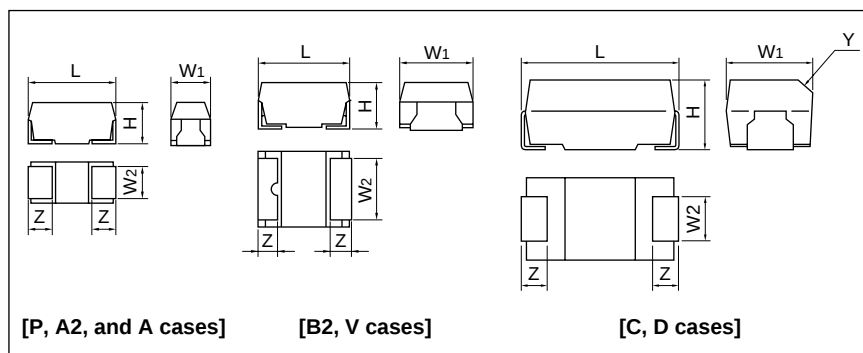


CONDUCTIVE POLYMER TANTALUM CAPACITORS (NeoCapacitors)

P S / L Series NeoCapacitors

DIMENSIONS [mm]



Unit: mm

Case Code	EIA code	L	W ₁	W ₂	H	Z	Y
J	—	1.6 ± 0.1	0.8 ± 0.1	0.6 ± 0.1	0.8 ± 0.1	0.3 ± 0.15	—
P	2012	2.0 ± 0.2	1.25 ± 0.2	0.9 ± 0.1	1.1 ± 0.1	0.5 ± 0.1	—
A2 (U)	3216L	3.2 ± 0.2	1.6 ± 0.2	1.2 ± 0.1	1.1 ± 0.1	0.8 ± 0.2	—
A	3216H	3.2 ± 0.2	1.6 ± 0.2	1.2 ± 0.1	1.6 ± 0.2	0.8 ± 0.2	—
B3 (W)	—	3.5 ± 0.2	2.8 ± 0.2	2.2 ± 0.1	1.1 ± 0.1	0.8 ± 0.2	—
B2 (S)	3528	3.5 ± 0.2	2.8 ± 0.2	2.3 ± 0.1	1.9 ± 0.2	0.8 ± 0.2	—
C	6032	6.0 ± 0.2	3.2 ± 0.2	2.2 ± 0.1	2.5 ± 0.2	1.3 ± 0.2	0.4 C
V	—	7.3 ± 0.2	4.3 ± 0.2	2.4 ± 0.1	1.9 ± 0.1	1.3 ± 0.2	—
D	7343	7.3 ± 0.2	4.3 ± 0.2	2.4 ± 0.1	2.8 ± 0.2	1.3 ± 0.2	0.5 C

DC Rated Voltage (Vdc)	4	6.3	10
2.2		J	
3.3		J, P	A
4.7		J, P	A2, A
6.8		P, A	A, B2
10	P, A	P, A2, A	A, B2
15		A, B2	B2, C
22	B2	A, B3, B2	B2, C
33	A	B3, B2	B2, C
47	A, B3	B2, C	C, V, D
68	C	C	V, D
100	B2	B2, C	V, D
150	C	C, V, D	D
220	V, D	D	
330	D	D	
470	D		

PERFORMANCE CHARACTERISTICS

Operating temperature range
–55 to +105°C with no voltage derating

Surge voltage

Rated voltage	4	6.3	10	V
Surge	5.2	8	13	V

Capacitance (at 20°C, 1 kHz)

Range: 2.2 μF to 470 μF

Tolerance: ±20%

Capacitance change with temperature

Not to exceed –20% at –55°C, +50% at 85°C

Tangent of loss angle (at 20°C, 1 kHz)

Refer to Standard Ratings

DC leakage current (at 20°C)

0.1 C•V^{Note} μA or 3 μA, whichever is greater

Equivalent series resistance (ESR)

(at 20°C, 100 kHz)

Refer to Standard Ratings

Damp heat (90 to 95% RH at 40°C, 500 h)

Capacitance: +30% to –20%
of rated capacitance

Tangent of loss angle: 150% of initial
requirements

DC leakage current: initial requirements

Endurance (at 85°C, DC rated voltage, 1000 h)

Capacitance change: ±20%

Tangent of loss angle: 150% of initial
requirements

DC leakage current: initial requirements

Resistance to soldering heat

(solder reflow at 240°C, 10 s.)

Capacitance change: ±20%

Tangent of loss angle: initial requirements

DC leakage current: initial requirements

Permissible ripple current

0.5 Ap-p (J case)

0.7 Ap-p (P case)

1 Ap-p (A2, A cases)

1.5 Ap-p (B3, B2 cases)

2.0 Ap-p (C case)

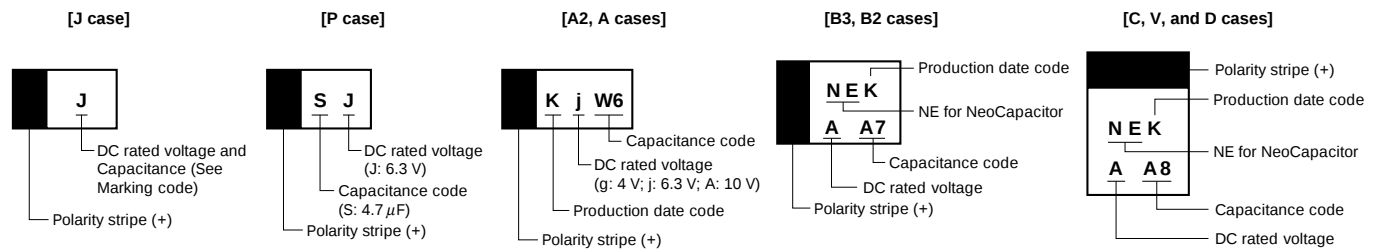
2.5 Ap-p (V case)

2.5 Ap-p (D case)

Note: Product of capacitance in μF and voltage in V.

See pages 31 and 32 for taping specifications.

MARKINGS



[J case Marking code]

μ F \ U _R	4 V	6.3 V	10 V
2.2		Г	
3.3		Г	
4.7		J	
6.8			
10			

[P case Marking code]

μ F \ U _R	4 V	6.3 V	10 V
3.3		NJ	
4.7		SJ	
6.8		WJ	
10	AG	AJ	

[Capacitance code]

Code	A	E	J	N	S	W	Code	6	7	8
Number	1	1.5	2.2	3.3	4.7	6.8	Multiplier	10^6	10^7	10^8

Example: A7 = $1.0 \times 10^7 = 10^7$ (pF) = 10 μ F

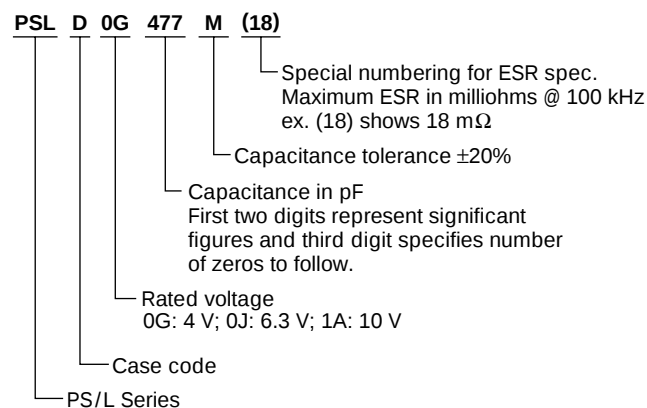
[Production date code]

Month \ Year	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2001	A	B	C	D	E	F	G	H	J	K	L	M
2002	N	P	Q	R	S	T	U	V	W	X	Y	Z
2003	a	b	c	d	e	f	g	h	j	k	l	m
2004	n	p	q	r	s	t	u	v	w	x	y	z

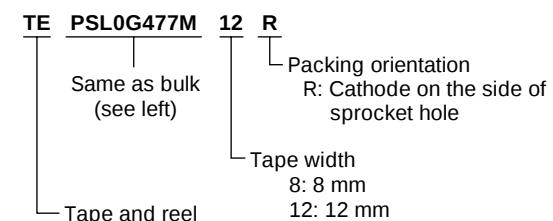
Note: Date code will repeat beginning in 2005.

PART NUMBER SYSTEM

Bulk



Tape and Reel



STANDARD RATINGS

Part Number	Capacitance (μ F)	Case Code	DC Leakage Current (μ A)	Tangent of Loss Angle	ESR ($m\Omega$)	Permissible Ripple Current (Ap-p)
4 V Rating						
PSLP0G106M	10	P	4	0.06	500	0.7
PSLA0G106M	10	A	4	0.06	500	1.0
PSLB20G226M	22	B2	8.8	0.08	300	1.5
PSLA0G336M	33	A	13.2	0.06	500	0.7
PSLA0G476M	47	A	18.8	0.06	200	1.0
PSLB30G476M	47	B3	18.8	0.10	80	1.5
PSLC0G686M	68	C	27.2	0.09	100	2.0
PSLB20G107M	100	B2	40	0.08	70	1.5
PSLC0G157M	150	C	60	0.09	100	2.0
PSLV0G227M	220	V	88	0.10	45	2.5
PSLV0G227M(25)	220	V	88	0.10	25	2.5
PSLD0G227M	220	D	88	0.10	55	2.5
PSLD0G227M(40)	220	D	88	0.10	40	2.5
PSLD0G227M(25)	220	D	88	0.10	25	2.5
PSLD0G337M	330	D	132	0.10	40	2.5
PSLD0G337M(25)	330	D	132	0.10	25	2.5
PSLD0G477M	470	D	188	0.10	25	2.5
PSLD0G477M(18)	470	D	188	0.10	18	2.5
6.3 V Rating						
PSLJ0J225M	2.2	J	10	0.04	600	0.5
PSLJ0J335M	3.3	J	10	0.04	600	0.5
PSLP0J335M	3.3	P	3	0.06	500	0.7
PSLJ0J475M	4.7	J	10	0.04	600	0.5
PSLP0J475M	4.7	P	2.9	0.06	500	0.7
PSLP0J685M	6.8	P	4.28	0.06	500	0.7
PSLA0J685M	6.8	A	4.2	0.06	800	1.0
PSLP0J106M	10	P	6.3	0.06	500	0.7
PSLA20J106M	10	A2	6.3	0.06	500	1.0
PSLA0J106M	10	A	6.3	0.06	500	1.0
PSLA0J156M	15	A	9.45	0.06	500	1.0
PSLB20J156M	15	B2	9.4	0.08	300	1.5
PSLA0J226M	22	A	13.8	0.06	500	1.0
PSLB30J226M	22	B3	13.9	0.10	80	1.5
PSLB20J226M	22	B2	13.8	0.08	300	1.5
PSLB30J336M	33	B3	20.8	0.10	80	1.5
PSLB20J336M	33	B2	20.7	0.08	300	1.5
PSLB20J476M	47	B2	29.6	0.08	200	1.5
PSLB20J476M(70)	47	B2	29.6	0.08	70	1.5
PSLC0J476M	47	C	29.6	0.09	100	2.0
PSLC0J686M	68	C	42.8	0.09	100	2.0
PSLB20J107M	100	B2	6.3	0.08	70	1.5
PSLB20J107M(45)	100	B2	6.3	0.08	45	1.5
PSLC0J107M	100	C	63.0	0.09	100	2.0
PSLC0J157M	150	C	94.5	0.09	100	2.0
PSLC0J157M(55)	150	C	94.5	0.09	55	2.0
PSLV0J157M	150	V	94.5	0.10	45	2.5
PSLD0J157M	150	D	94.5	0.10	55	2.5
PSLD0J157M(40)	150	D	94.5	0.10	40	2.5
PSLD0J157M(25)	150	D	94.5	0.10	25	2.5
PSLD0J227M	220	D	138.6	0.10	55	2.5
PSLD0J227M(40)	220	D	138.6	0.10	55	2.5
PSLD0J337M	330	D	207.9	0.10	40	2.5
PSLD0J337M(25)	330	D	207.9	0.10	25	2.5

Part Number	Capacitance (μ F)	Case Code	DC Leakage Current (μ A)	Tangent of Loss Angle	ESR (m Ω)	Permissible Ripple Current (Ap-p)
10 V Rating						
PSLA1A335M	3.3	A	3.3	0.06	800	1.0
PSLA21A475M	4.7	A2	4.7	0.06	500	1.0
PSLA1A475M	4.7	A	4.7	0.06	800	1.0
PSLA1A685M	6.8	A	6.8	0.06	800	1.0
PSLB21A685M	6.8	B2	6.8	0.08	500	1.5
PSLA1A106M	10	A	10	0.06	300	1.0
PSLB21A106M	10	B2	10	0.08	300	1.5
PSLB21A156M	15	B2	9.5	0.08	300	1.5
PSLC1A156M	15	C	15	0.08	200	2.0
PSLB21A226M	22	B2	13.8	0.08	300	1.5
PSLC1A226M	22	C	22	0.09	150	2.0
PSLB21A336M	33	B2	33	0.08	200	2.0
PSLC1A336M	33	C	33	0.08	100	2.0
PSLC1A476M	47	C	47	0.09	100	2.0
PSLV1A476M	47	V	47	0.10	60	2.5
PSLD1A476M	47	D	47	0.10	100	2.5
PSLV1A686M	68	V	68	0.10	60	2.5
PSLD1A686M	68	D	68	0.10	100	2.5
PSLV1A107M	100	V	100	0.10	45	2.5
PSLD1A107M	100	D	100	0.10	55	2.5
PSLD1A157M	150	D	150	0.10	55	2.5
PSLD1A157M(40)	150	D	150	0.10	40	2.5