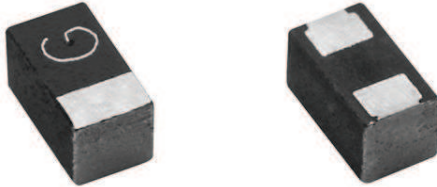


## Solid Tantalum Chip Capacitors, MICROTAN<sup>®</sup>, High CV Leadframeless Molded



### FEATURES

- Highest capacitance-voltage product in industry
- Mounting: Surface mount
- Small sizes include 0603 and 0402 footprint
- Lead (Pb)-free L-shaped face-down terminations
- 8 mm tape and reel packaging available per EIA-481 and reeling per IEC 60286-3 7" [178 mm] standard
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
**GREEN**  
(5-2008)

### PERFORMANCE CHARACTERISTICS

**Operating Temperature:** - 55 °C to + 85 °C  
(to + 125 °C voltage derating)

**Capacitance Range:** 10 µF to 100 µF

**Capacitance Tolerance:** ± 20 % standard

**Voltage Rating:** 4 V<sub>DC</sub> to 10 V<sub>DC</sub>

ORDERING INFORMATION						
298W	107	X0	010	Q	2	T
TYPE	CAPACITANCE	CAPACITANCE TOLERANCE	DC VOLTAGE RATING AT + 85 °C	CASE CODE	TERMINATION	REEL SIZE AND PACKAGING
	This is expressed in pF. The first two digits are the significant figures. The third is the number of zeros to follow.	<b>X0 = ± 20 %</b> <b>X9 = ± 10 %</b>	This is expressed in V. To complete the three-digit block, zeros precede the voltage rating. A decimal point is indicated by an "R" (6R3 = 6.3 V).	See Ratings and Case Codes table	<b>2 = 100 % tin</b> <b>4 = Gold plated</b>	<b>T = Tape and reel</b> <b>7" [178 mm] reel</b>

### Note

- Preferred tolerances and reel sizes are in bold. We reserve the right to supply higher voltage ratings and tighter capacitance tolerance capacitors in the same case size. Voltage substitutions will be marked with the higher voltage rating.

DIMENSIONS in inches [millimeters]						
CASE CODE	L	W	H (MAX.)	P1	P2 (REF.)	C
K	0.039 ± 0.008 [1.0 ± 0.2]	0.02 ± 0.008 [0.5 ± 0.2]	0.024 [0.6]	0.01 ± 0.004 [0.25 ± 0.1]	0.02 [0.5]	0.015 ± 0.004 [0.38 ± 0.1]
M	0.063 ± 0.008 [1.60 ± 0.2]	0.033 ± 0.008 [0.85 ± 0.2]	0.035 [0.9]	0.020 ± 0.004 [0.50 ± 0.1]	0.024 [0.60]	0.024 ± 0.004 [0.60 ± 0.1]
Q	0.126 ± 0.008 [3.2 ± 0.2]	0.063 ± 0.008 [1.6 ± 0.2]	0.039 [1.0]	0.031 ± 0.004 [0.80 ± 0.1]	0.063 [1.60]	0.047 ± 0.004 [1.20 ± 0.1]
G	0.063 ± 0.008 [1.60 ± 0.2]	0.033 ± 0.008 [0.85 ± 0.2]	0.047 [1.2]	0.020 ± 0.004 [0.50 ± 0.1]	0.024 [0.60]	0.024 ± 0.004 [0.60 ± 0.1]
L	0.079 ± 0.004 [2.0 ± 0.2]	0.050 ± 0.004 [1.25 ± 0.2]	0.039 [1.0]	0.020 ± 0.004 [0.50 ± 0.1]	0.04 [1.0]	0.035 ± 0.004 [0.90 ± 0.1]

RATINGS AND CASE CODES			
μF	4 V	6.3 V	10 V
10		K	
22	K <sup>(1)</sup>		M <sup>(1)</sup>
33			G <sup>(1)</sup>
47		G <sup>(1)</sup> /L <sup>(1)</sup>	
100	M <sup>(1)</sup>		Q
220	Q		

**Note**
<sup>(1)</sup> In development.

MARKING				
	VOLTAGE CODE		CAPACITANCE CODE	
	V	CODE	CAP. μF	CODE
<b>G-, M-Case</b>  <b>K-Case</b> 	2.5	e	0.68	w̄
	4	G	1	A
	6.3	J	2.2	J
	10	A	3.3	N
	16	C	4.7	S
	20	D	6.8	W
	25	E	10	α
	35	V	15	e
	50	T	22	j
			33	n
		47	s	
		68	w	
		100	Ā	
		150	Ē	
		220	J̄	
<b>L-, Q-Case</b> 				

STANDARD RATINGS							
CAPACITANCE (μF)	CASE CODE	PART NUMBER	MAX. DCL AT + 25 °C (μA)	MAX. DF AT + 25 °C 120 Hz (%)	MAX. ESR AT + 25 °C 100 kHz (Ω)	MAX. RIPPLE 100 kHz I <sub>RMS</sub> (A)	ΔC/C (%)
<b>4 V<sub>DC</sub> AT + 40 °C; 2.5 V<sub>DC</sub> + 85 °C; 1.6 V<sub>DC</sub> AT + 125 °C</b>							
22	K <sup>(1)</sup>	298W226X0004K2T	25.0	40.0	20.0	TBD	± 30
100	M <sup>(1)</sup>	298W107X0004M2T	110.0	60.0	15.0	0.041	± 30
220	Q	298W227X0004Q2T	88.0	80.0	15.0	0.061	± 30
<b>6.3 V<sub>DC</sub> AT + 40 °C; 4.0 V<sub>DC</sub> + 85 °C; 2.5 V<sub>DC</sub> AT + 125 °C</b>							
10	K	298W106X06R3K2T	10.0	30.0	15.0	0.032	± 30
47	L <sup>(1)</sup>	298W476X06R3L2T	3.0	25.0	2.0	TBD	± 30
47	G <sup>(1)</sup>	298W476X06R3G2T	30.0	50.0	15.0	TBD	± 30
<b>10 V<sub>DC</sub> AT + 40 °C; 6.3 V<sub>DC</sub> + 85 °C; 4.0 V<sub>DC</sub> AT + 125 °C</b>							
22	M <sup>(1)</sup>	298W226X0010M2T	22.0	40.0	10.0	0.050	± 30
33	G <sup>(1)</sup>	298W336X0010G2T	33.0	45.0	15.0	TBD	± 30
100	Q	298W107X0010Q2T	100	75.0	15.0	0.060	± 35

**Note**
<sup>(1)</sup> In development.