A	C/B/A	D/C/B	D
6.8	685		A	B/A	B/A	C/B/A	D/C/B/A	D/C/B	D/C	D
10	106	A	B/A	B/A	C/B/A	C/B/A	D/C/B	D/C/B	E/D/C	E/D
15	156	B/A	B/A	B/A	C/B/A	C/B	D/C	D/C/B	E/D	E
22	226	A	B/A	B/A	C/B/A	D/C/B/A	D/C/B	D/C	E/D	
33	336	A	C/B/A	C/B/A	D/C/B/A	D/C/B	D/C	E/D	E	
47	476	A	C/B/A	C/B/A	D/C/B/A	D/C/B	E/D/C	E/D	E	
68	686	B/A	D/C/B	D/C/B	D/C/B	D	E/D	E		
100	107	B/A	D/C/B/A	D/C/B/A	D/C/B	D/C	E/D			
150	157	B	D/C/B	D/C/B	E/D/C	E/D	E			
220	227	B	D/C/B	E/D/C	E/D	E/D				
330	337		E/D/C/B	E/D	E/D	E				
470	477		E	E/D	E					
680	687		E							

※: The first case code is standard product and the others are expansion products.

CONSTRUCTION



MARKING



A/B/C/D/E Case Marking

Rated Voltage Code

Rated Voltage (V_R)	2.5	4	6.3	10	16	20	25	35	50
Code	e	G	J	A	C	D	E	V	T

Capacitance Code

Capacitance (μF)	0.1	0.15	0.22	0.33	0.47	0.68	1.0	1.5	2.2	3.3	4.7	6.8
Code (A/B/C/D/E Case)	104	154	224	334	474	684	105	155	225	335	475	685
Capacitance (μF)	10	15	22	33	47	68	100	150	220	330	470	680
Code (A/B/C/D/E Case)	106	156	226	336	476	686	107	157	227	337	477	687

Chip Solid MnO₂ Tantalum Capacitor
Chip Solid Polymer Tantalum Capacitor
Chip Solid MnO₂ Tantalum Capacitor
Chip Solid Polymer Tantalum Capacitor

SPECIFICATIONS

TC211 TYPE

Rated Cap (uF)	Case	Part Number	DCL(μA) +25°C Max.	DF(%) +25°C 120Hz Max.	ESR(Ω) +25°C 100kHz Max.
2.5V, +85°C (1.6V @ +125°C)					
10	A	TC211A106	0.5	6.0	5.0
15	A	TC211A156	0.5	6.0	6.0
15	B	TC211B156	0.5	6.0	4.0
22	A	TC211A226	0.6	6.0	4.0
33	A	TC211A336	0.8	6.0	4.0
47	A	TC211A476	1.2	10.0	4.0
68	A	TC211A686	1.7	10.0	3.0
68	B	TC211B686	1.7	6.0	2.0
100	A	TC211A107	2.5	20.0	2.5
100	B	TC211B107	2.5	8.0	1.5
150	B	TC211B157	3.8	10.0	2.0
220	B	TC211B227	5.5	18.0	2.0
4V, +85°C (2.5V @ +125°C)					
2.2	A	TC211A225	0.5	6.0	8.0
3.3	A	TC211A335	0.5	6.0	8.0
4.7	A	TC211A475	0.5	6.0	8.0
6.8	A	TC211A685	0.5	6.0	6.0
10	A	TC211A106	0.5	6.0	6.0
10	B	TC211B106	0.5	6.0	3.5
15	A	TC211A156	0.6	6.0	4.0
15	B	TC211B156	0.6	6.0	3.5
22	A	TC211A226	0.9	6.0	4.0
22	B	TC211B226	0.9	6.0	3.5
33	A	TC211A336	1.3	6.0	4.0
33	B	TC211B336	1.3	6.0	3.5
33	C	TC211C336	1.3	6.0	1.8
47	A	TC211A476	1.9	6.0	3.0
47	B	TC211B476	1.9	6.0	3.0
47	C	TC211C476	1.9	6.0	1.8
68	B	TC211B686	2.7	6.0	3.5
68	C	TC211C686	2.7	6.0	1.6
68	D	TC211D686	2.7	6.0	0.8
100	A	TC211A107	4.0	18.0	5.0
100	B	TC211B107	4.0	8.0	2.0
100	C	TC211C107	4.0	8.0	1.3
100	D	TC211D107	4.0	8.0	0.8
150	B	TC211B157	6.0	15.0	2.0
150	C	TC211C157	6.0	8.0	1.2
150	D	TC211D157	6.0	8.0	0.8
220	B	TC211B227	8.8	18.0	0.5
220	C	TC211C227	8.8	8.0	1.0
220	D	TC211D227	8.8	8.0	0.8
330	B	TC211B337	13.2	18.0	1.2
330	C	TC211C337	13.2	8.0	1.2
330	D	TC211D337	13.2	8.0	0.7
330	E	TC211E337	13.2	8.0	0.8
470	E	TC211E477	18.8	8.0	0.8
680	E	TC211E687	27.2	8.0	0.5
6.3V, +85°C (4.0V @ +125°C)					
1	A	TC211A105	0.5	6.0	14.0

Rated Cap (uF)	Case	Part Number	DCL(μA) +25°C Max.	DF(%) +25°C 120Hz Max.	ESR(Ω) +25°C 100kHz Max.
1.5	A	TC211A155	0.5	6.0	8.0
2.2	A	TC211A225	0.5	6.0	8.0
3.3	A	TC211A335	0.5	6.0	8.0
4.7	A	TC211A475	0.5	6.0	6.0
6.8	A	TC211A685	0.5	6.0	6.0
6.8	B	TC211B685	0.5	6.0	3.5
10	A	TC211A106	0.6	6.0	4.0
10	B	TC211B106	0.6	6.0	3.5
15	A	TC211A156	0.9	6.0	4.0
15	B	TC211B156	0.9	6.0	3.5
22	A	TC211A226	1.3	6.0	4.0
22	B	TC211B226	1.3	6.0	3.5
33	A	TC211A336	2.1	8.0	4.5
33	B	TC211B336	2.1	6.0	3.0
33	C	TC211C336	2.1	6.0	1.8
47	A	TC211A476	3.0	8.0	3.5
47	B	TC211B476	3.0	6.0	3.0
47	C	TC211C476	3.0	6.0	1.6
68	B	TC211B686	4.3	10.0	1.2
68	C	TC211C686	4.3	6.0	1.2
68	D	TC211D686	4.3	6.0	0.8
100	A	TC211A107	6.3	20.0	4.0
100	B	TC211B107	6.3	10.0	3.0
100	C	TC211C107	6.3	8.0	1.2
100	D	TC211D107	6.3	8.0	0.8
150	B	TC211B157	9.5	15.0	1.0
150	C	TC211C157	9.5	8.0	1.2
150	D	TC211D157	9.5	8.0	0.8
220	B	TC211B227	39.9	18.0	1.0
220	C	TC211C227	13.9	8.0	1.2
220	D	TC211D227	13.9	8.0	0.7
220	E	TC211E227	13.9	8.0	0.5
330	D	TC211D337	20.8	8.0	0.5
330	E	TC211E337	20.8	8.0	0.5
470	D	TC211D477	29.6	12.0	0.4
470	E	TC211E477	29.6	10.0	0.5
10V, +85°C (6.3V @ +125°C)					
1.0	A	TC211A105	0.5	4.0	13.0
1.5	A	TC211A155	0.5	6.0	8.0
2.2	A	TC211A225	0.5	6.0	8.0
3.3	A	TC211A335	0.5	6.0	6.0
4.7	A	TC211A475	0.5	6.0	6.0
4.7	B	TC211B475	0.5	6.0	3.5
6.8	A	TC211A685	0.7	6.0	6.0
6.8	B	TC211B685	0.7	6.0	3.5
10	A	TC211A106	1.0	6.0	4.0
10	B	TC211B106	1.0	6.0	3.5
10	C	TC211C106	1.0	6.0	1.8
15	A	TC211A156	1.5	6.0	6.0
15	B	TC211B156	1.5	6.0	3.5
15	C	TC211C156	1.5	6.0	1.8

SPECIFICATIONS

TC211 TYPE

Rated Cap (uF)	Case	Part Number	DCL(μA) +25°C Max.	DF(%) +25°C 120Hz Max.	ESR(Ω) +25°C 100kHz Max.
22	A	TC211A226	2.2	8.0	4.0
22	B	TC211B226	2.2	6.0	3.3
22	C	TC211C226	2.2	6.0	1.8
33	A	TC211A336	3.3	15.0	6.0
33	B	TC211B336	3.3	6.0	3.5
33	C	TC211C336	3.3	6.0	1.6
33	D	TC211D336	3.3	6.0	0.8
47	A	TC211A476	4.7	15.0	4.0
47	B	TC211B476	4.7	6.0	1.0
47	C	TC211C476	4.7	6.0	1.2
47	D	TC211D476	4.7	6.0	0.8
68	B	TC211B686	6.8	10.0	3.0
68	C	TC211C686	6.8	6.0	1.2
68	D	TC211D686	6.8	6.0	0.8
100	B	TC211B107	10.0	15.0	1.5
100	C	TC211C107	10.0	8.0	1.2
100	D	TC211D107	10.0	8.0	0.7
150	C	TC211C157	15.0	10.0	0.9
150	D	TC211D157	15.0	8.0	0.7
150	E	TC211E157	15.0	8.0	0.5
220	D	TC211D227	22.0	8.0	0.5
220	E	TC211E227	22.0	8.0	0.5
330	D	TC211D337	33.0	10.0	0.5
330	E	TC211E337	33.0	10.0	0.5
470	E	TC211E477	47.0	10.0	0.5
16V, +85°C (10V @ +125°C)					
1	A	TC211A105	0.5	4.0	10.0
1.5	A	TC211A155	0.5	6.0	8.0
2.2	A	TC211A225	0.5	6.0	6.0
2.2	B	TC211B225	0.5	6.0	4.0
3.3	A	TC211A335	0.52	6.0	6.0
3.3	B	TC211B335	0.5	6.0	3.5
4.7	A	TC211A475	0.8	6.0	6.0
4.7	B	TC211B475	0.8	6.0	3.5
4.7	C	TC211C475	0.8	6.0	2.4
6.8	A	TC211A685	1.1	6.0	7.0
6.8	B	TC211B685	1.1	6.0	3.5
6.8	C	TC211C685	1.1	6.0	2.0
10	A	TC211A106	1.6	8.0	7.0
10	B	TC211B106	1.6	6.0	2.8
10	C	TC211C106	1.6	6.0	1.8
15	B	TC211B156	2.4	6.0	3.0
15	C	TC211C156	2.4	6.0	1.8
22	A	TC211A226	3.5	15.0	4.0
22	B	TC211B226	3.5	8.0	2.2
22	C	TC211C226	3.5	6.0	1.6
22	D	TC211D226	3.5	6.0	0.8
33	B	TC211B336	5.3	8.0	2.0
33	C	TC211C336	5.3	6.0	1.2
33	D	TC211D336	5.3	6.0	0.8
47	B	TC211B476	7.5	18.0	1.0

Rated Cap (uF)	Case	Part Number	DCL(μA) +25°C Max.	DF(%) +25°C 120Hz Max.	ESR(Ω) +25°C 100kHz Max.
47	C	TC211C476	7.5	6.0	1.2
47	D	TC211D476	7.5	6.0	0.8
68	D	TC211D686	10.8	6.0	0.8
100	C	TC211C107	16.0	10.0	1.0
100	D	TC211D107	16.0	8.0	0.7
150	D	TC211D157	24.0	12.0	0.7
150	E	TC211E157	24.0	8.0	0.5
220	D	TC211D227	35.2	15.0	0.9
220	E	TC211E227	35.2	10.0	0.5
330	E	TC211E337	52.8	10.0	0.5
20V, +85°C (13V @ +125°C)					
0.68	A	TC211A684	0.5	4.0	12.0
1	A	TC211A105	0.5	4.0	10.0
1.5	A	TC211A155	0.5	6.0	8.0
1.5	B	TC211B155	0.5	6.0	5.0
2.2	A	TC211A225	0.5	6.0	7.0
2.2	B	TC211B225	0.5	6.0	3.5
3.3	A	TC211A335	0.7	6.0	7.0
3.3	B	TC211B335	0.7	6.0	3.5
4.7	A	TC211A475	0.9	6.0	4.0
4.7	B	TC211B475	0.9	6.0	3.5
4.7	C	TC211C475	0.9	6.0	2.4
6.8	A	TC211A685	1.4	8.0	6.0
6.8	B	TC211B685	1.4	6.0	3.5
6.8	C	TC211C685	1.4	6.0	2.0
6.8	D	TC211D685	1.4	6.0	1.9
10	B	TC211B106	2.0	6.0	3.0
10	C	TC211C106	2.0	6.0	1.8
10	D	TC211D106	2.0	6.0	1.0
15	C	TC211C156	3.0	6.0	1.7
15	D	TC211D156	3.0	6.0	1.0
22	B	TC211B226	4.4	8.0	4.0
22	C	TC211C226	4.4	6.0	1.2
22	D	TC211D226	4.4	6.0	0.8
33	C	TC211C336	6.6	6.0	1.2
33	D	TC211D336	6.6	6.0	0.8
47	C	TC211C476	9.4	10.0	1.0
47	D	TC211D476	9.4	6.0	0.8
47	E	TC211E476	9.4	6.0	0.8
68	D	TC211D686	13.6	6.0	0.8
68	E	TC211E686	13.6	6.0	0.8
100	D	TC211D107	20.0	8.0	0.6
100	E	TC211E107	20.0	8.0	0.5
150	E	TC211E157	30.0	8.0	0.5
25V, +85°C (16V @ +125°C)					
0.33	A	TC211A334	0.5	4.0	15.0
0.47	A	TC211A474	0.5	4.0	14.0
0.68	A	TC211A684	0.5	4.0	10.0
1	A	TC211A105	0.5	4.0	8.0
1	B	TC211B105	0.5	4.0	5.0
1.5	A	TC211A155	0.5	6.0	10.0

Chip Solid MnO2
Tantalum Capacitor
Chip Solid Polymer
Tantalum Capacitor
Chip Solid MnO2
Tantalum Capacitor
Chip Solid Polymer
Tantalum Capacitor

SPECIFICATIONS

TC211 TYPE

Rated Cap (uF)	Case	Part Number	DCL(μA) +25°C Max.	DF(%) +25°C 120Hz Max.	ESR(Ω) +25°C 100kHz Max.
1.5	B	TC211B155 Ⓞ 025 □	0.5	6.0	5.0
2.2	A	TC211A225 Ⓞ 025 □	0.6	6.0	6.0
2.2	B	TC211B225 Ⓞ 025 □	0.6	6.0	4.5
2.2	C	TC211C225 Ⓞ 025 □	0.6	6.0	3.5
3.3	A	TC211A335 Ⓞ 025 □	0.8	6.0	7.0
3.3	B	TC211B335 Ⓞ 025 □	0.8	6.0	3.5
3.3	C	TC211C335 Ⓞ 025 □	0.8	6.0	2.5
4.7	A	TC211A475 Ⓞ 025 □	1.2	8.0	6.0
4.7	B	TC211B475 Ⓞ 025 □	1.2	6.0	2.0
4.7	C	TC211C475 Ⓞ 025 □	1.2	6.0	2.4
6.8	B	TC211B685 Ⓞ 025 □	1.7	6.0	3.0
6.8	C	TC211C685 Ⓞ 025 □	1.7	6.0	1.9
6.8	D	TC211D685 Ⓞ 025 □	1.7	6.0	1.2
10	B	TC211B106 Ⓞ 025 □	2.5	6.0	3.0
10	C	TC211C106 Ⓞ 025 □	2.5	6.0	1.5
10	D	TC211D106 Ⓞ 025 □	2.5	6.0	1.0
15	B	TC211B156 Ⓞ 025 □	3.8	8.0	4.0
15	C	TC211C156 Ⓞ 025 □	3.8	6.0	1.5
15	D	TC211D156 Ⓞ 025 □	3.8	6.0	1.0
22	C	TC211C226 Ⓞ 025 □	5.5	6.0	1.4
22	D	TC211D226 Ⓞ 025 □	5.5	6.0	0.8
33	D	TC211D336 Ⓞ 025 □	8.3	6.0	0.8
33	E	TC211E336 Ⓞ 025 □	8.3	6.0	0.7
47	D	TC211D476 Ⓞ 025 □	11.7	6.0	0.8
47	E	TC211E476 Ⓞ 025 □	11.7	6.0	0.7
68	E	TC211E686 Ⓞ 025 □	17.0	6.0	0.7
35V, +85°C (20V @ +125°C)					
0.33	A	TC211A334 Ⓞ 035 □	0.5	4.0	15.0
0.47	A	TC211A474 Ⓞ 035 □	0.5	4.0	14.0
0.47	B	TC211B474 Ⓞ 035 □	0.5	4.0	8.0
0.68	A	TC211A684 Ⓞ 035 □	0.5	4.0	10.0
0.68	B	TC211B684 Ⓞ 035 □	0.5	4.0	6.5
1	A	TC211A105 Ⓞ 035 □	0.5	4.0	10.0
1	B	TC211B105 Ⓞ 035 □	0.5	4.0	5.0
1.5	B	TC211B155 Ⓞ 035 □	0.5	6.0	5.0
1.5	C	TC211C155 Ⓞ 035 □	0.5	6.0	4.5
2.2	A	TC211A225 Ⓞ 035 □	0.8	6.0	6.0
2.2	B	TC211B225 Ⓞ 035 □	0.8	6.0	4.0
2.2	C	TC211C225 Ⓞ 035 □	0.8	6.0	3.5
3.3	B	TC211B335 Ⓞ 035 □	1.2	6.0	3.5
3.3	C	TC211C335 Ⓞ 035 □	1.2	6.0	2.5

Rated Cap (uF)	Case	Part Number	DCL(μA) +25°C Max.	DF(%) +25°C 120Hz Max.	ESR(Ω) +25°C 100kHz Max.
4.7	B	TC211B475 Ⓞ 035 □	1.6	6.0	3.0
4.7	C	TC211C475 Ⓞ 035 □	1.6	6.0	2.5
4.7	D	TC211D475 Ⓞ 035 □	1.6	6.0	1.5
6.8	C	TC211C685 Ⓞ 035 □	2.4	6.0	2.0
6.8	D	TC211D685 Ⓞ 035 □	2.4	6.0	1.5
10	C	TC211C106 Ⓞ 035 □	3.5	6.0	2.0
10	D	TC211D106 Ⓞ 035 □	3.5	6.0	1.0
10	E	TC211E106 Ⓞ 035 □	3.5	6.0	1.0
15	D	TC211D156 Ⓞ 035 □	5.3	6.0	1.0
15	E	TC211E156 Ⓞ 035 □	5.3	6.0	0.9
22	D	TC211D226 Ⓞ 035 □	7.7	6.0	0.8
22	E	TC211E226 Ⓞ 035 □	7.7	6.0	0.7
33	E	TC211E336 Ⓞ 035 □	11.0	6.0	0.6
47	E	TC211E476 Ⓞ 035 □	16.5	8.0	0.6
50V, +85°C (32V @ +125°C)					
0.15	B	TC211B154 Ⓞ 050 □	0.5	4.0	16.0
0.22	A	TC211A224 Ⓞ 050 □	0.5	4.0	18.0
0.22	B	TC211B224 Ⓞ 050 □	0.5	4.0	14.0
0.33	A	TC211A334 Ⓞ 050 □	0.5	4.0	15.0
0.33	B	TC211B334 Ⓞ 050 □	0.5	4.0	10.0
0.47	A	TC211A474 Ⓞ 050 □	0.5	4.0	12.0
0.47	B	TC211B474 Ⓞ 050 □	0.5	4.0	9.0
0.47	C	TC211C474 Ⓞ 050 □	0.5	4.0	8.0
0.68	A	TC211A684 Ⓞ 050 □	0.5	4.0	10.0
0.68	B	TC211B684 Ⓞ 050 □	0.5	4.0	8.0
0.68	C	TC211C684 Ⓞ 050 □	0.5	4.0	7.0
1	B	TC211B105 Ⓞ 050 □	0.5	6.0	6.0
1	C	TC211C105 Ⓞ 050 □	0.5	4.0	5.5
1.5	B	TC211B155 Ⓞ 050 □	0.8	6.0	4.5
1.5	C	TC211C155 Ⓞ 050 □	0.8	6.0	3.5
2.2	B	TC211B225 Ⓞ 050 □	1.1	6.0	2.0
2.2	C	TC211C225 Ⓞ 050 □	1.1	6.0	3.5
2.2	D	TC211D225 Ⓞ 050 □	1.1	6.0	2.5
3.3	B	TC211B335 Ⓞ 050 □	1.7	6.0	5.0
3.3	C	TC211C335 Ⓞ 050 □	1.7	6.0	3.0
3.3	D	TC211D335 Ⓞ 050 □	1.7	6.0	2.0
4.7	D	TC211D475 Ⓞ 050 □	2.4	6.0	1.5
6.8	D	TC211D685 Ⓞ 050 □	3.4	6.0	1.2
10	D	TC211D106 Ⓞ 050 □	5.0	6.0	1.0
10	E	TC211E106 Ⓞ 050 □	5.0	6.0	0.7
15	E	TC211E156 Ⓞ 050 □	7.5	6.0	0.7

SPECIFICATIONS

TC212 TYPE

Rated Cap (uF)	Case	Part Number	DCL(μA) +25°C Max.	DF(%) +25°C 120Hz Max.	ESR(Ω) +25°C 100kHz Max.
2.5V, +85°C (1.6V @ +125°C)					
10	A	TC212A106 002 □	0.5	6.0	4.0
15	A	TC212A156 002 □	0.5	6.0	4.0
15	B	TC212B156 002 □	0.5	6.0	3.0
22	A	TC212A226 002 □	0.6	6.0	3.0
33	A	TC212A336 002 □	0.8	6.0	3.0
47	A	TC212A476 002 □	1.2	10.0	3.0
68	A	TC212A686 002 □	1.7	10.0	2.5
68	B	TC212B686 002 □	1.7	6.0	1.8
100	A	TC212A107 002 □	2.5	20.0	2.0
100	B	TC212B107 002 □	2.5	8.0	1.0
150	B	TC212B157 002 □	3.8	10.0	1.5
220	B	TC212B227 002 □	5.5	18.0	1.5
4V, +85°C (2.5V @ +125°C)					
2.2	A	TC212A225 004 □	0.5	6.0	6.0
3.3	A	TC212A335 004 □	0.5	6.0	6.0
4.7	A	TC212A475 004 □	0.5	6.0	5.0
6.8	A	TC212A685 004 □	0.5	6.0	4.0
10	A	TC212A106 004 □	0.5	6.0	3.0
10	B	TC212B106 004 □	0.5	6.0	1.5
15	A	TC212A156 004 □	0.6	6.0	1.5
15	B	TC212B156 004 □	0.6	6.0	1.2
22	A	TC212A226 004 □	0.9	6.0	1.5
22	B	TC212B226 004 □	0.9	6.0	0.6
33	A	TC212A336 004 □	1.3	6.0	2.5
33	B	TC212B336 004 □	1.3	6.0	0.5
33	C	TC212C336 004 □	1.3	6.0	0.8
47	A	TC212A476 004 □	1.9	6.0	2.0
47	B	TC212B476 004 □	1.9	6.0	0.8
47	C	TC212C476 004 □	1.9	6.0	1.0
68	B	TC212B686 004 □	2.7	6.0	2.5
68	C	TC212C686 004 □	2.7	6.0	0.5
68	D	TC212D686 004 □	2.7	6.0	0.5
100	A	TC212A107 004 □	4.0	18.0	3.0
100	B	TC212B107 004 □	4.0	8.0	1.0
100	C	TC212C107 004 □	4.0	8.0	0.35
100	D	TC212D107 004 □	4.0	8.0	0.2
150	B	TC212B157 004 □	6.0	15.0	1.0
150	C	TC212C157 004 □	6.0	8.0	0.3
150	D	TC212D157 004 □	6.0	8.0	0.2
220	B	TC212B227 004 □	8.8	18.0	0.4
220	C	TC212C227 004 □	8.8	8.0	0.5
220	D	TC212D227 004 □	8.8	8.0	0.3
330	B	TC212B337 004 □	13.2	18.0	0.7
330	C	TC212C337 004 □	13.2	8.0	0.8
330	D	TC212D337 004 □	13.2	8.0	0.2
330	E	TC212E337 004 □	13.2	8.0	0.2
470	E	TC212E477 004 □	18.8	8.0	0.2
680	E	TC212E687 004 □	27.2	8.0	0.2
6.3V, +85°C (4.0V @ +125°C)					
1	A	TC212A105 006 □	0.5	6.0	10.0

Rated Cap (uF)	Case	Part Number	DCL(μA) +25°C Max.	DF(%) +25°C 120Hz Max.	ESR(Ω) +25°C 100kHz Max.
1.5	A	TC212A155 006 □	0.5	6.0	6.0
2.2	A	TC212A225 006 □	0.5	6.0	6.0
3.3	A	TC212A335 006 □	0.5	6.0	6.0
4.7	A	TC212A475 006 □	0.5	6.0	4.0
6.8	A	TC212A685 006 □	0.5	6.0	3.5
6.8	B	TC212B685 006 □	0.5	6.0	3.0
10	A	TC212A106 006 □	0.6	6.0	2.0
10	B	TC212B106 006 □	0.6	6.0	1.0
15	A	TC212A156 006 □	0.9	6.0	2.0
15	B	TC212B156 006 □	0.9	6.0	0.7
22	A	TC212A226 006 □	1.4	6.0	2.5
22	B	TC212B226 006 □	1.4	6.0	0.8
33	A	TC212A336 006 □	2.1	8.0	1.5
33	B	TC212B336 006 □	2.1	6.0	0.8
33	C	TC212C336 006 □	2.1	6.0	0.3
47	A	TC212A476 006 □	2.9	8.0	2.5
47	B	TC212B476 006 □	2.9	6.0	0.5
47	C	TC212C476 006 □	2.9	6.0	0.3
68	B	TC212B686 006 □	4.3	10.0	0.65
68	C	TC212C686 006 □	4.3	6.0	0.3
68	D	TC212D686 006 □	4.3	6.0	0.2
100	A	TC212A107 006 □	6.3	20.0	2.0
100	B	TC212B107 006 □	6.3	10.0	1.5
100	C	TC212C107 006 □	6.3	8.0	0.3
100	D	TC212D107 006 □	6.3	8.0	0.2
150	B	TC212B157 006 □	9.5	15.0	0.6
150	C	TC212C157 006 □	9.5	8.0	0.3
150	D	TC212D157 006 □	9.5	8.0	0.2
220	B	TC212B227 006 □	39.9	18.0	0.7
220	C	TC212C227 006 □	13.9	8.0	0.3
220	D	TC212D227 006 □	13.9	8.0	0.15
220	E	TC212E227 006 □	13.9	8.0	0.15
330	D	TC212D337 006 □	20.8	8.0	0.15
330	E	TC212E337 006 □	20.8	8.0	0.15
470	D	TC212D477 006 □	29.6	12.0	0.15
470	E	TC212E477 006 □	29.6	10.0	0.12
10V, +85°C (6.3V @ +125°C)					
1	A	TC212A105 010 □	0.5	4.0	8.0
1.5	A	TC212A155 010 □	0.5	6.0	6.0
2.2	A	TC212A225 010 □	0.5	6.0	6.0
3.3	A	TC212A335 010 □	0.5	6.0	4.0
4.7	A	TC212A475 010 □	0.5	6.0	3.0
4.7	B	TC212B475 010 □	0.5	6.0	1.5
6.8	A	TC212A685 010 □	0.7	6.0	3.0
6.8	B	TC212B685 010 □	0.7	6.0	1.2
10	A	TC212A106 010 □	1.0	6.0	1.8
10	B	TC212B106 010 □	1.0	6.0	0.8
10	C	TC212C106 010 □	1.0	6.0	0.6
15	A	TC212A156 010 □	1.5	6.0	4.0
15	B	TC212B156 010 □	1.5	6.0	0.7
15	C	TC212C156 010 □	1.5	6.0	0.5

Chip Solid MnO2
Tantalum Capacitor
Chip Solid Polymer
Tantalum Capacitor
Chip Solid MnO2
Tantalum Capacitor
Chip Solid Polymer
Tantalum Capacitor

SPECIFICATIONS

TC212 TYPE

Rated Cap (uF)	Case	Part Number	DCL(μA) +25°C Max.	DF(%) +25°C 120Hz Max.	ESR(Ω) +25°C 100kHz Max.
22	A	TC212A226 Ⓞ 010 □	2.2	8.0	2.5
22	B	TC212B226 Ⓞ 010 □	2.2	6.0	1.0
22	C	TC212C226 Ⓞ 010 □	2.2	6.0	0.4
33	A	TC212A336 Ⓞ 010 □	3.3	15.0	4.0
33	B	TC212B336 Ⓞ 010 □	3.3	6.0	1.0
33	C	TC212C336 Ⓞ 010 □	3.3	6.0	0.4
33	D	TC212D336 Ⓞ 010 □	3.3	6.0	0.25
47	A	TC212A476 Ⓞ 010 □	4.7	15.0	1.5
47	B	TC212B476 Ⓞ 010 □	4.7	6.0	0.65
47	C	TC212C476 Ⓞ 010 □	4.7	6.0	0.3
47	D	TC212D476 Ⓞ 010 □	4.7	6.0	0.22
68	B	TC212B686 Ⓞ 010 □	6.8	10.0	1.5
68	C	TC212C686 Ⓞ 010 □	6.8	6.0	0.3
68	D	TC212D686 Ⓞ 010 □	6.8	6.0	0.2
100	B	TC212B107 Ⓞ 010 □	10.0	15.0	1.0
100	C	TC212C107 Ⓞ 010 □	10.0	8.0	0.3
100	D	TC212D107 Ⓞ 010 □	10.0	8.0	0.15
150	C	TC212C157 Ⓞ 010 □	15.0	10.0	0.7
150	D	TC212D157 Ⓞ 010 □	15.0	8.0	0.15
150	E	TC212E157 Ⓞ 010 □	15.0	8.0	0.15
220	D	TC212D227 Ⓞ 010 □	22.0	8.0	0.15
220	E	TC212E227 Ⓞ 010 □	22.0	8.0	0.15
330	D	TC212D337 Ⓞ 010 □	33.0	10.0	0.15
330	E	TC212E337 Ⓞ 010 □	33.0	10.0	0.2
470	E	TC212E477 Ⓞ 010 □	47.0	10.0	0.2
16V, +85°C (10V @ +125°C)					
1	A	TC212A105 Ⓞ 016 □	0.5	4.0	8.0
1.5	A	TC212A155 Ⓞ 016 □	0.5	6.0	6.0
2.2	A	TC212A225 Ⓞ 016 □	0.5	6.0	4.0
2.2	B	TC212B225 Ⓞ 016 □	0.5	6.0	3.0
3.3	A	TC212A335 Ⓞ 016 □	0.5	6.0	5.0
3.3	B	TC212B335 Ⓞ 016 □	0.5	6.0	2.5
4.7	A	TC212A475 Ⓞ 016 □	0.8	6.0	5.0
4.7	B	TC212B475 Ⓞ 016 □	0.8	6.0	2.5
4.7	C	TC212C475 Ⓞ 016 □	0.8	6.0	1.5
6.8	A	TC212A685 Ⓞ 016 □	1.1	6.0	5.0
6.8	B	TC212B685 Ⓞ 016 □	1.1	6.0	2.5
6.8	C	TC212C685 Ⓞ 016 □	1.1	6.0	1.0
10	A	TC212A106 Ⓞ 016 □	1.6	8.0	3.0
10	B	TC212B106 Ⓞ 016 □	1.6	6.0	0.8
10	C	TC212C106 Ⓞ 016 □	1.6	6.0	1.5
15	B	TC212B156 Ⓞ 016 □	2.4	6.0	2.0
15	C	TC212C156 Ⓞ 016 □	2.4	6.0	1.2
22	A	TC212A226 Ⓞ 016 □	3.5	15.0	2.0
22	B	TC212B226 Ⓞ 016 □	3.5	8.0	1.5
22	C	TC212C226 Ⓞ 016 □	3.5	6.0	1.2
22	D	TC212D226 Ⓞ 016 □	3.5	6.0	0.6
33	B	TC212B336 Ⓞ 016 □	5.3	8.0	1.0
33	C	TC212C336 Ⓞ 016 □	5.3	6.0	1.0
33	D	TC212D336 Ⓞ 016 □	5.3	6.0	0.5

Rated Cap (uF)	Case	Part Number	DCL(μA) +25°C Max.	DF(%) +25°C 120Hz Max.	ESR(Ω) +25°C 100kHz Max.
47	B	TC212B476 Ⓞ 016 □	7.5	18.0	0.7
47	C	TC212C476 Ⓞ 016 □	7.5	6.0	0.8
47	D	TC212D476 Ⓞ 016 □	7.5	6.0	0.5
68	D	TC212D686 Ⓞ 016 □	10.8	6.0	0.5
100	C	TC212C107 Ⓞ 016 □	16.0	10.0	0.7
100	D	TC212D107 Ⓞ 016 □	16.0	8.0	0.5
150	D	TC212D157 Ⓞ 016 □	24.0	12.0	0.4
150	E	TC212E157 Ⓞ 016 □	24.0	8.0	0.15
220	D	TC212D227 Ⓞ 016 □	35.2	15.0	0.6
220	E	TC212E227 Ⓞ 016 □	35.2	10.0	0.2
330	E	TC212E337 Ⓞ 016 □	52.8	10.0	0.2
20V, +85°C (13V @ +125°C)					
0.68	A	TC212A684 Ⓞ 020 □	0.5	4.0	10.0
1	A	TC212A105 Ⓞ 020 □	0.5	4.0	8.0
1.5	A	TC212A155 Ⓞ 020 □	0.5	6.0	4.5
1.5	B	TC212B155 Ⓞ 020 □	0.5	6.0	1.5
2.2	A	TC212A225 Ⓞ 020 □	0.5	6.0	4.0
2.2	B	TC212B225 Ⓞ 020 □	0.5	6.0	3.0
3.3	A	TC212A335 Ⓞ 020 □	0.7	6.0	6.0
3.3	B	TC212B335 Ⓞ 020 □	0.7	6.0	2.5
4.7	A	TC212A475 Ⓞ 020 □	0.9	6.0	3.5
4.7	B	TC212B475 Ⓞ 020 □	0.9	6.0	2.5
4.7	C	TC212C475 Ⓞ 020 □	0.9	6.0	1.2
6.8	A	TC212A685 Ⓞ 020 □	1.4	8.0	3.0
6.8	B	TC212B685 Ⓞ 020 □	1.4	6.0	2.5
6.8	C	TC212C685 Ⓞ 020 □	1.4	6.0	1.2
6.8	D	TC212D685 Ⓞ 020 □	1.4	6.0	0.8
10	B	TC212B106 Ⓞ 020 □	2.0	6.0	2.0
10	C	TC212C106 Ⓞ 020 □	2.0	6.0	1.2
10	D	TC212D106 Ⓞ 020 □	2.0	6.0	0.8
15	C	TC212C156 Ⓞ 020 □	3.0	6.0	1.2
15	D	TC212D156 Ⓞ 020 □	3.0	6.0	0.8
22	B	TC212B226 Ⓞ 020 □	4.4	8.0	3.0
22	C	TC212C226 Ⓞ 020 □	4.4	6.0	0.4
22	D	TC212D226 Ⓞ 020 □	4.4	6.0	0.5
33	C	TC212C336 Ⓞ 020 □	6.6	6.0	0.6
33	D	TC212D336 Ⓞ 020 □	6.6	6.0	0.4
47	C	TC212C476 Ⓞ 020 □	9.4	10.0	0.8
47	D	TC212D476 Ⓞ 020 □	9.4	6.0	0.6
47	E	TC212E476 Ⓞ 020 □	9.4	6.0	0.3
68	D	TC212D686 Ⓞ 020 □	13.6	6.0	0.4
68	E	TC212E686 Ⓞ 020 □	13.6	6.0	0.3
100	D	TC212D107 Ⓞ 020 □	20.0	8.0	0.2
100	E	TC212E107 Ⓞ 020 □	20.0	8.0	0.2
150	E	TC212E157 Ⓞ 020 □	30.0	8.0	0.2
25V, +85°C (16V @ +125°C)					
0.33	A	TC212A334 Ⓞ 025 □	0.5	4.0	12.0
0.47	A	TC212A474 Ⓞ 025 □	0.5	4.0	10.0
0.68	A	TC212A684 Ⓞ 025 □	0.5	4.0	6.0
1	A	TC212A105 Ⓞ 025 □	0.5	4.0	6.0

SPECIFICATIONS

TC212 TYPE

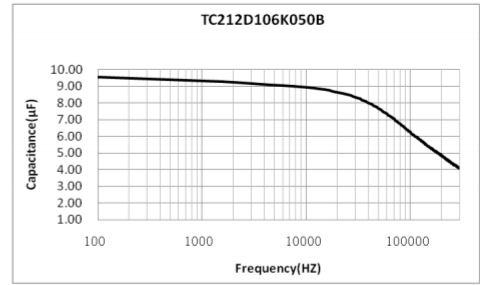
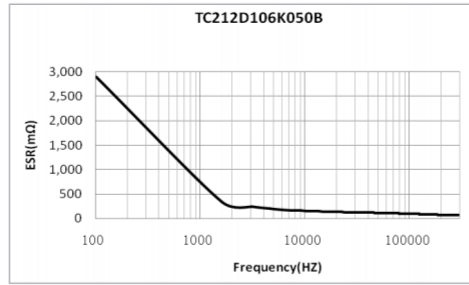
Rated Cap (uF)	Case	Part Number	DCL(μA) +25°C Max.	DF(%) +25°C 120Hz Max.	ESR(Ω) +25°C 100kHz Max.
1.0	B	TC212B105 ○ 025 □	0.5	4.0	4.0
1.5	A	TC212A155 ○ 025 □	0.5	6.0	5.0
1.5	B	TC212B155 ○ 025 □	0.5	6.0	3.5
2.2	A	TC212A225 ○ 025 □	0.6	6.0	4.0
2.2	B	TC212B225 ○ 025 □	0.6	6.0	3.0
2.2	C	TC212C225 ○ 025 □	0.6	6.0	2.0
3.3	A	TC212A335 ○ 025 □	0.8	6.0	3.0
3.3	B	TC212B335 ○ 025 □	0.8	6.0	2.5
3.3	C	TC212C335 ○ 025 □	0.8	6.0	2.0
4.7	A	TC212A475 ○ 025 □	1.2	8.0	3.0
4.7	B	TC212B475 ○ 025 □	1.2	6.0	1.0
4.7	C	TC212C475 ○ 025 □	1.2	6.0	0.6
6.8	B	TC212B685 ○ 025 □	1.7	6.0	1.2
6.8	C	TC212C685 ○ 025 □	1.7	6.0	0.8
6.8	D	TC212D685 ○ 025 □	1.7	6.0	0.5
10	B	TC212B106 ○ 025 □	2.5	6.0	2.0
10	C	TC212C106 ○ 025 □	2.5	6.0	1.4
10	D	TC212D106 ○ 025 □	2.5	6.0	0.8
15	B	TC212B156 ○ 025 □	3.8	8.0	3.0
15	C	TC212C156 ○ 025 □	3.8	6.0	1.2
15	D	TC212D156 ○ 025 □	3.8	6.0	0.8
22	C	TC212C226 ○ 025 □	5.5	6.0	1.0
22	D	TC212D226 ○ 025 □	5.5	6.0	0.6
33	D	TC212D336 ○ 025 □	8.3	6.0	0.6
33	E	TC212E336 ○ 025 □	8.3	6.0	0.5
47	D	TC212D476 ○ 025 □	11.7	6.0	0.4
47	E	TC212E476 ○ 025 □	11.7	6.0	0.4
68	E	TC212E686 ○ 025 □	17.0	6.0	0.3
35V, +85°C (20V @ +125°C)					
0.33	A	TC212A334 ○ 035 □	0.5	4.0	12.0
0.47	A	TC212A474 ○ 035 □	0.5	4.0	10.0
0.47	B	TC212B474 ○ 035 □	0.5	4.0	6.0
0.68	A	TC212A684 ○ 035 □	0.5	4.0	6.0
0.68	B	TC212B684 ○ 035 □	0.5	4.0	6.0
1	A	TC212A105 ○ 035 □	0.5	4.0	8.0
1	B	TC212B105 ○ 035 □	0.5	4.0	2.0
1.5	B	TC212B155 ○ 035 □	0.5	6.0	4.0
1.5	C	TC212C155 ○ 035 □	0.5	6.0	3.0
2.2	A	TC212A225 ○ 035 □	0.8	6.0	3.0
2.2	B	TC212B225 ○ 035 □	0.8	6.0	3.0
2.2	C	TC212C225 ○ 035 □	0.8	6.0	2.5
3.3	B	TC212B335 ○ 035 □	1.2	6.0	3.0

Rated Cap (uF)	Case	Part Number	DCL(μA) +25°C Max.	DF(%) +25°C 120Hz Max.	ESR(Ω) +25°C 100kHz Max.
3.3	C	TC212C335 ○ 035 □	1.2	6.0	2.0
4.7	B	TC212B475 ○ 035 □	1.6	6.0	2.0
4.7	C	TC212C475 ○ 035 □	1.6	6.0	2.0
4.7	D	TC212D475 ○ 035 □	1.6	6.0	1.0
6.8	C	TC212C685 ○ 035 □	2.4	6.0	1.2
6.8	D	TC212D685 ○ 035 □	2.4	6.0	0.8
10	C	TC212C106 ○ 035 □	3.5	6.0	1.5
10	D	TC212D106 ○ 035 □	3.5	6.0	0.6
10	E	TC212E106 ○ 035 □	3.5	6.0	0.6
15	D	TC212D156 ○ 035 □	5.25	6.0	0.8
15	E	TC212E156 ○ 035 □	5.3	6.0	0.6
22	D	TC212D226 ○ 035 □	7.7	6.0	0.6
22	E	TC212E226 ○ 035 □	7.7	6.0	0.3
33	E	TC212E336 ○ 035 □	11.0	6.0	0.5
47	E	TC212E476 ○ 035 □	16.5	8.0	0.5
50V, +85°C (32V @ +125°C)					
0.15	B	TC212B154 ○ 050 □	0.5	4.0	12.0
0.22	A	TC212A224 ○ 050 □	0.5	4.0	15.0
0.22	B	TC212B224 ○ 050 □	0.5	4.0	12.0
0.33	A	TC212A334 ○ 050 □	0.5	4.0	12.0
0.33	B	TC212B334 ○ 050 □	0.5	4.0	8.0
0.47	A	TC212A474 ○ 050 □	0.5	4.0	8.0
0.47	B	TC212B474 ○ 050 □	0.5	4.0	6.0
0.47	C	TC212C474 ○ 050 □	0.5	4.0	5.0
0.68	A	TC212A684 ○ 050 □	0.5	4.0	8.0
0.68	B	TC212B684 ○ 050 □	0.5	4.0	5.0
0.68	C	TC212C684 ○ 050 □	0.5	4.0	4.0
1	B	TC212B105 ○ 050 □	0.5	6.0	4.0
1	C	TC212C105 ○ 050 □	0.5	4.0	3.5
1.5	B	TC212B155 ○ 050 □	0.8	6.0	3.5
1.5	C	TC212C155 ○ 050 □	0.8	6.0	2.5
2.2	B	TC212B225 ○ 050 □	1.1	6.0	1.5
2.2	C	TC212C225 ○ 050 □	1.1	6.0	3.0
2.2	D	TC212D225 ○ 050 □	1.1	6.0	2.0
3.3	B	TC212B335 ○ 050 □	1.7	6.0	3.0
3.3	C	TC212C335 ○ 050 □	1.7	6.0	2.0
3.3	D	TC212D335 ○ 050 □	1.7	6.0	1.0
4.7	D	TC212D475 ○ 050 □	2.4	6.0	0.8
6.8	D	TC212D685 ○ 050 □	3.4	6.0	0.7
10	D	TC212D106 ○ 050 □	5.0	6.0	0.7
10	E	TC212E106 ○ 050 □	5.0	6.0	0.4
15	E	TC212E156 ○ 050 □	7.5	6.0	0.4

※ ○ :Capacitance tolerance code (K=±10%, M=±20%); □ : Internal code (B=Black molded case, Laser marking; Y=Yellow molded case, Laser marking).

Chip Solid MnO2 Tantalum Capacitor
Chip Solid Polymer Tantalum Capacitor
Chip Solid MnO2 Tantalum Capacitor
Chip Solid Polymer Tantalum Capacitor

TYPICAL FREQUENCY CHARACTERISTICS



单击下面可查看定价，库存，交付和生命周期等信息

[>>Sunlord\(顺络\)](#)