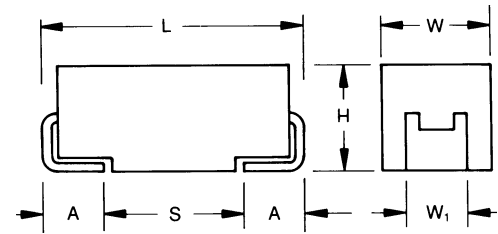


FEATURES

- The six case sizes of the 522Z conform to the sizes most required by the major OEMs throughout Europe and America. These sizes conform to the Electronics Industry Associations of U.S. and Japan recommended standards for Tantalum Chip Capacitors.
- Available with capacitance tolerances of $\pm 10\%$ and $\pm 20\%$.
- Operational temperature $-55^{\circ}\text{C} \sim +85^{\circ}\text{C}$ at rated voltage and up to $+125^{\circ}\text{C}$ with voltage derating.
- 522Z is now available in standard and extended ranges.
- Note on sizes:
A, B, C, D – EIA standard EIA-535BAAC
E – Extended range (high profile D case).
- Test frequency is 120Hz.



PART NUMBERING

Part Number Example: 522Z-016/101KTRD0125F									
522Z	-	016	/	101	K	TR	D	0125	F
Type		Rated DC Voltage		Capacitance Code (μF)*	Tolerance Code	Package Code**	Case Code	Max: ESR	RoHs Compliant
* Capacitance Code: First two digits represent significant figure, third digit represents multiplier (number of zeros).									
** Package Code: TR = Tape & Reel.									

SPECIFICATIONS

Performance Characteristics										
Operating Temperature Range		$-55^{\circ}\text{C} \sim +85^{\circ}\text{C}$ (125°C with voltage derating).								
Rated Voltage (WVDC)	$\leq +85^{\circ}\text{C}$	6.3	10	16	20	25	35	25	35	50
Surge Voltage (VDC)	$\leq +85^{\circ}\text{C}$	8	13	20	26	32	46	32	46	65
	$\leq +125^{\circ}\text{C}$	5	8	12	16	20	28	20	28	40
Category Voltage (VDC)	$\leq +125^{\circ}\text{C}$	4	7	10	13	17	23	17	23	33
Capacitance Range (120Hz)		0.1 μF ~ 680 μF .								
Capacitance Tolerance		$\pm 10\%$ & $\pm 20\%$.								
Maximum Dissipation Factor % (120Hz)		4 (CR $\leq 1 \mu\text{F}$). 6 (CR $> 1 \mu\text{F}$). 8 (E case with CR $100 \geq \mu\text{F}$).								
Environmental Classification		55/125/56 (IEC 68-2).								
Technical Data		All technical data relates to an ambient temperature of 20°C .								

See Type 522 for technical data.

CASE DIMENSIONS INCHES (mm)

Code	$L \pm 0.008$ (± 0.2)	$W + 0.008 (+0.2),$ $-0.004 (-0.1)$	$H + 0.008 (+0.2),$ $-0.004 (-0.1)$	$W_1 \pm 0.008$ ($+0.2$)	$A + 0.012 (+0.3),$ $-0.008 (-0.2)$	P Minimum
A	0.126 (3.2)	0.063 (1.6)	0.063 (1.6)	0.047 (1.2)	0.031 (0.8)	0.043 (1.1)
B	0.138 (3.5)	0.11 (2.8)	0.075 (1.9)	0.087 (2.2)	0.031 (0.8)	0.055 (1.4)
C	0.236 (6.0)	0.126 (3.2)	0.102 (2.6)	0.087 (2.2)	0.051 (1.3)	0.114 (2.9)
D	0.287 (7.3)	0.169 (4.3)	0.114 (2.9)	0.094 (2.4)	0.051 (1.3)	0.173 (4.4)
E	0.287 (7.3)	0.169 (4.3)	0.162 (4.1)	0.094 (2.4)	0.051 (1.3)	0.173 (4.4)

W1 dimension applies to the termination width for A dimensional area only.

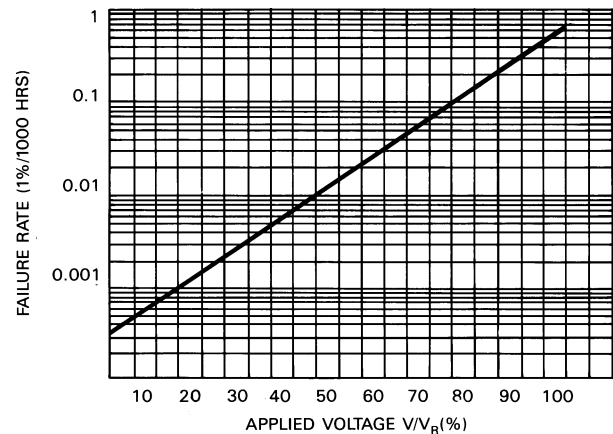
STANDARD RANGE (EIA AND EIA-J SIZES; LETTER DENOTES CODE)

Capacitance μF	WVDC @ 85°C					
	6.3	10	16	20	25	35
1.5					A	
3.3			A			
4.7				A	B	C
6.8						
10		A		B	C	D/E
15	A	A	B	C		C/D
22		B	C		D	D/E
33	B	C	C	D	E	D
47		C	C/D	E	D	
68			D	E		
100	C	C/D/E	D/E			
150	D	D	D			
220	D	D/E				
330	E	D/E				
470	E	E				

50V values available upon request.

OPERATING VOLTAGE/VOLTAGE DERATING

- If a capacitor with a higher voltage rating than the maximum line voltage is used, then the operating reliability will be improved. This is known as voltage derating. The graph at right shows the relationship between voltage derating (the ratio between applied and rated voltage) and failure rate. The graph gives the correction factor $F(V)$ for any operating voltage.
- Where less than 0.1Ω per volt series resistance is employed, a 70% derating factor is recommended. Consult factory for further information under these conditions.



Effect of applied voltage on basic failure rate for typical component (60% confidence level).

RATINGS AND PART NUMBER REFERENCE

Tecate Part Number	Case Size	Capacitance μ F	Rated Voltage	DCL (μ A) Max.	DF % Max.	ESR Max. (m Ω) @ 100kHz	100kHz Ripple Current (mA) Ratings		
							25°C	85°C	125°C
522Z-6R3/150*TRA1500	A	15	6.3	0.9	6	1500	224	200	89
522Z-6R3/330*TRB0600	B	33	6.3	2.1	6	600	376	337	151
522Z-6R3/101*TRC0150	C	100	6.3	6.3	6	150	856	766	343
522Z-6R3/151*TRD0125	D	150	6.3	9.5	6	125	1095	980	438
522Z-6R3/221*TRD0100	D	220	6.3	13.9	6	100	1225	1095	490
522Z-6R3/331*TRE0100	E	330	6.3	20.8	8	100	1285	1149	514
522Z-6R3/331*TRE0125	E	330	6.3	20.8	8	125	1149	1028	460
522Z-6R3/331*TRE0150	E	330	6.3	20.8	8	150	1049	938	420
522Z-6R3/471*TRE0050	E	470	6.3	29.6	10	50	1817	1625	727
522Z-6R3/471*TRE0100	E	470	6.3	29.6	10	100	1285	1149	514
522Z-6R3/471*TRE0200	E	470	6.3	29.6	10	200	908	812	363
522Z-010/100*TRA1800	A	10	10	1.0	6	1800	204	183	82
522Z-010/150*TRA1000	A	15	10	1.5	6	1000	274	245	110
522Z-010/220*TRB0700	B	22	10	2.2	6	700	348	312	139
522Z-010/330*TRC0375	C	33	10	3.3	6	375	542	484	217
522Z-010/330*TRC0500	C	33	10	3.3	6	500	469	420	188
522Z-010/470*TRC0350	C	47	10	4.7	6	350	561	501	224
522Z-010/101*TRC0200	C	100	10	10.0	6	200	742	663	297
522Z-010/101*TRD0065	D	100	10	10.0	6	65	1519	1359	608
522Z-010/101*TRD0080	D	100	10	10.0	6	80	1369	1225	547
522Z-010/101*TRD0100	D	100	10	10.0	6	100	1225	1095	490
522Z-010/101*TRD0125	D	100	10	10.0	6	125	1095	980	438
522Z-010/101*TRD0140	D	100	10	10.0	6	140	1035	926	414
522Z-010/101*TRD0150	D	100	10	10.0	6	150	1000	894	400
522Z-010/101*TRE0125	E	100	10	10.0	6	125	1149	1028	460
522Z-010/151*TRD0100	D	150	10	15.0	6	100	1225	1095	490
522Z-010/221*TRD0150	D	220	10	22.0	8	150	1000	894	400
522Z-010/221*TRE0060	E	220	10	22.0	8	60	1658	1483	663
522Z-010/221*TRE0100	E	220	10	22.0	8	100	1285	1149	514
522Z-010/221*TRE0125	E	220	10	22.0	8	125	1149	1028	460
522Z-010/221*TRE0150	E	220	10	22.0	8	150	1049	938	420
522Z-010/331*TRD0150	D	330	10	33.0	8	150	1000	894	400
522Z-010/331*TRE0060	E	330	10	33.0	8	60	1658	1483	663
522Z-010/331*TRE0100	E	330	10	33.0	8	100	1285	1149	514
522Z-010/471*TRE0050	E	470	10	47.0	10	50	1817	1625	727
522Z-010/471*TRE0100	E	470	10	47.0	10	100	1285	1149	514
522Z-010/471*TRE0200	E	470	10	47.0	10	200	908	812	363

*Indicates capacitance tolerance code: K(\pm 10%) or M(\pm 20%).

NOTE: Voltage ratings are minimum values. We reserve the right to supply higher voltage ratings in the same case size.

RATINGS AND PART NUMBER REFERENCE (CONT.)

Tecate Part Number	Case Size	Capacitance μ F	Rated Voltage	DCL (μ A) Max.	DF % Max.	ESR Max. (m Ω) @ 100kHz	100KHz Ripple Current (mA) Ratings		
							25°C	85°C	125°C
522Z-016/3R3*TRA3500	A	3.3	16	0.5	6	3500	146	131	59
522Z-016/150*TRB0800	B	15	16	2.4	6	800	326	292	130
522Z-016/220*TRC0375	C	22	16	3.5	6	375	542	484	217
522Z-016/330*TRC0300	C	33	16	5.3	6	300	606	542	242
522Z-016/470*TRC0350	C	47	16	7.5	6	350	561	501	224
522Z-016/470*TRD0150	D	47	16	7.5	6	150	1000	894	400
522Z-016/470*TRD0200	D	47	16	7.5	6	200	866	775	346
522Z-016/680*TRD0150	D	68	16	10.9	6	150	1000	894	400
522Z-016/101*TRD0125	D	100	16	16.0	6	125	1095	980	438
522Z-016/101*TRD0150	D	100	16	16.0	6	150	1000	894	400
522Z-016/101*TRE0100	E	100	16	16.0	6	100	1285	1149	514
522Z-016/101*TRE0125	E	100	16	16.0	6	125	1149	1028	460
522Z-016/101*TRE0150	E	100	16	16.0	6	150	1049	938	420
522Z-016/151*TRD0150	D	150	16	24.0	8	150	1000	894	400
522Z-016/221*TRE0100	E	220	16	35.2	8	100	1285	1149	514
522Z-020/4R7*TRA1800	A	4.7	20	0.9	6	1800	204	183	82
522Z-020/100*TRB1000	B	10	20	2.0	6	1000	292	261	117
522Z-020/150*TRC0450	C	15	20	3.0	6	450	494	442	198
522Z-020/330*TRD0200	D	33	20	6.6	6	200	866	775	346
522Z-020/470*TRE0150	E	47	20	9.4	6	150	1049	938	420
522Z-020/680*TRE0125	E	68	20	13.6	6	125	1149	1028	160
522Z-020/680*TRE0150	E	68	20	13.6	6	150	1049	938	420
522Z-025/1R5*TRA3000	A	1.5	25	0.5	6	3000	158	141	63
522Z-025/4R7*TRB1500	B	4.7	25	1.2	6	1500	238	213	95
522Z-025/100*TRC0500	C	10	25	2.5	6	500	469	420	188
522Z-025/220*TRD0200	D	22	25	5.5	6	200	866	775	346
522Z-025/330*TRE0175	E	33	25	8.3	6	175	971	868	388
522Z-025/330*TRE0200	E	33	25	8.3	6	200	908	812	363
522Z-025/330*TRE0300	E	33	25	8.3	6	300	742	663	297
522Z-025/470*TRD0250	D	47	25	11.8	6	250	775	693	310
522Z-035/4R7*TRC0600	C	4.7	35	1.6	6	600	428	383	171
522Z-035/100*TRD0300	D	10	35	3.5	6	300	707	632	283
522Z-035/100*TRE0200	E	10	35	3.5	6	200	908	812	363
522Z-035/150*TRC0450	C	15	35	5.3	6	450	494	442	198
522Z-035/150*TRD0300	D	15	35	5.3	6	300	707	632	283
522Z-035/220*TRD0400	D	22	35	7.7	6	400	612	548	245
522Z-035/220*TRE0200	E	22	35	7.7	6	200	908	812	363
522Z-035/220*TRE0300	E	22	35	7.7	6	300	742	663	297
522Z-035/330*TRE0300	D	33	35	11.6	6	300	707	632	283

*Indicates capacitance tolerance code: K(\pm 10%) or M(\pm 20%).

NOTE: Voltage ratings are minimum values. We reserve the right to supply higher voltage ratings in the same case size.