F93-BE Series

Low Leakage Current, Standard Tantalum J-Lead

FEATURES

- Compliant to the RoHS3 directive 2015/863/EU
- Lower DCL 0.005 x CV
- Optional DCL sorting conditions
- Improved Failure Rate: 0.5%/1000 hours, 85°C, RV
- Low ESR options available
- 100% surge test for power supply circuit

LEAD-FREE
LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT

APPLICATIONS

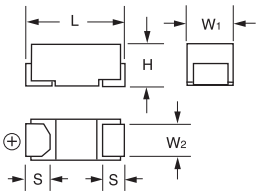
- IoT devices
- Wearable devices
- Industrial sensors

CASE DIMENSIONS:

millimeters (inches)

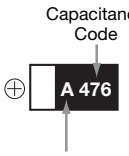
Code	EIA Code	EIA Metric	L	W_1	W_2	H	S
A	1206	3216-18	3.20 ± 0.20 (0.126 ± 0.008)	1.60 ± 0.20 (0.063 ± 0.008)	1.20 ± 0.10 (0.047 ± 0.004)	1.60 ± 0.20 (0.063 ± 0.008)	0.80 ± 0.20 (0.031 ± 0.008)
B	1210	3528-21	3.50 ± 0.20 (0.138 ± 0.008)	2.80 ± 0.20 (0.110 ± 0.008)	2.20 ± 0.10 (0.087 ± 0.004)	1.90 ± 0.20 (0.075 ± 0.008)	0.80 ± 0.20 (0.031 ± 0.008)

A, B CASE



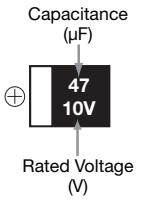
MARKING

A CASE



6.3V	J
10V	A

B CASE



HOW TO ORDER

F93	0J	106	M	A	□	BE □
Type	**Rated Voltage**	**Capacitance Code** pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	**Tolerance** K = ±10% M = ±20%	**Case Size** See table above	**Packaging** See Tape & Reel Packaging Section	BE1 = 0.005xCV

TECHNICAL SPECIFICATIONS

Category Temperature Range:	-55 to +125°C
Rated Temperature:	+85°C
Capacitance Tolerance:	±20%, ±10% at 120Hz
Dissipation Factor:	Refer to next page
ESR 100kHz:	Refer to next page
Leakage Current:	After 5 minutes application of rated voltage, leakage current at 20°C is not more than 0.005 x CV (BE1 suffix).
Capacitance Change By Temperature	+15% Max. at +125°C
	+10% Max. at +85°C
	-10% Max. at -55°C

CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated Voltage	
µF	Code	6.3V (0J)	10V (1A)
47	476	A/B	A/B
68	686		
100	107	A/B	

Released ratings
Please contact to your local AVX sales office when these series are being designed in your application.

RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA)	DF @ 120Hz (%)	ESR *1 @ 100kHz (Ω)	100kHz RMS Current (mA)			*2 ΔC/C (%)	MSL
							25°C	85°C	125°C		
6.3 Volt											
F930J476#AABE1	A	47	6.3	1.5	18	2.5	173	156	69	*	3
F930J476#BABE1	B	47	6.3	1.5	6	1.0	292	262	117	*	3
F930J107#AABE1	A	100	6.3	3.2	35	2.0	194	174	77	±15	3
F930J107#BABE1	B	100	6.3	3.2	14	0.9	307	277	123	*	3
10 Volt											
F931A476#AABE1	A	47	10	2.4	40	2.0	194	174	77	±15	3
F931A476#BABE1	B	47	10	2.4	8	1.0	292	262	117	*	3

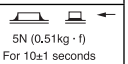
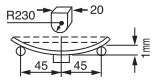
1: ΔC/C Marked ""

#: "M" for ±20% tolerance, "K" for ± 10% tolerance.

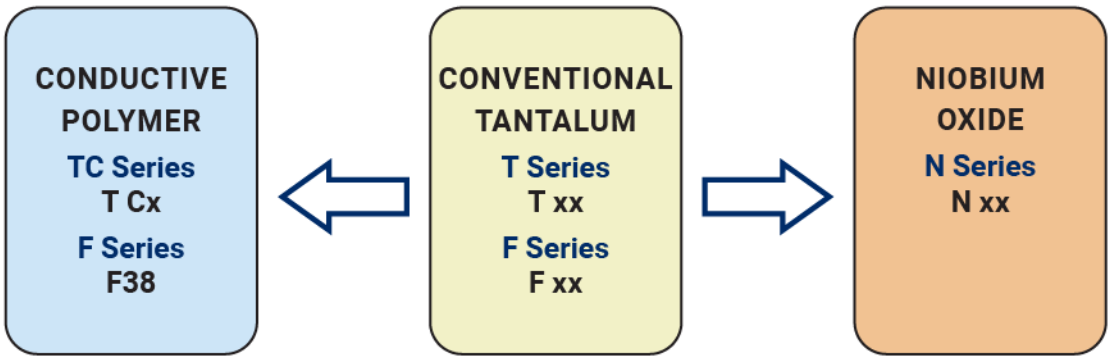
Item	All Case (%)
Damp Heat	±10
Temperature cycles	±5
Resistance soldering heat	±5
Surge	±5
Endurance	±10

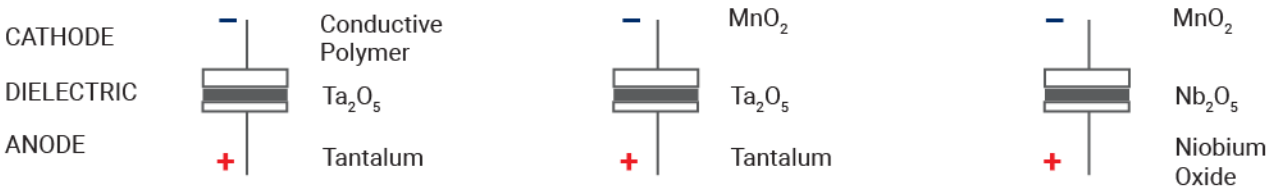
*1 Low ESR options are available. Please contact to your local AVX sales office.

QUALIFICATION TABLE

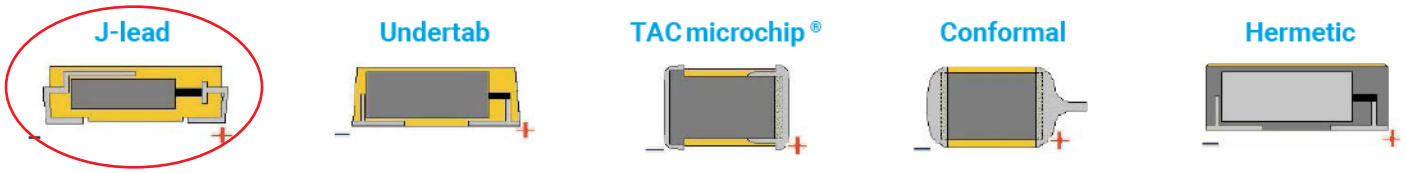
TEST	F93-BE series (Temperature range -55°C to +125°C) Condition
Damp Heat (Steady State)	At 40°C, 90 to 95% R.H., 500 hours (No voltage applied) Capacitance Change ..... Refer to page 37 (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less
Temperature Cycles	-55°C / +125°C, 30 minutes each, 1000 cycles Capacitance Change ..... Refer to page 37 (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less
Resistance to Soldering Heat	10 seconds reflow at 260°C, 5 seconds immersion at 260°C. Capacitance Change ..... Refer to page 37 (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less
Surge	After application of surge voltage in series with a 33Ω resistor at the rate of 30 seconds ON, 30 seconds OFF, for 1000 successive test cycles at 85ºC, capacitors shall meet the characteristic requirements in the table above. Capacitance Change ..... Refer to page 37 (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less
Endurance	After 2000 hours' application of rated voltage in series with a 3Ω resistor at 85°C, or derated voltage in series with a 3Ω resistor at 125°C, capacitors shall meet the characteristic requirements in the table above. Capacitance Change .....Refer to page 37 (*1) Dissipation Factor .....Initial specified value or less Leakage Current .....Initial specified value or less
Shear Test	After applying the pressure load of 5N for 10±1 seconds horizontally to the center of capacitor side body which has no electrode and has been soldered beforehand on a substrate, there shall be found neither exfoliation nor its sign at the terminal electrode.  5N (0.51kg · f) For 10±1 seconds
Terminal Strength	Keeping a capacitor surface-mounted on a substrate upside down and supporting the substrate at both of the opposite bottom points 45mm apart from the center of capacitor, the pressure strength is applied with a specified jig at the center of substrate so that the substrate may bend by 1mm as illustrated. Then, there shall be found no remarkable abnormality on the capacitor terminals. 
Failure Rate	0.5% per 1000 hours at 85°C, V_R with 0.1Ω/V series impedance, 60% confidence level.

AVX SOLID ELECTROLYTIC CAPACITOR ROADMAP

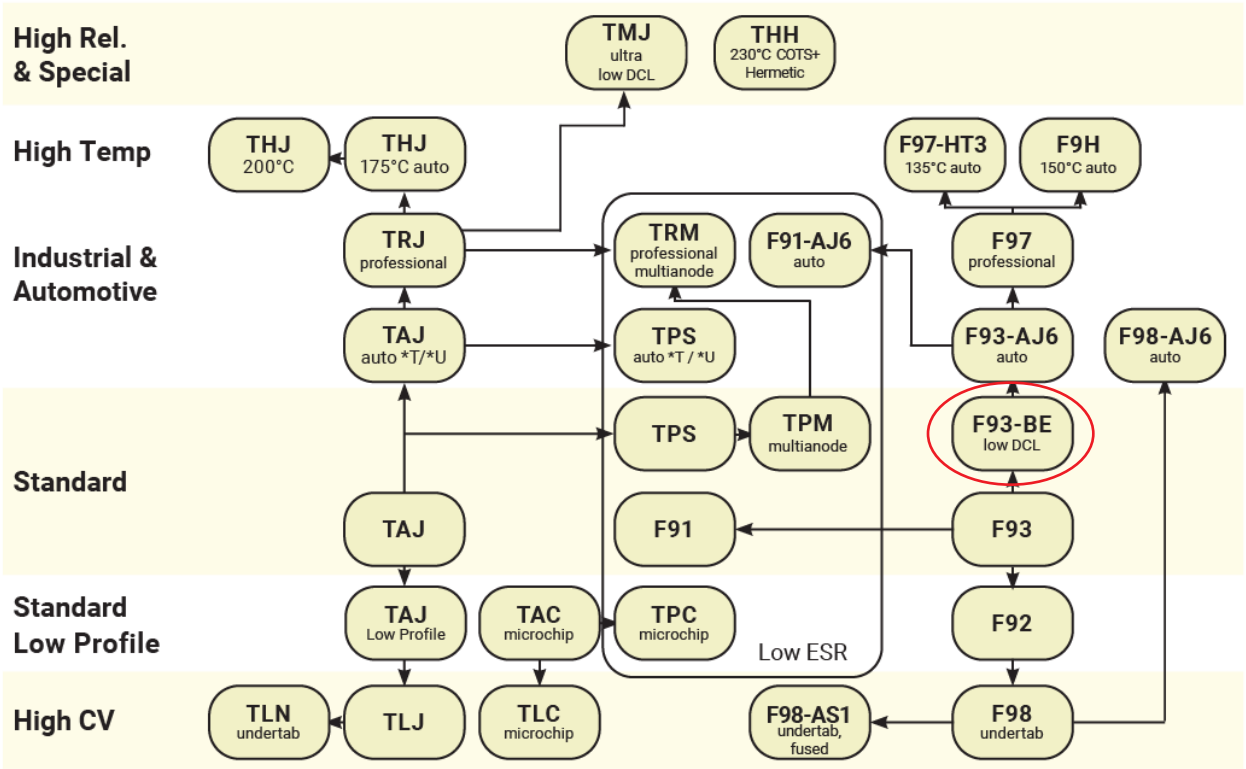




FIVE CAPACITOR CONSTRUCTION STYLES



SERIES LINE UP: CONVENTIONAL SMD MnO2



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Kyocera AVX:

F930J107MBABE1 F931A476MBABE1 F931A476MAABE1 F930J476MBABE1 F930J476MAABE1 F930J107KAABE1