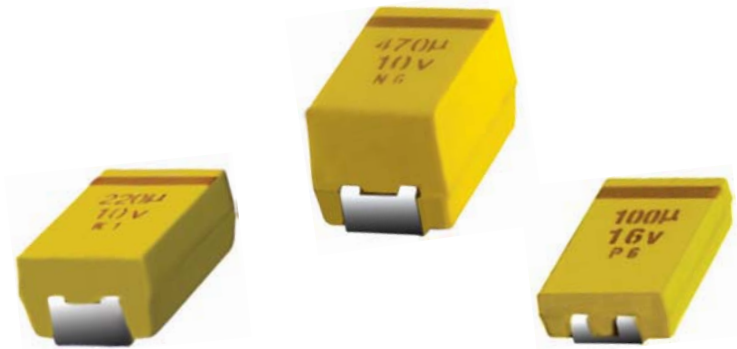


## Standard and Extended Range



### FEATURES

- Lead-free, RoHS compliant
- Meets or exceeds EIA 535 BAAC and IECQ standards (QC300801/US0001, IS - 28)
- Capacitance range: 0.1  $\mu\text{f}$  to 1000  $\mu\text{f}$
- Voltage range: 4 to 50 WVDC
- Down sized, extended range values
- Low profile sizes (see low profile section)
- Surge tested for maximum robustness
- Operating temperature range -55°C to +125°C, 2/3 x Vr (linear derating) above +85°C
- Precision molded case with flat surfaces for vacuum pick-up
- Laser marking and bold videcon - readable polarity stripe
- Compliant terminations
- Glue pad on underside for bonding to circuit board prior to soldering
- Encapsulant material satisfies the UL 94 VO flammability classification
- Termination finish 90% Sn / 10% Pb available

Capacitance (µF)	Case Size	Nemco Part No.	DCL (µA) max.	tan δ max. (%)	ESR @ 100kHz max. (Ω)
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Capacitance (µF)	Case Size	Nemco Part No.	DCL (µA) max.	tan δ max. (%)	ESR @ 100kHz max. (Ω)
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### 4 V DC @ 85°C

33.0	A	PCT33 / 4A _	1.3	6	3.0
47.0	A	PCT47 / 4A _	1.9	8	2.6
68.0	B	PCT68 / 4B _	2.7	8	1.8
100.0	B	PCT100 / 4B _	4.0	8	0.9
150.0	B	PCT150 / 4B _	6.0	8	1.5
220.0	C	PCT220 / 4C _	8.8	8	1.2
220.0	D	PCT220 / 4D _	8.8	8	0.9
330.0	C	PCT330 / 4C _	13.2	8	0.9
330.0	D	PCT330 / 4D _	13.2	8	0.9
470.0	D	PCT470 / 4D _	18.8	12	0.9
470.0	H	PCT470 / 4H _	18.8	10	0.5
680.0	D	PCT680 / 4D _	27.2	10	0.5
680.0	H	PCT680 / 4H _	27.2	14	0.9
1000.0	H	PCT1000 / 4H _	27.2	14	0.4

### 10 V DC @ 85°C

2.2	A	PCT2.2 / 10A _	0.5	6	7.0
4.7	A	PCT4.7 / 10A _	0.5	6	5.0
6.8	A	PCT6.8 / 10A _	0.7	6	4.0
6.8	B	PCT6.8 / 10B _	0.7	6	3.0
10.0	A	PCT10 / 10A _	1.0	6	3.0
10.0	B	PCT10 / 10B _	1.0	6	2.5
15.0	A	PCT15 / 10A _	1.5	6	3.2
15.0	B	PCT15 / 10B _	1.5	6	2.8
22.0	A	PCT22 / 10A _	2.2	8	3.0
22.0	B	PCT22 / 10B _	2.2	6	2.4
22.0	C	PCT22 / 10C _	2.2	6	1.8
33.0	B	PCT33 / 10B _	3.3	6	1.8
33.0	C	PCT33 / 10C _	3.3	6	1.6
47.0	B	PCT47 / 10B _	4.7	8	1.0
47.0	C	PCT47 / 10C _	4.7	6	1.2
47.0	D	PCT47 / 10D _	4.7	6	0.9
68.0	C	PCT68 / 10C _	6.8	6	1.3
68.0	D	PCT68 / 10D _	6.8	6	0.9
100.0	C	PCT100 / 10C _	10.0	8	1.2
100.0	D	PCT100 / 10D _	10.0	6	0.9
150.0	C	PCT150 / 10C _	15.0	8	0.9
150.0	D	PCT150 / 10D _	15.0	6	0.9
150.0	H	PCT150 / 10H _	15.0	8	0.9
220.0	D	PCT220 / 10D _	22.0	8	0.5
220.0	H	PCT220 / 10H _	22.0	8	0.5
330.0	D	PCT330 / 10D _	33.0	8	0.9
330.0	H	PCT330 / 10H _	33.0	8	0.9
470.0	H	PCT470 / 10H _	47.0	10	0.5

### 6.3 V DC @ 85°C

10.0	A	PCT10 / 6A _	0.6	6	4.0
10.0	B	PCT10 / 6B _	0.6	6	3.0
15.0	A	PCT15 / 6A _	0.9	6	3.5
15.0	B	PCT15 / 6B _	1.0	6	2.5
22.0	A	PCT22 / 6A _	1.4	6	3.0
22.0	B	PCT22 / 6B _	1.4	6	2.5
33.0	A	PCT33 / 6A _	2.1	8	2.5
33.0	B	PCT33 / 6B _	2.1	6	2.2
33.0	C	PCT33 / 6C _	2.1	6	1.8
47.0	B	PCT47 / 6B _	3.0	6	2.0
47.0	C	PCT47 / 6C _	3.0	6	1.6
68.0	B	PCT68 / 6B _	4.0	8	0.9
68.0	C	PCT68 / 6C _	4.3	6	1.5
68.0	D	PCT68 / 6D _	4.3	6	0.9
100.0	B	PCT100 / 6B _	6.3	10	1.7
100.0	C	PCT100 / 6C _	6.3	6	0.9
100.0	D	PCT100 / 6D _	6.3	6	0.9
150.0	C	PCT150 / 6C _	9.5	6	1.3
150.0	D	PCT150 / 6D _	9.5	6	0.9
220.0	C	PCT220 / 6C _	13.9	8	1.2
220.0	D	PCT220 / 6D _	13.9	8	0.9
220.0	H	PCT220 / 6H _	13.9	8	0.9
330.0	D	PCT330 / 6D _	20.8	8	0.4
330.0	H	PCT330 / 6H _	20.8	8	0.4
470.0	D	PCT470 / 6D _	28.0	12	0.4
470.0	H	PCT470 / 6H _	28.0	10	0.4
680.0	H	PCT680 / 6H _	42.8	10	0.5
1000.0	Z	PCT1000 / 6Z _	63.0	16	0.4

### 16 V DC @ 85°C

1.0	A	PCT1 / 16A _	0.5	4	11.0
1.5	A	PCT1.5 / 16A _	0.5	6	8.0
2.2	A	PCT2.2 / 16A _	0.5	6	6.5
3.3	A	PCT3.3 / 16A _	0.5	6	5.0
3.3	B	PCT3.3 / 16B _	0.5	6	4.5
4.7	A	PCT4.7 / 16A _	0.8	6	4.0
4.7	B	PCT4.7 / 16B _	0.8	6	3.5
6.8	A	PCT6.8 / 16A _	1.1	6	3.5
6.8	B	PCT6.8 / 16B _	1.1	6	2.5
6.8	C	PCT6.8 / 16C _	1.1	6	2.5
10.0	A	PCT10 / 16A _	1.6	8	3.0
10.0	B	PCT10 / 16B _	1.6	6	2.8
10.0	C	PCT10 / 16C _	1.6	8	2.0
15.0	B	PCT15 / 16B _	2.4	6	2.5
15.0	C	PCT15 / 16C _	2.4	6	1.8
22.0	B	PCT22 / 16B _	3.5	6	2.3
22.0	C	PCT22 / 16C _	3.5	6	1.6
22.0	D	PCT22 / 16D _	3.5	6	1.1
33.0	B	PCT33 / 16B _	5.3	8	2.1
33.0	C	PCT33 / 16C _	5.3	6	1.5
33.0	D	PCT33 / 16D _	5.3	6	0.9
47.0	C	PCT47 / 16C _	7.5	6	1.4
47.0	D	PCT47 / 16D _	7.5	6	0.9
68.0	C	PCT68 / 16C _	10.9	6	1.3
68.0	D	PCT68 / 16D _	10.9	6	0.9
100.0	D	PCT100 / 16D _	16.0	6	0.9
100.0	H	PCT100 / 16H _	16.0	6	0.9
150.0	D	PCT150 / 16D _	24.0	6	0.9
150.0	H	PCT150 / 16H _	24.0	6	0.9
220.0	H	PCT220 / 16H _	35.2	10	0.5

\_ Insert tolerance M (±20%) or K(±10%) to complete the Nemco part number

Higher voltage ratings, lower ESR and tighter tolerance product may be substituted within the same case size, to the same reliability standards.

Capacitance (μF)	Case Size	Nemco Part No.	DCL (μA) max.	tan δ max. (%)	ESR @ 100kHz max. (Ω)
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Capacitance (μF)	Case Size	Nemco Part No.	DCL (μA) max.	tan δ max. (%)	ESR @ 100kHz max. (Ω)
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## 20 V DC @ 85°C

1.0	A	PCT1 / 20A _	0.5	4	9.0
1.5	A	PCT1.5 / 20A _	0.5	6	6.5
2.2	A	PCT2.2 / 20A _	0.5	6	5.3
2.2	B	PCT2.2 / 20B _	0.5	6	3.5
3.3	A	PCT3.3 / 20A _	0.7	6	4.5
3.3	B	PCT3.3 / 20B _	0.7	6	3.0
4.7	A	PCT4.7 / 20A _	0.9	6	4.0
4.7	B	PCT4.7 / 20B _	0.9	6	3.0
6.8	B	PCT6.8 / 20B _	1.4	6	2.5
6.8	C	PCT6.8 / 20C _	1.4	6	2.0
10.0	B	PCT10 / 20B _	2.0	6	2.1
10.0	C	PCT10 / 20C _	2.0	6	1.9
15.0	B	PCT15 / 20B _	3.0	6	2.0
15.0	C	PCT15 / 20C _	3.0	6	1.7
22.0	B	PCT22 / 20B _	4.4	6	1.8
22.0	C	PCT22 / 20C _	4.4	6	1.6
22.0	D	PCT22 / 20D _	4.4	6	0.9
33.0	C	PCT33 / 20C _	6.6	6	1.5
33.0	D	PCT33 / 20D _	6.6	6	0.9
47.0	D	PCT47 / 20D _	9.4	6	0.7
47.0	H	PCT47 / 20H _	9.4	6	0.9
68.0	D	PCT68 / 20D _	13.6	6	0.7
68.0	H	PCT68 / 20H _	13.6	6	0.7
100.0	D	PCT100 / 20D _	20.0	8	0.7
100.0	H	PCT100 / 20H _	20.0	8	0.7

## 35 V DC @ 85°C

0.1	A	PCT.1 / 35A _	0.5	4	24.0
0.15	A	PCT.15 / 35A _	0.5	4	21.0
0.22	A	PCT.22 / 35A _	0.5	4	18.0
0.33	A	PCT.33 / 35A _	0.5	4	15.0
0.47	A	PCT.47 / 35A _	0.5	4	12.0
0.47	B	PCT.47 / 35B _	0.5	4	10.0
0.68	A	PCT.68 / 35A _	0.5	4	8.0
0.68	B	PCT.68 / 35B _	0.5	4	8.0
1.0	A	PCT1 / 35A _	0.5	4	7.5
1.0	B	PCT1 / 35B _	0.5	4	6.5
1.5	A	PCT1.5 / 35A _	0.5	6	7.5
1.5	B	PCT1.5 / 35B _	0.5	6	5.2
1.5	C	PCT1.5 / 35C _	0.5	6	4.5
2.2	B	PCT2.2 / 35B _	0.8	6	4.2
2.2	C	PCT2.2 / 35C _	0.8	6	3.5
3.3	B	PCT3.3 / 35B _	1.2	6	3.5
3.3	C	PCT3.3 / 35C _	1.2	6	2.5
3.3	D	PCT3.3 / 35D _	1.2	6	2.5
4.7	B	PCT4.7 / 35B _	1.6	6	3.1
4.7	C	PCT4.7 / 35C _	1.6	6	2.2
4.7	D	PCT4.7 / 35D _	1.6	6	1.5
6.8	C	PCT6.8 / 35C _	2.4	6	1.8
6.8	D	PCT6.8 / 35D _	2.4	6	1.3
10.0	C	PCT10 / 35C _	3.5	6	1.6
10.0	D	PCT10 / 35D _	3.5	6	1.0
10.0	H	PCT10 / 35H _	3.5	6	0.9
15.0	C	PCT15 / 35C _	5.3	6	1.4
15.0	D	PCT15 / 35D _	5.3	6	0.9
22.0	D	PCT22 / 35D _	7.7	6	0.9
22.0	H	PCT22 / 35H _	7.7	6	0.9
33.0	D	PCT33 / 35D _	11.6	6	0.9
33.0	H	PCT33 / 35H _	11.6	6	0.9
47.0	H	PCT47 / 35H _	16.5	6	0.9

## 25 V DC @ 85°C

1.0	A	PCT1 / 25A _	0.5	4	8.0
1.5	A	PCT1.5 / 25A _	0.5	6	7.5
1.5	B	PCT1.5 / 25B _	0.5	6	5.0
2.2	A	PCT2.2 / 25A _	0.6	6	7.0
2.2	B	PCT2.2 / 25B _	0.6	6	4.5
3.3	B	PCT3.3 / 25B _	0.8	6	3.5
3.3	C	PCT3.3 / 25C _	0.8	6	2.8
4.7	B	PCT4.7 / 25B _	1.2	6	2.8
4.7	C	PCT4.7 / 25C _	1.2	6	2.4
6.8	B	PCT6.8 / 25B _	1.7	6	2.8
6.8	C	PCT6.8 / 25C _	1.7	6	2.0
10.0	C	PCT10 / 25C _	2.5	6	1.8
10.0	D	PCT10 / 25D _	2.5	6	1.2
15.0	C	PCT15 / 25C _	3.8	6	1.6
15.0	D	PCT15 / 25D _	3.8	6	1.0
22.0	C	PCT22 / 25C _	5.5	6	1.4
22.0	D	PCT22 / 25D _	5.5	6	0.9
33.0	D	PCT33 / 25D _	8.3	6	0.9
33.0	H	PCT33 / 25H _	8.3	6	0.9
47.0	D	PCT47 / 25D _	11.8	6	0.9
47.0	H	PCT47 / 25H _	11.8	6	0.9
68.0	H	PCT68 / 25H _	17.0	6	0.9

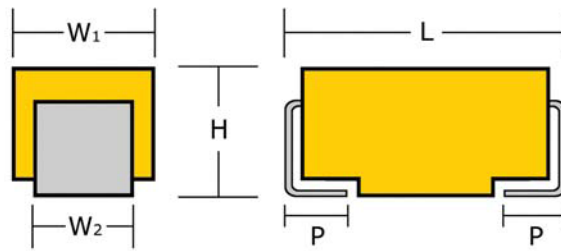
## 50 V DC @ 85°C

0.1	A	PCT.1 / 50A _	0.5	4	22.0
0.15	A	PCT.15 / 50A _	0.5	4	15.0
0.15	B	PCT.15 / 50B _	0.5	4	17.0
0.22	A	PCT.22 / 50A _	0.5	4	18.0
0.22	B	PCT.22 / 50B _	0.5	4	14.0
0.33	B	PCT.33 / 50B _	0.5	4	12.0
0.47	C	PCT.47 / 50C _	0.5	4	8.0
0.68	C	PCT.68 / 50C _	0.5	4	7.0
1.0	B	PCT1 / 50B _	0.5	4	7.0
1.0	C	PCT1 / 50C _	0.5	4	5.5
1.5	C	PCT1.5 / 50C _	0.8	6	4.5
1.5	D	PCT1.5 / 50D _	0.8	6	4.0
2.2	C	PCT2.2 / 50C _	1.1	6	3.0
2.2	D	PCT2.2 / 50D _	1.1	6	2.5
3.3	C	PCT3.3 / 50C _	1.7	6	2.5
3.3	D	PCT3.3 / 50D _	1.7	6	2.0
4.7	D	PCT4.7 / 50D _	2.4	6	1.4
6.8	D	PCT6.8 / 50D _	3.4	6	1.0
10.0	H	PCT10 / 50H _	5.0	6	1.0

\_ Insert tolerance M (±20%) or K(±10%) to complete the Nemco part number

Higher voltage ratings, lower ESR and tighter tolerance product may be substituted within the same case size, to the same reliability standards.

## Surface Mount Tantalum Case Dimensions



millimeters (inches)



### Standard PCT and LSR

NEMCO Case Size	EIA / IECQ Case Size	L $\pm 0.2 (\pm 0.008)$	$W_1$ $\pm 0.2 (\pm 0.008)$	H $\pm 0.2 (\pm 0.008)$	$W_2$ $\pm 0.1 (\pm 0.004)$	P $\pm 0.3 (\pm 0.012)$
A **	3216-18	3.2 (.126)	1.6 (.063)	1.6 (.063)	1.2 (.047)	0.8 (.031)
B	3528-21	3.5 (.138)	2.8 (.110)	1.9 (.075)	2.2 (.087)	0.8 (.031)
C	6032-28	6.0 (.236)	3.2 (.126)	2.6 (.102)	2.2 (.087)	1.3 (.051)
D	7343-31	7.3 (.287)	4.3 (.169)	2.9 (.114)	2.4 (.094)	1.3 (.051)
H	7343-43	7.3 (.287)	4.3 (.169)	4.1 (.162)	2.4 (.094)	1.3 (.051)
Z	7361-37	7.3 (.287)	6.1 (.240)	3.45 $\pm$ 0.3 (.136 $\pm$ .012)	3.1 (.120)	1.4 (.055)



### Low Profile PCT and LSR

NEMCO Case Size	EIA / IECQ Case Size	L $\pm 0.2 (\pm 0.008)$	$W_1$ $\pm 0.2 (\pm 0.008)$	H (Max.)	$W_2$ $\pm 0.1 (\pm 0.004)$	P $\pm 0.3 (\pm 0.012)$
XL *	2012-12	2.05 (.080)	1.3 (.050)	1.2 (.047)	1.2 (.047)	0.5 (.020)
AL **	3216-12	3.2 (.126)	1.6 (.063)	1.2 (.047)	1.2 (.047)	0.8 (.031)
BL	3528-12	3.5 (.138)	2.8 (.110)	1.2 (.047)	2.2 (.087)	0.8 (.031)
CL	6032-15	6.0 (.236)	3.2 (.126)	1.5 (.059)	2.2 (.087)	1.3 (.051)
DL	7343-20	7.3 (.287)	4.3 (.169)	2.0 (.079)	2.4 (.094)	1.3 (.051)

\* 0805 Footprint Compatible

\*\* 1206 Footprint Compatible