

## Aluminum Capacitors + 85 °C, Tubular, Axial Lead, General Purpose



Fig.1 Component outlines

**FEATURES**

- General purpose capacitor
- Rugged construction
- Largest CV ratings in axial lead capacitor



QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Nominal case size Ø D x L in mm	0.75" x 1.125" [19.05 x 28.575] to 1.375" x 4.125" [34.925 x 104.775]
Operating temperature	- 40 °C to + 85 °C
Rated Capacitance range, C <sub>R</sub>	15 µF to 220 000 µF
Tolerance on C <sub>R</sub>	- 10 %, + 50 %; - 10 %, + 75 %
Rated voltage range, U <sub>R</sub>	6.3 WVDC to 450 WVDC
Termination	axial leads
Life validation test at 85 °C	1000 hours: Δ CAP ≤ 15 % from initial measurement. Δ ESR ≤ 1.5 x initial specified limit. Δ DCL ≤ initial specified limit
Shelf life at 85 °C	500 hours: Δ CAP ≤ 10 % from initial measurement. Δ ESR ≤ 1.3 x initial specified limit. Δ DCL ≤ 2.0 x initial specified limit
DC leakage current	$I = K \sqrt{CV}$ K = 6.0 at + 25 °C; 36.0 at + 85 °C I in µA, C in µF, V in Volts

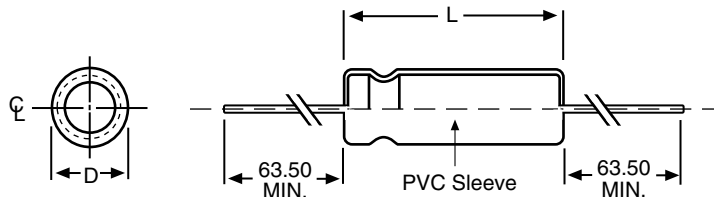
RIPPLE CURRENT MULTIPLIERS			
TEMPERATURE			
Ambient Temperature		Multipliers	
+ 75 °C		1.4	
+ 65 °C		1.7	
+ 45 °C and below		2.0	
FREQUENCY (Hz)			
WVDC	50 - 60	300 - 400	1000 AND UP
0 - 50	0.85	1.10	1.15
51 - 299	0.85	1.15	1.20
300 - up	0.80	1.30	1.40

LOW TEMPERATURE PERFORMANCE	
CAPACITANCE RATIO C - 40 °C / C + 25 °C MINIMUM at 120 Hz	
Rated Voltage (WVDC)	Capacitance Remaining
0 - 40	35
41 - 63	45
64 - 100	60
101 - 350	20
351 - 450	15
ESR RATIO ESR - 40 °C / ESR + 25 °C MAXIMUM at 120 Hz	
Rated Voltage (WVDC)	Multiplier
0 - 40	60
41 - 63	55
64 - 100	65
101 - 350	180
351 - 450	190

DIMENSIONS in inches [millimeters]							
CASE CODE	STYLE 6 AND 7		TYPICAL WEIGHT	CASE CODE	STYLE 6 AND 7		TYPICAL WEIGHT
	D	L			D	L	
GE	0.760 ± 0.020 [19.3 ± 0.51]	1.141 ± 0.062 [29.0 ± 1.58]	0.46 Oz. (13 Grams)	GL	0.760 ± 0.020 [19.3 ± 0.51]	2.141 ± 0.062 [54.4 ± 1.58]	0.74 Oz. (21 Grams)
GJ	0.760 ± 0.020 [19.3 ± 0.51]	1.641 ± 0.062 [41.7 ± 1.58]	0.67 Oz. (19 Grams)	GP	0.760 ± 0.020 [19.3 ± 0.51]	2.641 ± 0.062 [67.1 ± 1.58]	0.88 Oz. (25 Grams)
GS	0.760 ± 0.020 [19.3 ± 0.51]	3.141 ± 0.062 [79.8 ± 1.58]	1.16 Oz. (33 Grams)	KS	1.135 ± 0.020 [28.8 ± 0.51]	3.141 ± 0.062 [79.8 ± 1.58]	2.54 Oz. (72 Grams)
GT	0.760 ± 0.020 [19.3 ± 0.51]	3.641 ± 0.062 [92.5 ± 1.58]	1.34 Oz. (38 Grams)	KT	1.135 ± 0.020 [28.8 ± 0.51]	3.641 ± 0.062 [92.5 ± 1.58]	2.96 Oz. (84 Grams)
HE	0.885 ± 0.020 [22.5 ± 0.51]	1.141 ± 0.062 [29.0 ± 1.58]	0.63 Oz. (18 Grams)	KD	1.135 ± 0.020 [28.8 ± 0.51]	4.141 ± 0.062 [105.2 ± 1.58]	3.35 Oz. (95 Grams)
HJ	0.885 ± 0.020 [22.5 ± 0.51]	1.641 ± 0.062 [41.7 ± 1.58]	0.95 Oz. (27 Grams)	LE	1.260 ± 0.020 [32.0 ± 0.51]	1.141 ± 0.062 [29.0 ± 1.58]	1.13 Oz. (32 Grams)

DIMENSIONS in inches [millimeters]							
CASE CODE	STYLE 6 AND 7		TYPICAL WEIGHT	CASE CODE	STYLE 6 AND 7		TYPICAL WEIGHT
	D	L			D	L	
HL	0.885 ± 0.020 [22.5 ± 0.51]	2.141 ± 0.062 [54.4 ± 1.58]	1.02 Oz. (29 Grams)	LJ	1.260 ± 0.020 [32.0 ± 0.51]	1.641 ± 0.062 [41.7 ± 1.58]	1.62 Oz. (46 Grams)
HP	0.885 ± 0.020 [22.5 ± 0.51]	2.641 ± 0.062 [67.1 ± 1.58]	1.38 Oz. (39 Grams)	LL	1.260 ± 0.020 [32.0 ± 0.51]	2.141 ± 0.062 [54.4 ± 1.58]	2.11 Oz. (60 Grams)
HS	0.885 ± 0.020 [22.5 ± 0.51]	3.141 ± 0.062 [79.8 ± 1.58]	1.73 Oz. (49 Grams)	LP	1.260 ± 0.020 [32.0 ± 0.51]	2.641 ± 0.062 [67.1 ± 1.58]	2.65 Oz. (75 Grams)
HT	0.885 ± 0.020 [22.5 ± 0.51]	3.641 ± 0.062 [92.5 ± 1.58]	2.08 Oz. (59 Grams)	LS	1.260 ± 0.020 [32.0 ± 0.51]	3.141 ± 0.062 [79.8 ± 1.58]	3.14 Oz. (89 Grams)
JE	1.010 ± 0.020 [25.7 ± 0.51]	1.141 ± 0.062 [29.0 ± 1.58]	0.81 Oz. (23 Grams)	LT	1.260 ± 0.020 [32.0 ± 0.51]	3.641 ± 0.062 [92.5 ± 1.58]	3.63 Oz. (103 Grams)
JJ	1.010 ± 0.020 [25.7 ± 0.51]	1.641 ± 0.062 [41.7 ± 1.58]	1.02 Oz. (29 Grams)	LD	1.260 ± 0.020 [32.0 ± 0.51]	4.141 ± 0.062 [105.2 ± 1.58]	4.16 Oz. (118 Grams)
JL	1.010 ± 0.020 [25.7 ± 0.51]	2.141 ± 0.062 [54.4 ± 1.58]	1.55 Oz. (44 Grams)	ME	1.375 ± 0.020 [34.9 ± 0.51]	1.141 ± 0.062 [29.0 ± 1.58]	1.38 Oz. (39 Grams)
JP	1.010 ± 0.020 [25.7 ± 0.51]	2.641 ± 0.062 [67.1 ± 1.58]	1.87 Oz. (53 Grams)	MJ	1.375 ± 0.020 [34.9 ± 0.51]	1.641 ± 0.062 [41.7 ± 1.58]	1.98 Oz. (56 Grams)
JS	1.010 ± 0.020 [25.7 ± 0.51]	3.141 ± 0.062 [79.8 ± 1.58]	2.22 Oz. (63 Grams)	ML	1.375 ± 0.020 [34.9 ± 0.51]	2.141 ± 0.062 [54.4 ± 1.58]	2.57 Oz. (73 Grams)
JT	1.010 ± 0.020 [25.7 ± 0.51]	3.641 ± 0.062 [92.5 ± 1.58]	2.54 Oz. (72 Grams)	MP	1.375 ± 0.020 [34.9 ± 0.51]	2.641 ± 0.062 [67.1 ± 1.58]	3.21 Oz. (91 Grams)
KE	1.135 ± 0.020 [28.8 ± 0.51]	1.141 ± 0.062 [29.0 ± 1.58]	0.92 Oz. (26 Grams)	MS	1.375 ± 0.020 [34.9 ± 0.51]	3.141 ± 0.062 [79.8 ± 1.58]	3.81 Oz. (108 Grams)
KJ	1.135 ± 0.020 [28.8 ± 0.51]	1.641 ± 0.062 [41.7 ± 1.58]	1.31 Oz. (37 Grams)	MT	1.375 ± 0.020 [34.9 ± 0.51]	3.641 ± 0.062 [92.5 ± 1.58]	4.44 Oz. (126 Grams)
KL	1.135 ± 0.020 [28.8 ± 0.51]	2.141 ± 0.062 [54.4 ± 1.58]	1.73 Oz. (49 Grams)	MD	1.375 ± 0.020 [34.9 ± 0.51]	4.141 ± 0.062 [105.2 ± 1.58]	5.04 Oz. (143 Grams)
KP	1.135 ± 0.020 [28.8 ± 0.51]	2.641 ± 0.062 [67.1 ± 1.58]	2.15 Oz. (61 Grams)	-	-	-	-

## DIMENSIONS AND AVAILABLE FORMS





Aluminum Capacitors  
+ 85 °C, Tubular, Axial Lead, General Purpose

Vishay Sprague

ELECTRICAL DATA	
SYMBOL	DESCRIPTION
μF	rated capacitance
± %	F = 10 %, + 50 %
DC	voltage rating at 85 °C
GL	see dimensions in millimeters table
6	termination

**ORDERING EXAMPLE\***

Electrolytic capacitor 53D series

53D 282 G 025 GJ 6

\* Note: For lead (Pb)-free / RoHS compliant products add suffix "E3" to part number

Example: 53D282G025GJ6E3

ELECTRICAL DATA AND ORDERING INFORMATION				
CAPACITANCE (μF)	CASE CODE	PART NUMBER*	MAX. ESR at + 25 °C 120 Hz (Milliohms)	MAX. RMS RIPPLE at + 85 °C 120 Hz (Milliamps)
<b>16 WVDC at + 85 °C, SURGE = 18 V</b>				
6900.0	HJ	53D692G016HJ6	73	2150
10000.0	HL	53D103G016HL6	52	2840
<b>25 WVDC at + 85 °C, SURGE = 35 V</b>				
2800.0	GJ	53D282G025GJ6	103	1650
4300.0	HJ	53D432G025HJ6	72	2170
6200.0	HL	53D622G025HL6	51	2870
11000.0	JP	53D113G025JP6	33	4230
<b>35 WVDC at + 85 °C, SURGE = 45 V</b>				
1100.0	GE	53D112G035GE6	219	980
2100.0	GJ	53D212G035GJ6	111	1590
3200.0	HJ	53D322G035HJ6	77	2090
4700.0	HL	53D472G035HL6	54	2780
8300.0	JP	53D832G035JP6	34	4110
<b>50 WVDC at + 85 °C, SURGE = 70 V</b>				
1000.0	GE	53D102G050GE6	231	950
1300.0	GJ	53D132G050GJ6	131	1470
1900.0	HJ	53D192G050HJ6	94	1900
2800.0	HL	53D282G050HL6	65	2540
3800.0	JL	53D382G050JL6	51	3090
5000.0	JP	53D502G050JP6	40	3810
<b>63 WVDC at + 85 °C, SURGE = 80 V</b>				
1000.0	GJ	53D102G063GJ6	145	1400
2200.0	HL	53D222G063HL6	86	2210
<b>200 WVDC at + 85 °C, SURGE = 250 V</b>				
350.0	JL	53D351F200JL6	499	1000
460.0	JP	53D461F200JP6	379	1250
<b>250 WVDC at + 85 °C, SURGE = 300 V</b>				
56.0	GE	53D560F250GE6	3035	263
100.0	GJ	53D101F250GJ6	1593	420
130.0	HJ	53D131F250HJ6	1238	520
<b>400 WVDC at + 85 °C, SURGE = 450 V</b>				
100.0	JL	53D101F400JL6	1524	560
140.0	JS	53D141F400JS6	1084	790
150.0	JS	53D151F400JS6	1011	820

**Note**

\* These Part Numbers are normally stocked. Many other values are available on special order. Please contact your distributor for price and delivery.



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