

# Aluminum Capacitors

## + 105 °C, General Purpose Miniature, Radial Lead

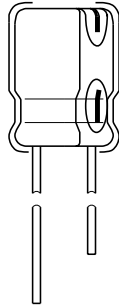


Fig.1 Component outline

**FEATURES**

- High CV per case size
- Low cost
- Solvent resistant construction  
(through 100 WVDC)
- High temperature operation
- Life test to 2000 hours at + 105 °C


**RoHS**  
COMPLIANT

QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Nominal case size Ø D x L in mm	0.197" x 0.433" [5.0 x 11.0] to 0.709" x 1.575" [18.0 x 40.0]
Operating temperature	- 55 °C to + 105 °C (6.3 WVDC to 100 WVDC) - 40 °C to + 105 °C (160 WVDC to 250 WVDC)
Rated Capacitance range, C <sub>R</sub>	0.47 µF to 15 000 µF
Tolerance on C <sub>R</sub>	± 20 %
Rated voltage range, U <sub>R</sub>	6.3 WVDC to 250 WVDC
Termination	2 radial leads
Life validation test at 105 °C	2000 hours: Δ CAP ± 20 % from initial measurement. Δ DF 2 x initial specified limit. Δ DCL ≤ initial specified limit.
Shelf life at 105 °C	1000 hours: Δ CAP ± 20 % from initial measurement. Δ DF 2 x initial specified limit. Δ DCL ≤ initial specified limit
DC leakage current	Rated voltage for 1 minute for 6.3 WVDC to 100 WVDC units: I < 0.03 CV or 4 µA (whichever is greater). Rated voltage for 2 minutes for 6.3 WVDC to 100 WVDC units: I < 0.04 CV or 3 µA (whichever is greater). rated voltage for 1 minute for 160 WVDC to 250 WVDC units: I < 0.1 CV + 40 µA and CV > 1000; I < 0.04 CV + 100 µA and CV > 1000

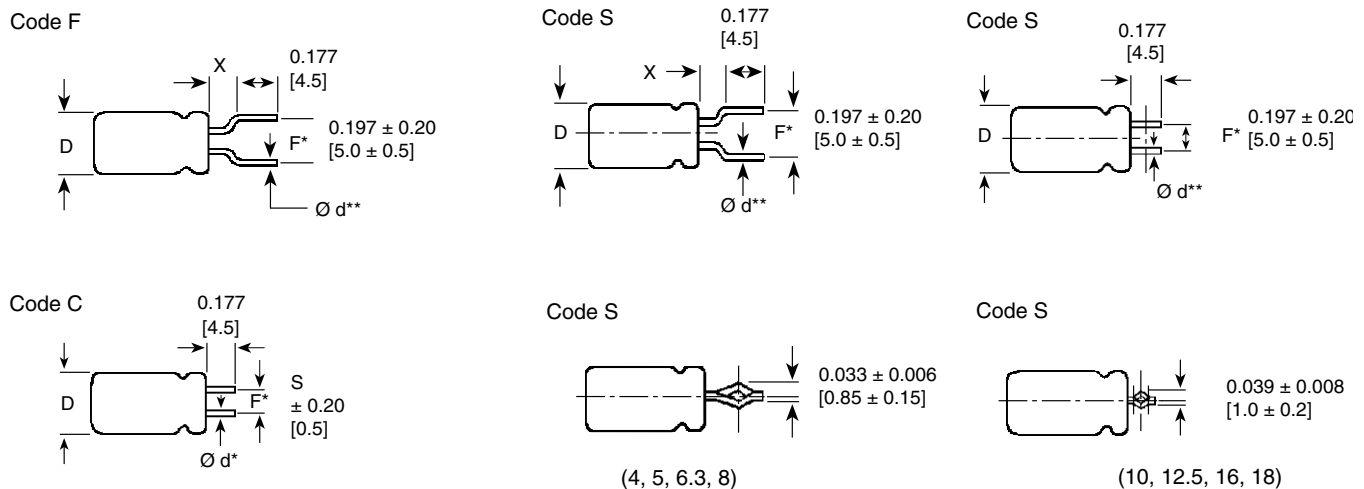
RIPPLE CURRENT MULTIPLIERS						
TEMPERATURE						
Ambient Temperature			Multipliers			
+ 70 °C			1.78			
+ 85 °C			1.4			
+ 105 °C			1.0			
FREQUENCY (Hz)						
WVDC	Cap. (µF)	50 - 60	100 - 120	300 - 400	1 kHz	≤ 10 kHz
6.3 - 100	0 - 47	0.75	1	1.35	1.57	2.00
	100 - 470	0.80	1	1.23	1.34	1.50
	1000 - 22 000	0.85	1	1.10	1.13	1.15
160 - 250	0.47 - 100	0.80	1	1.25	1.40	1.60

LOW TEMPERATURE PERFORMANCE		
MAXIMUM IMPEDANCE RATIO Z <sup>(T)</sup> /Z <sup>(+20 °C)</sup>		
MAXIMUM AT 120 Hz		
Rated Voltage (WVDC)	Z - 25 °C/Z + 20 °C	Z - 40 °C/Z + 20 °C
6.3	4.0	8.0
10.0	3.0	6.0
16.0	2.0	4.0
25.0 - 100.0	2.0	3.0
160.0 - 200.0	2.0	4.0
250.0	4.0	6.0

DIMENSIONS in inches [millimeters]				
CASE CODE	NOMINAL CASE SIZE D X L	LEAD SPACING S	NOMINAL LEAD DIAMETER D	TYPICAL WEIGHT (GRAMS)
JA	0.197 x .433 [5.0 x 11.0]	0.079 [2.0]	0.020 [0.50]	0.44
AA	0.248 x .433 [6.3 x 11.0]	0.098 [2.5]	0.020 [0.50]	0.63
BB	0.315 x .453 [8.0 x 11.5]	0.138 [3.5]	0.024 [0.60]	1.03
CC	0.394 x .492 [10.0 x 12.5]	0.197 [5.0]	0.024 [0.60]	1.53
CD	0.394 x .630 [10.0 x 16.0]	0.197 [5.0]	0.024 [0.60]	1.86
CG	0.394 x .787 [10.0 x 20.0]	0.197 [5.0]	0.024 [0.60]	2.48
DG	0.492 x 0.787 [12.5 x 20.0]	0.197 [5.0]	0.024 [0.60]	3.98

DIMENSIONS in inches [millimeters]				
CASE CODE	NOMINAL CASE SIZE D X L	LEAD SPACING S	NOMINAL LEAD DIAMETER D	TYPICAL WEIGHT (GRAMS)
DK	0.492 x 0.984 [12.5 x 25.0]	0.197 [5.0]	0.024 [0.60]	5.27
EK	0.630 x 0.984 [16.0 x 25.0]	0.295 [7.5]	0.031 [0.80]	7.72
EN	0.630 x 1.24 [16.0 x 31.5]	0.295 [7.5]	0.031 [0.80]	9.90
ER	0.630 x 1.40 [16.0 x 35.5]	0.295 [7.5]	0.031 [0.80]	11.10
FR	0.709 x 1.40 [18.0 x 35.5]	0.295 [7.5]	0.031 [0.80]	13.04
FV	0.709 x 1.575 [18.0 x 40.0]	0.295 [7.5]	0.031 [0.80]	15.74

**ELECTROLYTIC CAPACITOR WITH CUT OR FORMED LEADS** in inches [millimeters]



DIMENSIONS in inches [millimeters]						
FORMING METHOD	FORMED LEAD CODE	DIMENSIONS				
		D	L.S.	P	e***	X (Max.)
Formed and Cut	F	0.197 [5.0]	0.197 [5.0]	0.079 [2.0]	-	0.059 [1.5]
		0.248 [6.3]	0.197 [5.0]	0.098 [2.5]	-	0.098 [2.5]
		0.315 [8.0]	0.197 [5.0]	0.138 [3.5]	-	0.098 [2.5]
Cut	C	0.394 [10.0]	0.197 [5.0]	-	-	-
		0.492 [12.5]	0.197 [5.0]	-	-	-
		0.630 [16.0]	0.295 [7.5]	-	-	-
		0.709 [18.0]	0.295 [7.5]	-	-	-
Snap-in	S	0.197 [5.0]	0.197 [5.0]	0.079 [2.0]	0.043 [1.1]	0.059 [1.5]
		0.248 [6.3]	0.197 [5.0]	0.098 [2.5]	0.043 [1.1]	0.059 [1.5]
		0.315 [8.0]	0.197 [5.0]	0.138 [3.5]	0.051 [1.3]	0.059 [1.5]
		0.394 [10.0]	0.197 [5.0]	-	0.051 [1.3]	-
		0.492 [12.5]	0.197 [5.0]	-	0.051 [1.3]	-
		0.630 [16.0]	0.295 [7.5]	-	0.051 [1.3]	-
0.709 [18.0]	0.295 [7.5]	-	0.051 [1.3]	-		

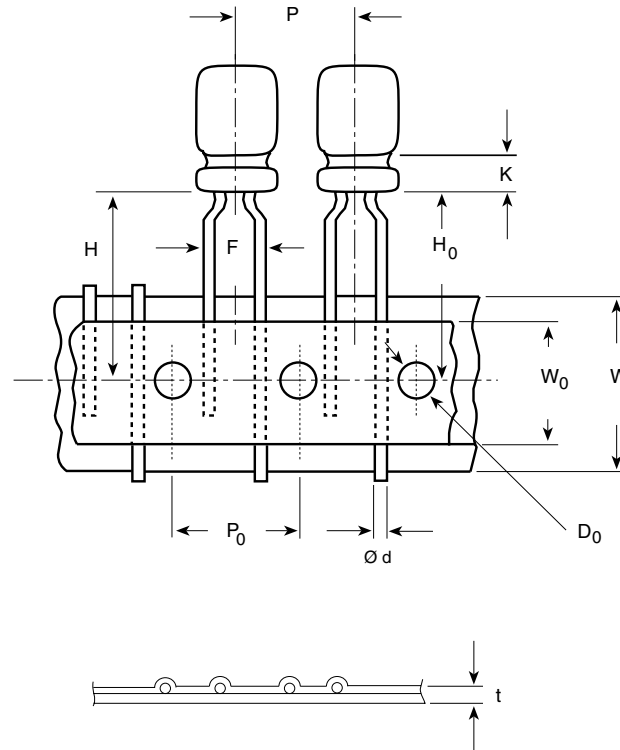
**Note:** The cut or formed code is to be added to the end of type number in 15<sup>th</sup> position (with position 14 coded "6").  
\* Formed lead. \*\* Lead thickness Ø d depends on capacitor specification. \*\*\* Lead protrusion at bottom of tape.

**TAPED CAPACITORS FOR AUTOMATIC INSERTION SYSTEMS** in inches [millimeters]

PACKAGING	LEAD CODE	SPECIFICATION		LEAD SPACE	CAPACITOR SIZES AVAILABLE
		LEAD STYLE	+ LEADER -		
Ammo Pack	P	Formed Lead**	-	0.197 [5.0]	0.197 x 0.433 [5.0 x 11.0] - 0.492 x 0.787 [4.0 x 7.0 - 12.5 x 20.0]

**Note:** The ammo pack code is to be added to the end of type number in the 15<sup>th</sup> position (with position 14 coded as "8" as appropriate.)  
\*\* Except 0.394 [10.0 mm] and 0.492 [12.5 mm] diameter have straight unformed leads.

**TAPING SPECIFICATIONS** in inches [millimeters]

**Formed Lead Type**


<b>DIMENSIONS</b> in inches [millimeters]					
ITEM	CASE SIZE (Diameter x Length)				
	FORMED LEAD TYPE			STRAIGHT LEAD TYPE	
	0.197 x 0.433 [5.0 x 11.0]	0.248 x 0.433 [6.3 x 11.0]	0.315 x 0.452 [8.0 x 11.5]	0.394 [10.0] (Dia.)	0.492 [12.5] (Dia.)
Ø d - Lead-wire Diameter	0.020 [0.5]	0.020 [0.5]	0.024 [0.6]	0.024 [0.6]	0.024 [0.6]
P - Pitch of Component	0.500 [12.7]	0.500 [12.7]	0.500 [12.7]	0.500 [12.7]	0.591 [15.0]
P <sub>0</sub> - Feed Hole Pitch	0.500 [12.7]	0.500 [12.7]	0.500 [12.7]	0.500 [12.7]	0.591 [15.0]
F - Lead-to-lead Distance	0.197 [5.0]	0.197 [5.0]	0.197 [5.0]	0.197 [5.0]	0.197 [5.0]
K - Clinch Height	0.098 [2.5]	0.098 [2.5]	0.157 [4.0]	—	—
H - Height of Component from Tape Center	0.728 [18.5]	0.728 [18.5]	0.787 [20.0]	0.728 [18.5]	0.630 [16.0]
H <sub>0</sub> - Lead-wire Clinch Height	0.630 [16.0]	0.630 [16.0]	0.630 [16.0]	—	—
W - Tape Width	0.709 [18.0]	0.709 [18.0]	0.709 [18.0]	0.709 [18.0]	0.709 [18.0]
W <sub>0</sub> - Hold Down Tape Width	0.512 [13.0]	0.512 [13.0]	0.512 [13.0]	0.512 [13.0]	0.512 [13.0]
D <sub>0</sub> - Feed Hole Diameter	0.157 [4.0]	0.157 [4.0]	0.157 [4.0]	0.157 [4.0]	0.157 [4.0]
t - Total Tape Thickness	0.028 [0.7]	0.028 [0.7]	0.028 [0.7]	0.028 [0.7]	0.028 [0.7]



ELECTRICAL DATA	
SYMBOL	DESCRIPTION
μF	rated capacitance
± %	M = ± 20 %
DC	voltage rating at 105 °C
JA	see dimensions in millimeters table
6	packaging code
A	termination

**ORDERING EXAMPLE\***

Electrolytic capacitor 517D series

517D 107M 6R3 JA 6A E3

6A = Bulk, Uncut leads.

6C = Cut leads (not stocked).

6F = Formed and cut leads (not stocked).

6S = Snap-in leads (not stocked).

For Cases Codes JA, AA, BB, CC, CD, CG, and DG only:  
8P = Ammo-Pack.

All items stating "not stocked" are items that are not generally stocked unless a Purchase Order is placed. Lead time is 16 weeks for these items unless there is excess inventory.

\* Suffix E3 denotes lead (Pb)-free/RoHS compliant products.

ELECTRICAL DATA AND ORDERING INFORMATION				
CAPACITANCE (μF)	PART NUMBER	NOMINAL CASE SIZE D x L	Max. RIPPLE at + 105 °C 120 Hz (mA)	Max. DF at + 20 °C 120 Hz
<b>6.3 WVDC at + 105 °C, SURGE = 8 V</b>				
22.0	517D226M6R3JA6AE3	0.197 x 0.433 [5.0 x 11.0]	34.0	0.26
33.0	517D336M6R3JA6AE3	0.197 x 0.433 [5.0 x 11.0]	50.0	0.26
47.0	517D476M6R3JA6AE3	0.197 x 0.433 [5.0 x 11.0]	65.0	0.26
100.0	517D107M6R3JA6AE3	0.197 x 0.433 [5.0 x 11.0]	100.0	0.26
220.0	517D227M6R3AA6AE3	0.248 x 0.433 [6.3 x 11.0]	165.0	0.26
330.0	517D337M6R3AA6AE3	0.248 x 0.433 [6.3 x 11.0]	200.0	0.26
470.0	517D477M6R3BB6AE3	0.315 x 0.453 [8.0 x 11.5]	280.0	0.26
1000.0	517D108M6R3CC6AE3	0.394 x 0.492 [10.0 x 12.5]	470.0	0.26
2200.0	517D228M6R3DG6AE3	0.492 x 0.787 [12.5 x 20.0]	930.0	0.26
3300.0	517D338M6R3DG6AE3	0.492 x 0.787 [12.5 x 20.0]	1100.0	0.26
4700.0	517D478M6R3EK6AE3	0.630 x 0.984 [16.0 x 25.0]	1320.0	0.26
6800.0	517D688M6R3EK6AE3	0.630 x 0.984 [16.0 x 25.0]	1490.0	0.26
10 000.0	517D109M6R3EN6AE3	0.630 x 1.240 [16.0 x 31.5]	1830.0	0.26
15 000.0	517D159M6R3FR6AE3	0.709 x 1.398 [18.0 x 35.5]	2280.0	0.26
<b>10 WVDC at + 105 °C, SURGE = 13 V</b>				
22.0	517D226M010JA6AE3	0.197 x 0.433 [5.0 x 11.0]	45.0	0.22
33.0	517D336M010JA6AE3	0.197 x 0.433 [5.0 x 11.0]	60.0	0.22
47.0	517D476M010JA6AE3	0.197 x 0.433 [5.0 x 11.0]	75.0	0.22
100.0	517D107M010JA6AE3	0.197 x 0.433 [5.0 x 11.0]	110.0	0.22
220.0	517D227M010AA6AE3	0.248 x 0.433 [6.3 x 11.0]	180.0	0.22
330.0	517D337M010BB6AE3	0.315 x 0.453 [8.0 x 11.5]	255.0	0.22
470.0	517D477M010BB6AE3	0.315 x 0.453 [8.0 x 11.5]	305.0	0.22
1000.0	517D108M010CD6AE3	0.394 x 0.630 [10.0 x 16.0]	570.0	0.22
2200.0	517D228M010DG6AE3	0.492 x 0.787 [12.5 x 20.0]	1010.0	0.22
3300.0	517D338M010DK6AE3	0.492 x 0.984 [12.5 x 25.0]	1220.0	0.22
4700.0	517D478M010EK6AE3	0.630 x 0.984 [16.0 x 25.0]	1410.0	0.22
6800.0	517D688M010EN6AE3	0.630 x 1.240 [16.0 x 31.5]	1610.0	0.22
10 000.0	517D109M010FR6AE3	0.709 x 1.398 [18.0 x 35.5]	1980.0	0.22
15 000.0	517D159M010FV6AE3	0.709 x 1.575 [18.0 x 40.0]	2470.0	0.22



Aluminum Capacitors  
+ 105 °C, General Purpose Miniature, Radial Lead

Vishay Sprague

<b>ELECTRICAL DATA AND ORDERING INFORMATION</b>				
<b>CAPACITANCE (<math>\mu</math>F)</b>	<b>PART NUMBER</b>	<b>NOMINAL CASE SIZE D x L</b>	<b>Max. RIPPLE at + 105 °C 120 Hz (mA)</b>	<b>Max. DF at + 20 °C 120 Hz</b>
<b>16 WVDC at + 105 °C, SURGE = 20 V</b>				
10.0	517D106M016JA6AE3	0.197 x 0.433 [5.0 x 11.0]	35.0	0.18
22.0	517D226M016JA6AE3	0.197 x 0.433 [5.0 x 11.0]	55.0	0.18
33.0	517D336M016JA6AE3	0.197 x 0.433 [5.0 x 11.0]	70.0	0.18
47.0	517D476M016JA6AE3	0.197 x 0.433 [5.0 x 11.0]	85.0	0.18
100.0	517D107M016AA6AE3	0.248 x 0.433 [6.3 x 11.0]	135.0	0.18
220.0	517D227M016BB6AE3	0.315 x 0.453 [8.0 x 11.5]	235.0	0.18
330.0	517D337M016BB6AE3	0.315 x 0.453 [8.0 x 11.5]	285.0	0.18
470.0	517D477M016CC6AE3	0.394 x .0492 [10.0 x 12.5]	395.0	0.18
1000.0	517D108M016CG6AE3	0.394 x 0.787 [10.0 x 20.0]	700.0	0.18
2200.0	517D228M016DK6AE3	0.492 x 0.984 [12.5 x 25.0]	1150.0	0.18
3300.0	517D338M016EK6AE3	0.630 x 0.984 [16.0 x 25.0]	1350.0	0.18
4700.0	517D478M016EN6AE3	0.630 x 1.240 [16.0 x 31.5]	1560.0	0.18
6800.0	517D688M016FR6AE3	0.709 x 1.398 [18.0 x 35.5]	1750.0	0.18
10 000.0	517D109M016FV6AE3	0.709 x 1.575 [18.0 x 40.0]	2170.0	0.18
<b>25 WVDC at + 105 °C, SURGE = 32V</b>				
4.7	517D475M025JA6AE3	0.197 x .0433 [5.0 x 11.0]	24.0	0.16
10.0	517D106M025JA6AE3	0.197 x 0.433 [5.0 x 11.0]	39.0	0.16
22.0	517D226M025JA6AE3	0.197 x 0.433 [5.0 x 11.0]	60.0	0.16
33.0	517D336M025JA6AE3	0.197 x 0.433 [5.0 x 11.0]	75.0	0.16
47.0	517D476M025JA6AE3	0.197 x 0.433 [5.0 x 11.0]	90.0	0.16
100.0	517D107M025AA6AE3	0.248 x 0.433 [6.3 x 11.0]	145.0	0.16
220.0	517D227M025BB6AE3	0.315 x 0.453 [8.0 x 11.5]	250.0	0.16
330.0	517D337M025CC6AE3	0.394 x 0.492 [10.0 x 12.5]	355.0	0.16
470.0	517D477M025CD6AE3	0.394 x 0.630 [10.0 x 16.0]	470.0	0.16
1000.0	517D108M025DG6AE3	0.492 x 0.787 [12.5 x 20.0]	855.0	0.16
2200.0	517D228M025EK6AE3	0.630 x 0.984 [16.0 x 25.0]	1230.0	0.16
3300.0	517D338M025EN6AE3	0.630 x 1.240 [16.0 x 31.5]	1450.0	0.16
4700.0	517D478M025FR6AE3	0.709 x 1.398 [18.0 x 35.5]	1660.0	0.16
<b>35 WVDC at + 105 °C, SURGE = 44 V</b>				
4.7	517D475M035JA6AE3	0.197 x 0.433 [5.0 x 11.0]	27.0	0.13
10.0	517D106M035JA6AE3	0.197 x 0.433 [5.0 x 11.0]	44.0	0.13
22.0	517D226M035JA6AE3	0.197 x 0.433 [5.0 x 11.0]	65.0	0.13
33.0	517D336M035JA6AE3	0.197 x 0.433 [5.0 x 11.0]	85.0	0.13
47.0	517D476M035AA6AE3	0.248 x 0.433 [6.3 x 11.0]	115.0	0.13
100.0	517D107M035BB6AE3	0.315 x 0.453 [8.0 x 11.5]	190.0	0.13
220.0	517D227M035CC6AE3	0.394 x 0.492 [10.0 x 12.5]	325.0	0.13
330.0	517D337M035CD6AE3	0.394 x 0.630 [10.0 x 16.0]	440.0	0.13
470.0	517D477M035CG6AE3	0.394 x 0.787 [10.0 x 20.0]	580.0	0.13
1000.0	517D108M035DK6AE3	0.492 x 0.984 [12.5 x 25.0]	995.0	0.13
2200.0	517D228M035EN6AE3	0.630 x 1.240 [16.0 x 31.5]	1450.0	0.13
3300.0	517D338M035FR6AE3	0.709 x 1.398 [18.0 x 35.5]	1660.0	0.13
4700.0	517D478M035FV6AE3	0.709 x 1.575 [18.0 x 40.0]	2030.0	0.13

<b>ELECTRICAL DATA AND ORDERING INFORMATION</b>				
<b>CAPACITANCE (<math>\mu</math>F)</b>	<b>PART NUMBER</b>	<b>NOMINAL CASE SIZE D x L</b>	<b>Max. RIPPLE at + 105 °C 120 Hz (mA)</b>	<b>Max. DF at + 20 °C 120 Hz</b>
<b>50 WVDC at + 105 °C, SURGE = 63 V</b>				
0.47	517D474M050JA6AE3	0.197 x 0.433 [5.0 x 11.0]	7.0	0.10
1.0	517D105M050JA6AE3	0.197 x 0.433 [5.0 x 11.0]	12.0	0.10
2.2	517D225M050JA6AE3	0.197 x 0.433 [5.0 x 11.0]	18.0	0.10
3.3	517D335M050JA6AE3	0.197 x 0.433 [5.0 x 11.0]	25.0	0.10
4.7	517D475M050JA6AE3	0.197 x 0.433 [5.0 x 11.0]	30.0	0.10
10.0	517D106M050JA6AE3	0.197 x 0.433 [5.0 x 11.0]	50.0	0.10
22.0	517D226M050JA6AE3	0.197 x 0.433 [5.0 x 11.0]	75.0	0.10
33.0	517D336M050M6AE3	0.248 x 0.433 [6.3 x 11.0]	105.0	0.10
47.0	517D476M050AA6AE3	0.248 x 0.433 [6.3 x 11.0]	125.0	0.10
100.0	517D107M050BB6AE3	0.315 x 0.453 [8.0 x 11.5]	210.0	0.10
220.0	517D227M050CD6AE3	0.394 x 0.630 [10.0 x 16.0]	400.0	0.10
330.0	517D337M050CG6AE3	0.394 x 0.787 [10.0 x 20.0]	535.0	0.10
470.0	517D477M050DG6AE3	0.492 x 0.787 [12.5 x 20.0]	730.0	0.10
1000.0	517D108M050EK6AE3	0.630 x 0.984 [16.0 x 25.0]	1110.0	0.10
2200.0	517D228M050FR6AE3	0.709 x 1.398 [18.0 x 35.5]	1530.0	0.10
<b>63 WVDC at + 105 °C, SURGE = 79 V</b>				
4.7	517D475M063JA6AE3	0.197 x 0.433 [5.0 x 11.0]	34.0	0.09
10.0	517D106M063JA6AE3	0.197 x 0.433 [5.0 x 11.0]	55.0	0.09
22.0	517D226M063AA6AE3	0.248 x 0.433 [6.3 x 11.0]	90.0	0.09
33.0	517D336M063AA6AE3	0.248 x 0.433 [6.3 x 11.0]	110.0	0.09
47.0	517D476M063BB6AE3	0.315 x 0.453 [8.0 x 11.5]	155.0	0.09
100.0	517D107M063CC6AE3	0.394 x .0492 [10.0 x 12.5]	260.0	0.09
220.0	517D227M063CG6AE3	0.394 x 0.787 [10.0 x 20.0]	465.0	0.09
330.0	517D337M063DG6AE3	0.492 x 0.787 [12.5 x 20.0]	650.0	0.09
4700.0	517D477M063DK6AE3	0.492 x 0.984 [12.5 x 25.0]	800.0	0.09
1000.0	517D108M063EN6AE3	0.630 x 1.240 [16.0 x 31.5]	1200.0	0.09
2200.0	517D228M063FV6AE3	0.709 x 1.575 [18.0 x 40.0]	1840.0	0.09
<b>100 WVDC at + 105 °C, SURGE = 125 V</b>				
0.47	517D474M100JA6AE3	0.197 x 0.433 [5.0 x 11.0]	10.0	0.08
1.0	517D105M100JA6AE3	0.197 x 0.433 [5.0 x 11.0]	15.0	0.08
2.2	517D225M100JA6AE3	0.197 x 0.433 [5.0 x 11.0]	22.0	0.08
3.3	517D335M100JA6AE3	0.197 x 0.433 [5.0 x 11.0]	29.0	0.08
4.7	517D475M100JA6AE3	0.197 x 0.433 [5.0 x 11.0]	37.0	0.08
10.0	517D106M100AA6AE3	0.248 x 0.433 [6.3 x 11.0]	65.0	0.08
22.0	517D226M100BB6AE3	0.315 x 0.453 [8.0 x 11.5]	115.0	0.08
33.0	517D336M100CC6AE3	0.394 x 0.492 [10.0 x 12.5]	160.0	0.08
47.0	517D476M100CD6AE3	0.394 x 0.630 [10.0 x 16.0]	220.0	0.08
100.0	517D107M100DG6AE3	0.492 x 0.787 [12.5 x 20.0]	385.0	0.08
220.0	517D227M100EK6AE3	0.630 x 0.984 [16.0 x 25.0]	590.0	0.08
330.0	517D337M100EK6AE3	0.630 x 0.984 [16.0 x 25.0]	720.0	0.08
470.0	517D477M100EN6AE3	0.630 x 1.240 [16.0 x 31.5]	875.0	0.08
1000.0	517D108M100FV6AE3	0.709 x 1.575 [18.0 x 40.0]	1320.0	0.08

Aluminum Capacitors  
+ 105 °C, General Purpose Miniature, Radial Lead

Vishay Sprague

<b>ELECTRICAL DATA AND ORDERING INFORMATION</b>				
<b>CAPACITANCE (<math>\mu</math>F)</b>	<b>PART NUMBER</b>	<b>NOMINAL CASE SIZE D x L</b>	<b>Max. RIPPLE at + 105 °C 120 Hz (mA)</b>	<b>Max. DF at + 20 °C 120 Hz</b>
<b>160 WVDC at + 105 °C, SURGE = 200 V</b>				
0.47	517D474M160AA6AE3	0.248 x 0.433 [6.3 x 11.0]	12.0	0.15
1.0	517D105M160AA6AE3	0.248 x 0.433 [6.3 x 11.0]	17.0	0.15
2.2	517D225M160AA6AE3	0.248 x 0.433 [6.3 x 11.0]	25.0	0.15
3.3	517D335M160BB6AE3	0.315 x 0.453 [8.0 x 11.5]	36.0	0.15
4.7	517D475M160BB6AE3	0.315 x 0.453 [8.0 x 11.5]	43.0	0.15
10.0	517D106M160CC6AE3	0.394 x 0.492 [10.0 x 12.5]	70.0	0.15
22.0	517D226M160CG6AE3	0.394 x 0.787 [10.0 x 20.0]	130.0	0.15
33.0	517D336M160DG6AE3	0.492 x 0.787 [12.5 x 20.0]	180.0	0.15
47.0	517D476M160DK6AE3	0.492 x 0.984 [12.5 x 25.0]	220.0	0.15
100.0	517D107M160EK6AE3	0.630 x 0.984 [16.0 x 25.0]	330.0	0.15
220.0	517D227M160FR6AE3	0.709 x 1.398 [18.0 x 35.5]	500.0	0.15
<b>200 WVDC at + 105 °C, SURGE = 250 V</b>				
0.47	517D474M200AA6AE3	0.248 x 0.433 [6.3 x 11.0]	12.0	0.15
1.0	517D105M200AA6AE3	0.248 x 0.433 [6.3 x 11.0]	17.0	0.15
2.2	517D225M200AA6AE3	0.248 x 0.433 [6.3 x 11.0]	25.0	0.15
3.3	517D335M200BB6AE3	0.315 x 0.453 [8.0 x 11.5]	36.0	0.15
4.7	517D475M200CC6AE3	0.394 x 0.492 [10.0 x 12.5]	50.0	0.15
10.0	517D106M200CD6AE3	0.394 x 0.630 [10.0 x 16.0]	80.0	0.15
22.0	517D226M200CG6AE3	0.394 x 0.787 [10.0 x 20.0]	140.0	0.15
33.0	517D336M200DK6AE3	0.492 x 0.984 [12.5 x 25.0]	198.0	0.15
47.0	517D476M200DK6AE3	0.492 x 0.984 [12.5 x 25.0]	220.0	0.15
100.0	517D107M200EN6AE3	0.630 x 1.240 [16.0 x 31.5]	335.0	0.15
220.0	517D227M200FV6AE3	0.709 x 1.575 [18.0 x 40.0]	515.0	0.15
<b>250 WVDC at + 105 °C, SURGE = 300 V</b>				
0.47	517D474M250AA6AE3	0.248 x 0.433 [6.3 x 11.0]	12.0	0.15
1.0	517D105M250AA6AE3	0.248 x 0.433 [6.3 x 11.0]	17.0	0.15
2.2	517D225M250BB6AE3	0.315 x 0.453 [8.0 x 11.5]	29.0	0.15
3.3	517D335M250CC6AE3	0.394 x 0.492 [10.0 x 12.5]	42.0	0.15
4.7	517D475M250CC6AE3	0.394 x 0.492 [10.0 x 12.5]	50.0	0.15
10.0	517D106M250CG6AE3	0.394 x 0.787 [10.0 x 20.0]	88.0	0.15
22.0	517D226M250DK6AE3	0.492 x 0.984 [12.5 x 25.0]	155.0	0.15
33.0	517D336M250DK6AE3	0.492 x 0.984 [12.5 x 25.0]	190.0	0.15
47.0	517D476M250EK6AE3	0.630 x 0.984 [16.0 x 25.0]	230.0	0.15
100.0	517D107M250FR6AE3	0.709 x 1.398 [18.0 x 35.5]	340.0	0.15



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