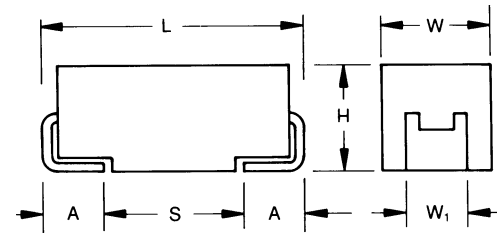


### FEATURES

- The five case sizes of the 522 conform to the sizes most required by the major OEMs throughout Europe and North 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  $\pm 20\%$ .
- Operating temperature  $-55^{\circ}\text{C} \sim +85^{\circ}\text{C}$  at rated voltage and up to  $+125^{\circ}\text{C}$  with voltage derating.
- 522 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 120Hz.



### PART NUMBERING

Part Number Example: 522-016/100KTRAF								
522	-	016	/	100	K	TR	A	F
Type		Rated DC Voltage		Capacitance Code ( $\mu\text{F}$ )*	Tolerance Code	Package Code**	Case Code	RoHs Compliant
* Capacitance Code: First two digits represent significant figure, third digit represents multiplier (number of zeros).								
** Package Code: TR = Tape & Reel.								

### SPCIFICATIONS

Performance Characteristics										
Operating Temperature Range		$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$ derated.								
Rated Voltage (WVDC)	$\leq +85^{\circ}\text{C}$	2.5	4	6.3	10	16	20	25	35	50
Surge Voltage (VDC)	$\leq +85^{\circ}\text{C}$	2.7	5.2	8	13	20	26	32	46	65
	$\leq +125^{\circ}\text{C}$	1.7	3.2	5	8	12	16	20	28	40
Category Voltage (VDC)	$\leq +125^{\circ}\text{C}$	1.3	2.7	4	7	10	13	17	23	33
Capacitance Range (120Hz)		0.1 $\mu\text{F}$ ~ 1500 $\mu\text{F}$ .								
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 $20^{\circ}\text{C}$ .								

### RATINGS AND PART NUMBER REFERENCE

2.5 VOLT @ 85°C (1.7V @ 125°C)					
Tecate Part Number	Case Size	Cap (µF)	DCL	DF%	ESR
522-2R5/470*TRAF	A	47	0.9	6	3
522-2R5/680*TRAF	A	68	1.4	8	1.5
522-2R5/101*TRAF	A	100	2.5	30	1.4
522-2R5/101*TRBF	B	100	2.5	8	1.4
522-2R5/151*TRBF	B	150	3	10	1.6
522-2R5/221*TRBF	B	220	4.4	16	1.6
522-2R5/221*TRDF	D	220	5.5	8	0.3
522-2R5/331*TRDF	D	330	8.2	8	0.3
522-2R5/471*TRCF	C	470	9.4	12	0.2
522-2R5/471*TRDF	D	470	11.6	8	0.2
522-2R5/681*TRCF	C	680	17	18	0.2
522-2R5/681*TRDF	D	680	17	16	0.2
522-2R5/681*TREF	E	680	17	10	0.2
522-2R5/102MTRDF	D	1000	25	20	0.2
522-2R5/102*TREF	E	1000	20	14	0.4
522-2R5/152*TRDF	D	1500	37.5	60	0.2
522-2R5/152*TREF	E	1500	37	20	0.2

4 VOLT @ 85°C (1.7V @ 125°C)					
Tecate Part Number	Case Size	Cap (µF)	DCL	DF%	ESR
522-4R0/3R3*TRAF	A	3.3	0.5	6	8
522-4R0/4R7*TRAF	A	4.7	0.5	6	8
522-4R0/6R8*TRAF	A	6.8	0.5	6	6
522-4R0/100*TRAF	A	10	0.5	6	6
522-4R0/100*TRBF	B	10	0.5	6	3.5
522-4R0/150*TRAF	A	15	0.6	6	4
522-4R0/150*TRBF	B	15	0.6	6	3.5
522-4R0/220*TRAF	A	22	0.9	6	4
522-4R0/220*TRBF	B	22	0.9	6	3.5
522-4R0/220*TRCF	C	22	0.9	6	1.8
522-4R0/330*TRAF	A	33	1.3	6	4
522-4R0/330*TRBF	B	33	1.3	6	3.5
522-4R0/330*TRCF	C	33	1.3	6	1.8
522-4R0/470*TRAF	A	47	1.9	12	2.6
522-4R0/470*TRBF	B	47	1.9	6	3
522-4R0/470*TRCF	C	47	1.9	6	1.8
522-4R0/680*TRAF	A	68	2.7	10	1.5
522-4R0/680*TRBF	B	68	2.7	6	1.8
522-4R0/680*TRCF	C	68	2.7	6	1.6
522-4R0/680*TRDF	D	68	2.7	6	0.8
522-4R0/101*TRAF	A	100	4	30	1.4
522-4R0/101*TRBF	B	100	4	8	0.9
522-4R0/101*TRCF	C	100	6	8	1.2
522-4R0/101*TRDF	D	100	4	8	0.8
522-4R0/151*TRBF	B	150	6	10	1.5
522-4R0/151*TRCF	C	150	6	6	0.3
522-4R0/151*TRDF	D	150	6	8	0.8
522-4R0/221MTRBF	B	220	8.8	12	1.1
522-4R0/221*TRCF	C	220	8.8	8	1.2
522-4R0/221*TRDF	D	220	8.8	8	0.9
522-4R0/331*TRCF	C	330	13.2	8	0.9
522-4R0/331*TRDF	D	330	13.2	8	0.9
522-4R0/471*TRCF	C	470	18.8	14	0.3
522-4R0/471*TRDF	D	470	18.8	12	0.9
522-4R0/471*TREF	E	470	18.8	10	0.5
522-4R0/681*TRDF	D	680	27.2	14	0.5
522-4R0/681*TREF	E	680	27.2	14	0.9
522-4R0/102*TRDF	D	1000	40	60	0.2
522-4R0/102*TREF	E	1000	40	14	0.4
522-4R0/152*TREF	E	1500	60	30	0.2

6.3V @ 85°C (1.7V @ 125°C)					
Tecate Part Number	Case Size	Cap (µF)	DCL	DF%	ESR
522-6R3/2R2*TRAF	A	2.2	0.5	6	8
522-6R3/3R3*TRAF	A	3.3	0.5	6	8
522-6R3/4R7*TRAF	A	4.7	0.5	6	6
522-6R3/6R8*TRAF	A	6.8	0.5	6	6
522-6R3/6R8*TRBF	B	6.8	0.5	6	3.5
522-6R3/100*TRAF	A	10	0.6	6	4
522-6R3/100*TRBF	B	10	0.6	6	3.5
522-6R3/150*TRAF	A	15	0.9	6	3.5
522-6R3/150*TRBF	B	15	0.9	6	3.5
522-6R3/150*TRCF	C	15	0.9	6	1.8
522-6R3/220*TRAF	A	22	1.4	6	3
522-6R3/220*TRBF	B	22	1.4	6	3.5
522-6R3/220*TRCF	C	22	1.4	6	1.8
522-6R3/330*TRAF	A	33	2.1	8	2.5
522-6R3/330*TRBF	B	33	2	6	3
522-6R3/330*TRCF	C	33	2	6	1.8
522-6R3/470*TRAF	A	47	2.8	10	1.6
522-6R3/470*TRBF	B	47	3	6	2
522-6R3/470*TRCF	C	47	3	6	1.6
522-6R3/470*TRDF	D	47	2.9	6	0.8
522-6R3/680*TRAF	A	68	5	30	4
522-6R3/680*TRBF	B	68	4	8	0.9
522-6R3/680*TRCF	C	68	4.3	6	1.5
522-6R3/680*TRDF	D	68	4.1	6	0.8
522-6R3/101*TRBF	B	100	6.3	10	1.7
522-6R3/101*TRCF	C	100	6.3	6	0.9
522-6R3/101*TRDF	D	100	6	6	0.8
522-6R3/151MTRBF	B	150	9.5	10	1.2
522-6R3/151*TRCF	C	150	9.5	6	1.3
522-6R3/151*TRDF	D	150	9.5	6	0.9
522-6R3/221*TRCF	C	220	13.9	8	1.2
522-6R3/221*TRDF	D	220	13.9	8	0.9
522-6R3/221*TREF	E	220	13.9	8	0.9
522-6R3/331*TRCF	C	330	19.8	12	0.5
522-6R3/331*TRDF	D	330	20.8	8	0.9
522-6R3/331*TREF	E	330	20.8	8	0.9
522-6R3/471*TRDF	D	470	28	12	0.4
522-6R3/471*TREF	E	470	28	10	0.4
522-6R3/681*TREF	E	680	42.8	10	0.5

Legend	
Capacitance (Cap.)	µF
DCL	µA maximum
DF	% maximum
ESR	Ω @ 100KHz maximum

\*Indicates capacitance tolerance code: K(±10%) or M(±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'D)

10V @ 85°C (7V @ 125°C)					
Tecate Part Number	Case Size	Cap (µF)	DCL	DF%	ESR
522-010/1R5*TRAF	A	1.5	0.5	6	8
522-010/2R2*TRAF	A	2.2	0.5	6	8
522-010/2R2*TRBF	B	2.2	0.5	6	8
522-010/3R3*TRAF	A	3.3	0.5	6	6
522-010/4R7*TRAF	A	4.7	0.5	6	5
522-010/4R7*TRBF	B	4.7	0.5	6	3.5
522-010/6R8*TRAF	A	6.8	0.7	6	4
522-010/6R8*TRBF	B	6.8	0.7	6	3.5
522-010/100*TRAF	A	10	1	6	3
522-010/100*TRBF	B	10	1	6	3.5
522-010/100*TRCF	C	10	1	6	1.8
522-010/150*TRAF	A	15	1.5	6	3.2
522-010/150*TRBF	B	15	1.5	6	2.8
522-010/150*TRCF	C	15	1.5	6	1.8
522-010/220*TRAF	A	22	2.2	8	3
522-010/220*TRBF	B	22	2.2	6	2.4
522-010/220*TRCF	C	22	2.2	6	1.8
522-010/330*TRAF	A	33	3.3	8	1.7
522-010/330*TRBF	B	33	3.3	6	1.8
522-010/330*TRCF	C	33	3.3	6	1.6
522-010/330*TRDF	D	33	3.3	6	0.8
522-010/470*TRBF	B	47	4.7	8	1
522-010/470*TRCF	C	47	4.7	6	1.2
522-010/470*TRDF	D	47	4.7	6	0.8
522-010/680*TRBF	B	68	6.8	6	1.4
522-010/680*TRCF	C	68	6.8	6	1.3
522-010/680*TRDF	D	68	6.8	6	0.8
522-010/101MTRBF	B	100	10	8	1.4
522-010/101*TRCF	C	100	10	8	1.2
522-010/101*TRDF	D	100	10	6	0.9
522-010/151*TRCF	C	150	15	8	0.9
522-010/151*TRDF	D	150	15	8	0.9
522-010/151*TREF	E	150	15	8	0.9
522-010/221*TRCF	C	220	22	18	0.5
522-010/221*TRDF	D	220	22	8	0.5
522-010/221*TREF	E	220	22	8	0.5
522-010/331*TRDF	D	330	33	8	0.9
522-010/331*TREF	E	330	33	8	0.9
522-010/471*TREF	E	470	47	10	0.5

16V @ 85°C (10V @ 125°C)					
Tecate Part Number	Case Size	Cap (µF)	DCL	DF%	ESR
522-016/010*TRAF	A	1	0.5	4	10
522-016/1R5*TRAF	A	1.5	0.5	6	8
522-016/2R2*TRAF	A	2.2	0.5	6	6.5
522-016/3R3*TRAF	A	3.3	0.5	6	5
522-016/3R3*TRBF	B	3.3	0.5	6	4.5
522-016/4R7*TRAF	A	4.7	0.8	6	4
522-016/4R7*TRBF	B	4.7	0.8	6	3.5
522-016/4R7*TRCF	C	4.7	0.75	6	2.4
522-016/6R8*TRAF	A	6.8	1.1	6	3.5
522-016/6R8*TRBF	B	6.8	1.1	6	2.5
522-016/6R8*TRCF	C	6.8	1.1	6	1.9
522-016/100*TRAF	A	10	1.6	8	3
522-016/100*TRBF	B	10	1.6	6	2.8
522-016/100*TRCF	C	10	1.6	6	2
522-016/150*TRAF	A	15	2.4	6	2
522-016/150*TRBF	B	15	2.4	6	2.5
522-016/150*TRCF	C	15	2.4	6	1.8
522-016/220*TRBF	B	22	3.5	6	2.3
522-016/220*TRCF	C	22	3.5	6	1.6
522-016/220*TRDF	D	22	3.5	6	1.1
522-016/330*TRBF	B	33	5.3	8	2.1
522-016/330*TRCF	C	33	5.3	6	1.5
522-016/330*TRDF	D	33	5.3	6	0.9
522-016/470*TRCF	C	47	7.5	6	1.4
522-016/470*TRDF	D	47	7.5	6	0.9
522-016/680*TRCF	C	68	10.9	6	1.3
522-016/680*TRDF	D	68	10.9	6	0.9
522-016/101*TRDF	D	100	16	6	0.9
522-016/101*TREF	E	100	16	6	0.9
522-016/151*TRDF	D	150	24	6	0.9
522-016/151*TREF	E	150	24	8	0.3
522-016/221*TREF	E	220	35.2	10	0.5

Legend	
Capacitance (Cap.)	µF
DCL	µA maximum
DF	% maximum
ESR	Ω @ 100KHz maximum

\*Indicates capacitance tolerance code: K(±10%) or M(±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'D)

20V @ 85°C (13V @ 125°C)					
Tecate Part Number	Case Size	Cap (µF)	DCL	DF%	ESR
522-020/R68*TRAF	A	0.68	0.5	4	12
522-020/010*TRAF	A	1	0.5	4	9
522-020/1R5*TRAF	A	1.5	0.5	6	6.5
522-020/2R2*TRAF	A	2.2	0.5	6	5.3
522-020/2R2*TRBF	B	2.2	0.5	6	3.5
522-020/3R3*TRAF	A	3.3	0.7	6	4.5
522-020/3R3*TRBF	B	3.3	0.7	6	3
522-020/4R7*TRAF	A	4.7	0.9	6	4
522-020/4R7*TRBF	B	4.7	0.9	6	3
522-020/4R7*TRCF	C	4.7	1	6	2.4
522-020/6R8*TRAF	A	6.8	1.4	6	2.5
522-020/6R8*TRBF	B	6.8	1.4	6	2.5
522-020/6R8*TRCF	C	6.8	1.4	6	2
522-020/100*TRAF	A	10	2	10	5
522-020/100*TRBF	B	10	2	6	2.1
522-020/100*TRCF	C	10	2	6	1.2
522-020/150*TRBF	B	15	3	6	2
522-020/150*TRCF	C	15	3	6	1.7
522-020/150*TRDF	D	15	3	6	1
522-020/220*TRBF	B	22	4.4	6	1.8
522-020/220*TRCF	C	22	4.4	6	1.6
522-020/220*TRDF	D	22	4.4	6	0.9
522-020/330*TRCF	C	33	6.6	6	1.5
522-020/330*TRDF	D	33	6.6	6	0.9
522-020/470*TRCF	C	47	9.4	6	0.9
522-020/470*TRDF	D	47	9.4	6	0.9
522-020/470*TREF	E	47	9.4	6	0.9
522-020/680*TRDF	D	68	13.6	6	0.9
522-020/680*TREF	E	68	13.6	6	0.9
522-020/101*TRDF	D	100	20	6	0.9
522-020/101*TREF	E	100	20	6	0.4
522-020/151*TREF	E	150	30	8	0.3

25V @ 85°C (17V @ 125°C)					
Tecate Part Number	Case Size	Cap (µF)	DCL	DF%	ESR
522-025/R33*TRAF	A	0.33	0.5	4	15
522-025/R47*TRAF	A	0.47	0.5	4	14
522-025/R68*TRAF	A	0.68	0.5	4	10
522-025/010*TRAF	A	1	0.5	4	8
522-025/010*TRBF	B	1	0.5	4	5
522-025/1R5*TRAF	A	1.5	0.5	6	7.5
522-025/1R5*TRBF	B	1.5	0.5	6	5
522-025/2R2*TRAF	A	2.2	0.6	6	7
522-025/2R2*TRBF	B	2.2	0.6	6	4.5
522-025/2R2*TRCF	C	2.2	0.6	6	3.5
522-025/3R3*TRAF	A	3.3	0.8	6	3.7
522-025/3R3*TRBF	B	3.3	0.8	6	3.5
522-025/3R3*TRCF	C	3.3	0.9	6	2.5
522-025/4R7*TRAF	A	4.7	1.2	6	3.1
522-025/4R7*TRBF	B	4.7	1.2	6	2.8
522-025/4R7*TRCF	C	4.7	1.2	6	2.4
522-025/6R8*TRBF	B	6.8	1.7	6	2.8
522-025/6R8*TRCF	C	6.8	1.7	6	2
522-025/100*TRBF	B	10	2.5	8	3
522-025/100*TRCF	C	10	2.5	6	1.8
522-025/100*TRDF	D	10	2.5	6	1.2
522-025/150*TRBF	B	15	3.8	8	4
522-025/150*TRCF	C	15	3.8	6	1.6
522-025/150*TRDF	D	15	3.8	6	1
522-025/220*TRCF	C	22	5.5	6	1.4
522-025/220*TRDF	D	22	5.5	6	0.9
522-025/330*TRCF	C	33	8.3	10	1.2
522-025/330*TRDF	D	33	8.3	6	0.9
522-025/330*TREF	E	33	8.3	6	0.9
522-025/470*TRDF	D	47	11.8	6	0.9
522-025/470*TREF	E	47	11.8	6	0.9
522-025/680MTRDF	D	68	17	10	0.7
522-025/680MTREF	E	68	17	6	0.9
522-025/101MTREF	E	100	25	8	0.3

Legend	
Capacitance (Cap.)	µF
DCL	µA maximum
DF	% maximum
ESR	Ω @ 100KHz maximum

\*Indicates capacitance tolerance code: K(±10%) or M(±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'D)

35V@ 85°C (23V @ 125°C)					
Tecate Part Number	Case Size	Cap (µF)	DCL	DF%	ESR
522-035/0R1*TRAF	A	0.1	0.5	4	24
522-035/R15*TRAF	A	0.15	0.5	4	21
522-035/R22*TRAF	A	0.22	0.5	4	18
522-035/R33*TRAF	A	0.33	0.5	4	15
522-035/R47*TRAF	A	0.47	0.5	4	12
522-035/R47*TRBF	B	0.47	0.5	4	10
522-035/R68*TRAF	A	0.68	0.5	4	8
522-035/R68*TRBF	B	0.68	0.5	4	8
522-035/010*TRAF	A	1	0.5	4	7.5
522-035/010*TRBF	B	1	0.5	4	6.5
522-035/1R5*TRAF	A	1.5	0.5	6	7.5
522-035/1R5*TRBF	B	1.5	0.5	6	5.2
522-035/1R5*TRCF	C	1.5	0.5	6	4.5
522-035/2R2*TRAF	A	2.2	0.8	6	4.5
522-035/2R2*TRBF	B	2.2	0.8	6	4.2
522-035/2R2*TRCF	C	2.2	0.8	6	3.5
522-035/3R3*TRBF	B	3.3	1.2	6	3.5
522-035/3R3*TRCF	C	3.3	1.2	6	2.5
522-035/4R7*TRBF	B	4.7	1.6	6	3.1
522-035/4R7*TRCF	C	4.7	1.6	6	2.2
522-035/4R7*TRDF	D	4.7	1.6	6	1.5
522-035/6R8*TRCF	C	6.8	2.4	6	1.8
522-035/6R8*TRDF	D	6.8	2.4	6	1.3
522-035/100*TRCF	C	10	3.5	6	1.6
522-035/100*TRDF	D	10	3.5	6	1
522-035/100*TREF	E	10	3.5	6	0.9
522-035/150*TRCF	C	15	5.3	6	1.4
522-035/150*TRDF	D	15	5.3	6	0.9
522-035/150*TREF	E	15	5.3	6	0.9
522-035/220*TRDF	D	22	7.7	6	0.9
522-035/220*TREF	E	22	7.7	6	0.5
522-035/330*TRDF	D	33	11.6	6	0.9
522-035/330*TREF	E	33	11.6	6	0.5
522-035/470*TREF	E	47	16.5	6	0.9

50V@ 85°C (33V @ 125°C)					
Tecate Part Number	Case Size	Cap (µF)	DCL	DF%	ESR
522-050/0R1*TRAF	A	0.1	0.5	4	22
522-050/R15*TRAF	A	0.15	0.5	4	15
522-050/R15*TRBF	B	0.15	0.5	4	17
522-050/R22*TRAF	A	0.22	0.5	4	18
522-050/R22*TRBF	B	0.22	0.5	4	14
522-050/R33*TRBF	B	0.33	0.5	4	12
522-050/R47*TRAF	A	0.47	0.5	4	9.5
522-050/R47*TRBF	B	0.47	0.7	4	9.5
522-050/R47*TRCF	C	0.47	0.5	4	8
522-050/R68*TRAF	A	0.68	0.5	4	7.9
522-050/R68*TRBF	B	0.68	0.5	4	8
522-050/R68*TRCF	C	0.68	0.5	4	7
522-050/010MTRAF	A	1	0.5	4	6.6
522-050/010*TRBF	B	1	0.5	6	7
522-050/010*TRCF	C	1	0.5	4	5.5
522-050/1R5*TRCF	C	1.5	0.8	6	4.5
522-050/1R5*TRDF	D	1.5	0.8	6	4
522-050/2R2*TRCF	C	2.2	1.1	6	3
522-050/2R2*TRDF	D	2.2	1.1	6	2.5
522-050/3R3*TRCF	C	3.3	1.7	6	2.5
522-050/3R3*TRDF	D	3.3	1.7	6	2
522-050/4R7*TRCF	C	4.7	0.5	4	1.4
522-050/4R7*TRDF	D	4.7	2.4	6	1.4
522-050/6R8*TRCF	C	6.8	3.4	6	1
522-050/6R8*TRDF	D	6.8	3.4	6	1
522-050/6R8*TREF	E	6.8	3.5	6	1
522-050/100*TRDF	D	10	5	6	0.8
522-050/100*TREF	E	10	5	6	1
522-050/150*TRDF	D	15	7.5	4	0.6
522-050/150*TREF	E	15	7.5	6	0.6
522-050/220*TREF	E	22	11	10	0.6

Legend	
Capacitance (Cap.)	µF
DCL	µA maximum
DF	% maximum
ESR	Ω @ 100KHz maximum

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

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

**STANDARD RANGE (EIA AND EIA-J SIZES)**

Capacitance ( $\mu$ F)	WVDC								
	2.5	4	6.3	10	16	20	25	35	50
0.1								A	A
0.15								A	A/B
0.22								A	A/B
0.33							A	A	B
0.47							A	A/B	A/B
0.68						A	A	A/B	A/B/C
1					A	A	A/B	A/B	A/B/C
1.5				A	A	A	A/B	A/B/C	C/D
2.2			A	A/B	A	A/B	A/B/C	A/B/C	C/D
3.3		A	A	A	A/B	A/B	A/B/C	B/C	C/D
4.7		A	A	A/B	A/B/C	A/B/C	A/B/C	B/C/D	C/D
6.8		A	A/B	A/B	A/B/C	A/B/C	B/C	C/D	C/D/E
10		A/B	A/B	A/B/C	A/B/C	A/B/C	B/C/D	C/D/E	D/E
15		A/B	A/B/C	A/B/C	A/B/C	B/C/D	B/C/D	C/D/E	D/E
22		A/B/C	A/B/C	A/B/C	B/C/D	B/C/D	C/D	D/E	E
33		A/B/C	A/B/C	A/B/C/D	B/C/D	C/D	C/D/E	D/E	
47	A	A/B/C	A/B/C/D	B/C/D	C/D	C/D/E	D/E	E	
68	A	A/B/C/D	A/B/C/D	B/C/D	C/D	D/E	D/E		
100	A	A/B/C/D	B/C/D	B/C/D	D/E	D/E	E		
150	B	B/C/D	C/D	C/D/E	D/E	E			
220	B/D	B/C/D	C/D/E	C/D/E	E				
330	D	C/D	C/D/E	D/E					
470	C/D	C/D/E	D/E	E					
680	C/D	D/E	E						
1000	D/E	D/E							
1500	D/E	E							

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

**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 <sub>1</sub> $\pm$ 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)	0.110 (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)
V	0.287 (7.3)	0.240 (6.1)	0.30 (3.45) $\pm$ 0.012 (0.136)	0.120 (3.1)	0.055 (1.4)	0.173 (4.4)

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

**RECOMMENED LAND PATTERN**

Case	A (Reflow)	A (Wave)	B	C	D
A	1.8 (0.071)	0.9 (0.035)	1.4 (0.054)	1.2 (0.047)	4.0 (0.157)
B	2.8 (0.110)	1.6 (0.063)	1.4 (0.054)	1.2 (0.047)	4.0 (0.157)
C	2.8 (0.110)	1.6 (0.063)	2 (0.079)	2.5 (0.098)	6.5 (0.056)
D	3.0 (0.119)	1.7 (0.068)	2 (0.079)	4.0 (0.157)	8.0 (0.315)
E	3.0 (0.119)	1.7 (0.068)	2 (0.079)	4.0 (0.157)	8.0 (0.315)
V	6.2 (0.245)	1.7 (0.068)	2.3 (0.09)	3.7 (0.145)	8.3 (0.325)

