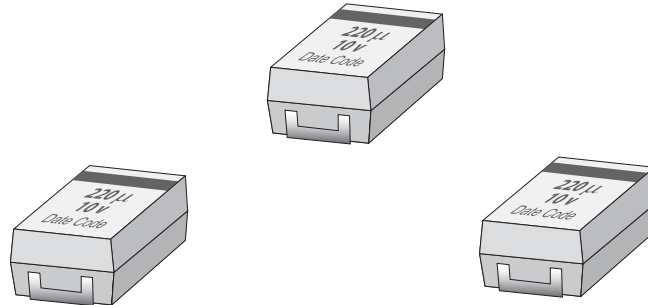


## Standard and Extended Range



### FEATURES

- **Lead-free, RoHS compliant** Designator (LF) at the end of the part number
- Meets or exceeds EIA 535 BAAC and IECQ standards (QC300801/US0001, IS - 28)
- Capacitance range: 0.1  $\mu\text{f}$  to 1500  $\mu\text{f}$
- Voltage range: 4 to 50 WVDC
- Down sized, extended range values
- **Low profile sizes (see low profile section)**
- Surge tested for maximum robustness
- Operating temperature range -55°C to +125°C, 2/3 x Vr (linear derating) above +85°C
- Precision molded case with flat surfaces for vacuum pick-up
- Laser marking and bold videcon - readable polarity stripe
- Compliant terminations
- Glue pad on underside for bonding to circuit board prior to soldering
- Encapsulant material satisfies the UL 94 VO flammability classification
- MSL (moisture sensitivity level) per IPC/Jedec J-STD-020B is level 1



Lead Free



RoHS  
compliant

Capacitance (µF)	Case Size	Arco Part No.	DCL (µA) max.	tan δ max. (%)	ESR @ 100kHz max. (Ω)	Capacitance (µF)	Case Size	Arco Part No.	DCL (µA) max.	tan δ max. (%)	ESR @ 100kHz max. (Ω)
------------------	-----------	---------------	---------------	----------------	-----------------------	------------------	-----------	---------------	---------------	----------------	-----------------------

### 4 V DC @ 85°C

Capacitance (µF)	Case Size	Arco Part No.	DCL (µA) max.	tan δ max. (%)	ESR @ 100kHz max. (Ω)
33.0	A	ACT04A336MTR	1.3	6	3.0
47.0	A		1.9	8	2.6
68.0	A		2.7	10	1.5
68.0	B		2.7	8	1.8
100.0	A		4.0	30	1.4
100.0	B		4.0	8	0.9
150.0	B		6.0	8	1.5
150.0	C		6.0	6	0.3
220.0	B		8.8	12	1.1
220.0	C		8.8	8	1.2
220.0	D		8.8	8	0.9
330.0	C		13.2	8	0.9
330.0	D		13.2	8	0.9
470.0	C		18.8	14	0.3
470.0	D		18.8	12	0.9
470.0	H		18.8	10	0.5
680.0	D		27.2	14	0.5
680.0	H		27.2	14	0.9
1000.0	D		40.0	60	0.2
1000.0	H		40.0	14	0.4
1500.0	H	60.0	30	0.2	

### 10 V DC @ 85°C

Capacitance (µF)	Case Size	Arco Part No.	DCL (µA) max.	tan δ max. (%)	ESR @ 100kHz max. (Ω)
2.2	A	ACT10A225MTR	0.5	6	7.0
4.7	A		0.5	6	5.0
6.8	A		0.7	6	4.0
6.8	B		0.7	6	3.0
10.0	A		1.0	6	3.0
10.0	B		1.0	6	2.5
15.0	A		1.5	6	3.2
15.0	B		1.5	6	2.8
22.0	A		2.2	8	3.0
22.0	B		2.2	6	2.4
22.0	C		2.2	6	1.8
33.0	A		3.3	8	1.7
33.0	B		3.3	6	1.8
33.0	C		3.3	6	1.6
47.0	B		4.7	8	1.0
47.0	C		4.7	6	1.2
47.0	D		4.7	6	0.9
68.0	B		6.8	6	1.4
68.0	C		6.8	6	1.3
68.0	D		6.8	6	0.9
100.0	B	10.0	8	1.4	
100.0	C	10.0	8	1.2	
100.0	D	10.0	6	0.9	
150.0	C	15.0	8	0.9	
150.0	D	15.0	6	0.9	
150.0	H	15.0	8	0.9	
220.0	C	22.0	8	0.5	
220.0	D	22.0	8	0.5	
220.0	H	22.0	8	0.5	
330.0	D	33.0	8	0.9	
330.0	H	33.0	8	0.9	
470.0	H	47.0	10	0.5	

### 6.3 V DC @ 85°C

Capacitance (µF)	Case Size	Arco Part No.	DCL (µA) max.	tan δ max. (%)	ESR @ 100kHz max. (Ω)
10.0	A	ACT6.3A106MTR	0.6	6	4.0
15.0	A		0.9	6	3.5
15.0	B		1.0	6	2.5
22.0	A		1.4	6	3.0
22.0	B		1.4	6	2.5
33.0	A		2.1	8	2.5
33.0	B		2.1	6	2.2
33.0	C		2.1	6	1.8
47.0	A		2.8	10	1.6
47.0	B		3.0	6	2.0
47.0	C		3.0	6	1.6
68.0	B		4.0	8	0.9
68.0	C		4.3	6	1.5
68.0	D		4.3	6	0.9
100.0	B		6.3	10	1.7
100.0	C		6.3	6	0.9
100.0	D		6.3	6	0.9
150.0	B		9.5	10	1.2
150.0	C		9.5	6	1.3
150.0	D		9.5	6	0.9
220.0	C	13.9	8	1.2	
220.0	D	13.9	8	0.9	
220.0	H	13.9	8	0.9	
330.0	C	19.8	12	0.5	
330.0	D	20.8	8	0.4	
330.0	H	20.8	8	0.4	
470.0	D	28.0	12	0.4	
470.0	H	28.0	10	0.4	
680.0	H	42.8	10	0.5	
1000.0	Z	63.0	16	0.4	

### 16 V DC @ 85°C

Capacitance (µF)	Case Size	Arco Part No.	DCL (µA) max.	tan δ max. (%)	ESR @ 100kHz max. (Ω)
1.0	A	ACT16A105MTR	0.5	4	11.0
1.5	A		0.5	6	8.0
2.2	A		0.5	6	6.5
3.3	A		0.5	6	5.0
3.3	B		0.5	6	4.5
4.7	A		0.8	6	4.0
4.7	B		0.8	6	3.5
6.8	A		1.1	6	3.5
6.8	B		1.1	6	2.5
6.8	C		1.1	6	2.5
10.0	A		1.6	8	3.0
10.0	B		1.6	6	2.8
10.0	C		1.6	8	2.0
15.0	A		2.4	6	2.0
15.0	B		2.4	6	2.5
15.0	C		2.4	6	1.8
22.0	B		3.5	6	2.3
22.0	C		3.5	6	1.6
22.0	D		3.5	6	1.1
33.0	B		5.3	8	2.1
33.0	C	5.3	6	1.5	
33.0	D	5.3	6	0.9	
47.0	C	7.5	6	1.4	
47.0	D	7.5	6	0.9	
68.0	C	10.9	6	1.3	
68.0	D	10.9	6	0.9	
100.0	C	16.0	8	1.0	
100.0	D	16.0	6	0.9	
100.0	H	16.0	6	0.9	
150.0	D	24.0	6	0.9	
150.0	H	24.0	6	0.3	
220.0	H	35.2	10	0.5	

\_ Insert tolerance M (±20%) or K(±10%) to complete the Arco part number

ARCO reserves the right to supply a higher voltage rating, tighter tolerance and / or lower ESR in the same case size, to the same reliability standards.

# ACT Standard and Extended Range Surface Mount Tantalum Capacitors

# Arco

Capacitance (μF)	Case Size	Arco Part No.	DCL (μA) max	tan δ max. (%)	ESR @ 100kHz max. (Ω)
------------------	-----------	---------------	--------------	----------------	-----------------------

Capacitance (μF)	Case Size	Arco Part No.	DCL (μA) max	tan δ max. (%)	ESR @ 100kHz max. (Ω)
------------------	-----------	---------------	--------------	----------------	-----------------------

## 20 V DC @ 85°C

Capacitance (μF)	Case Size	Arco Part No.	DCL (μA) max	tan δ max. (%)	ESR @ 100kHz max. (Ω)
1.0	A	ACT20A105MTR	0.5	4	9.0
1.5	A		0.5	6	6.5
2.2	A		0.5	6	5.3
2.2	B		0.5	6	3.5
3.3	A		0.7	6	4.5
3.3	B		0.7	6	3.0
4.7	A		0.9	6	4.0
4.7	B		0.9	6	3.0
6.8	A		1.4	6	2.5
6.8	B		1.4	6	2.5
6.8	C		1.4	6	2.0
10.0	B		2.0	6	2.1
10.0	C		2.0	6	1.9
15.0	B		3.0	6	2.0
15.0	C		3.0	6	1.7
22.0	B		4.4	6	1.8
22.0	C		4.4	6	1.6
22.0	D		4.4	6	0.9
33.0	C		6.6	6	1.5
33.0	D		6.6	6	0.9
47.0	C		9.4	6	0.9
47.0	D		9.4	6	0.9
47.0	H		9.4	6	0.9
68.0	D		13.6	6	0.9
68.0	H		13.6	6	0.9
100.0	D		20.0	8	0.9
100.0	H		20.0	8	0.9
150.0	H		30.0	8	0.3

## 35 V DC @ 85°C

Capacitance (μF)	Case Size	Arco Part No.	DCL (μA) max	tan δ max. (%)	ESR @ 100kHz max. (Ω)
0.1	A	ACT35A104MTR	0.5	4	24.0
0.15	A		0.5	4	21.0
0.22	A		0.5	4	18.0
0.33	A		0.5	4	15.0
0.47	A		0.5	4	12.0
0.47	B		0.5	4	10.0
0.68	A		0.5	4	8.0
0.68	B		0.5	4	8.0
1.0	A		0.5	4	7.5
1.0	B		0.5	4	6.5
1.5	A		0.5	6	7.5
1.5	B		0.5	6	5.2
1.5	C		0.5	6	4.5
2.2	A		0.8	6	4.5
2.2	B		0.8	6	4.2
2.2	C		0.8	6	3.5
3.3	B		1.2	6	3.5
3.3	C		1.2	6	2.5
3.3	D		1.2	6	2.5
4.7	B		1.2	6	3.1
4.7	C		1.6	6	2.2
4.7	D		1.6	6	1.5
6.8	C		2.4	6	1.8
6.8	D		2.4	6	1.3
10.0	C		3.5	6	1.6
10.0	D		3.5	6	1.0
10.0	H		3.5	6	0.9
15.0	C		5.3	6	1.4
15.0	D		5.3	6	0.9
22.0	D		7.7	6	0.9
22.0	H		7.7	6	0.9
33.0	D		11.6	6	0.9
33.0	H		11.6	6	0.9
47.0	H		16.5	6	0.9
68.0	Z		23.8	6	0.5

## 25 V DC @ 85°C

Capacitance (μF)	Case Size	Arco Part No.	DCL (μA) max	tan δ max. (%)	ESR @ 100kHz max. (Ω)
1.0	A	ACT25A105MTR	0.5	4	8.0
1.5	A		0.5	6	7.5
1.5	B		0.5	6	5.0
2.2	A		0.6	6	7.0
2.2	B		0.6	6	4.5
3.3	A		0.8	6	3.7
3.3	B		0.8	6	3.5
3.3	C		0.8	6	2.8
4.7	A		1.2	6	3.1
4.7	B		1.2	6	2.8
4.7	C		1.2	6	2.4
6.8	B		1.7	6	2.8
6.8	C		1.7	6	2.0
10.0	B		2.5	6	2.0
10.0	C		2.5	6	1.8
10.0	D		2.5	6	1.2
15.0	C		3.8	6	1.6
15.0	D		3.8	6	1.0
22.0	C		5.5	6	1.4
22.0	D		5.5	6	0.9
33.0	D		8.3	6	0.9
33.0	H		8.3	6	0.9
47.0	D		11.8	6	0.9
47.0	H		11.8	6	0.9
68.0	H		17.0	6	0.9
100.0	Z		25.0	8	0.4

## 50 V DC @ 85°C

Capacitance (μF)	Case Size	Arco Part No.	DCL (μA) max	tan δ max. (%)	ESR @ 100kHz max. (Ω)
0.1	A	ACT50A104MTR	0.5	4	22.0
0.15	A		0.5	4	15.0
0.15	B		0.5	4	17.0
0.22	A		0.5	4	18.0
0.22	B		0.5	4	14.0
0.33	B		0.5	4	12.0
0.47	A		0.5	4	9.5
0.47	B		0.7	4	9.5
0.47	C		0.5	4	8.0
0.68	A		0.5	4	7.9
0.68	B		0.5	4	8.0
0.68	C		0.5	4	7.0
1.0	A		0.5	4	6.6
1.0	B		0.5	4	7.0
1.0	C		0.5	4	5.5
1.5	C		0.8	6	4.5
1.5	D		0.8	6	4.0
2.2	C		1.1	6	3.0
2.2	D		1.1	6	2.5
3.3	C		1.7	6	2.5
3.3	D		1.7	6	2.0
4.7	C		0.5	4	1.4
4.7	D		2.4	6	1.4
6.8	C		3.4	6	1.0
6.8	D		3.4	6	1.0
10.0	D		5.0	6	0.8
10.0	H		5.0	6	1.0
15.0	D		7.5	4	0.6
15.0	H		7.5	6	0.6
22.0	Z		11.0	8	0.6

\_ Insert tolerance M (±20%) or K(±10%) to complete the Arco part number

ARCO reserves the right to supply a higher voltage rating, tighter tolerance and / or lower ESR in the same case size, to the same reliability standards.