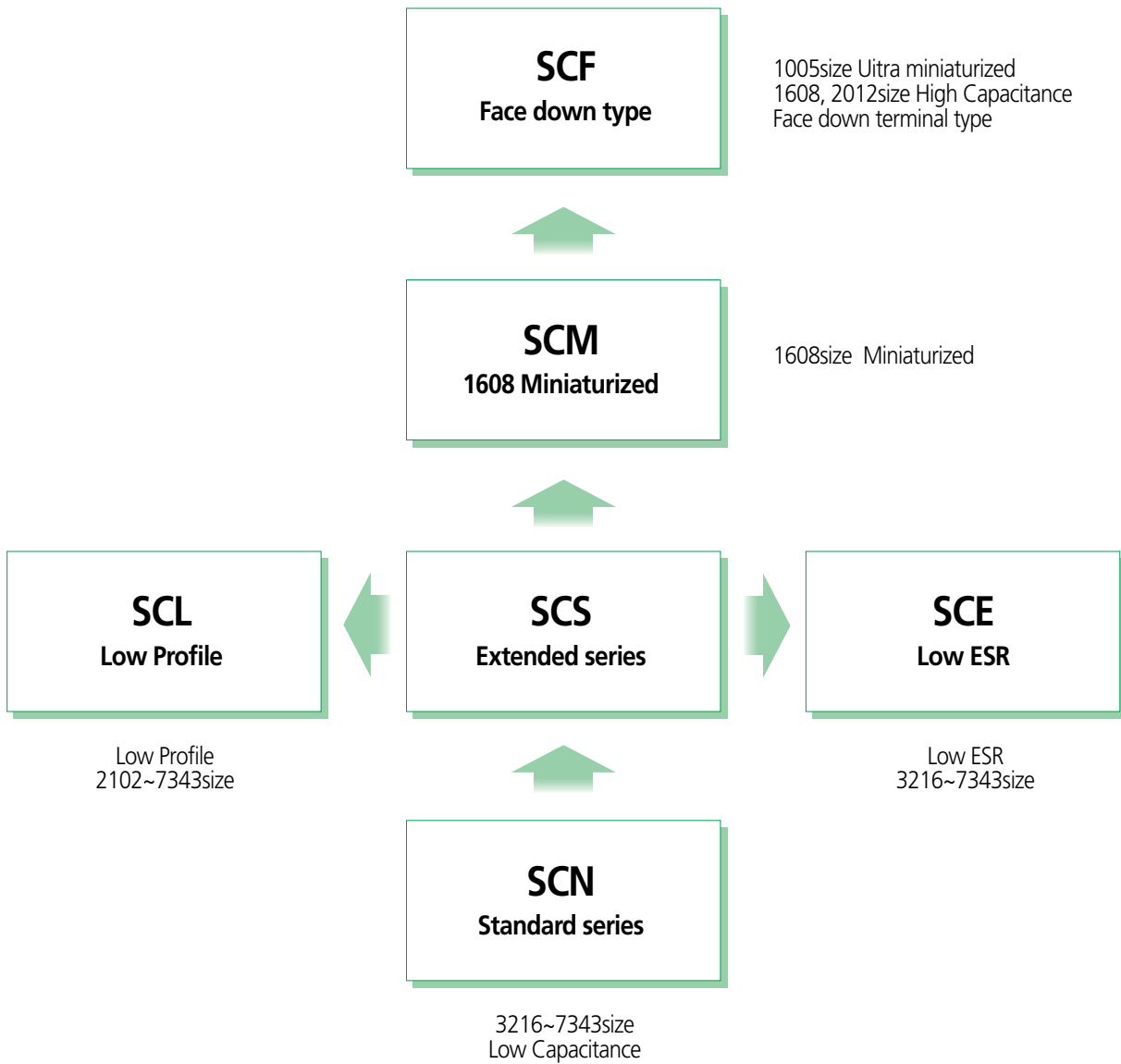


Manganese Dioxide Type Series System Diagram



Precautions in using
Tantalum Capacitors

4 Characteristics
Explanation

SCN Series

SCS Series

SCS-P Series

SCM Series

SCF Series

SCE Series

SCL Series

PCS Series

PCL Series

Marking
Specification

Taping
Specification

SCN

(Standard Tantalum Chip Capacitors)



Feature

The product is a standard type that has been most widely used among tantalum chip capacitors.

- Molded case available in four case codes.
- Compatible with automatic pick and place equipment.
- Meets or exceeds EIA standard 535BAAC.
- Environment-Friendly(Pb-free) tantalum capacitor.

Specifications

Capacitance	Range	0.15 μ F to 68 μ F						
	Tolerance	$\pm 20\%$ (M), $\pm 10\%$ (K)						
Dissipation Factor (Tan δ)	$C \leq 1.0\mu$ F	D.F $\leq 4.0\%$						
	1.5μ F $\leq C \leq 6.8\mu$ F	D.F $\leq 6.0\%$						
	10μ F $\leq C \leq 68\mu$ F	D.F $\leq 8.0\%$						
	$C \geq 100\mu$ F	D.F $\leq 10.0\%$						
Leakage Current		between 0.01CV and 0.5 μ A, whichever is larger						
Rated Voltage (VR)	$T \leq 85^\circ\text{C}$	4.0	6.3	10	16.0	20.0	25.0	35.0
Category Voltage	$85^\circ\text{C} < T \leq 125^\circ\text{C}$	2.5	4.0	6.3	10.0	13.0	16.0	22.0
Surge Voltage (V)	$T \leq 85^\circ\text{C}$	5.2	8.0	13.0	20.0	25.0	32.0	44.0
	$85^\circ\text{C} < T \leq 125^\circ\text{C}$	3.2	5.0	8.0	13.0	16.0	20.0	28.0
Operating Temperature		-55 $^\circ\text{C}$ to 125 $^\circ\text{C}$						

Standard Value and Case Size

Cap.(μ F)	R . V	4V(0G)	6.3V(0J)	10V(1A)	16V(1C)	20V(1D)	25V(1E)	35V(1V)
0.15	154							A
0.22	224							A
0.33	334						A	A
0.47	474					A	A	B
0.68	684				A	A		
1.0	105			A	A			B
1.5	155		A	A			B	
2.2	225	A	A			B		C
3.3	335	A			B	C	C	C
4.7	475			B	C	C	C	D
6.8	685		B	C	C	C	D	D
10	106	B	C	C	C	D	D	
15	156	C	C	C	D	D		
22	226	C	C	D	D			
33	336	C	D	D				
47	476	D	D					
68	686	D						

Ratings & Part Number Reference

Part Number	Case Size	Capacitance (μF)	DC Leakage (μA) @+25 °C Max.	DF (%) @+25 °C 120Hz Max.	ESR (Ω) @+25 °C 100KHz Max.
4 volt Rating @+85 °C (2.5 volt Rating @+125 °C)					
TCSCN0G225*AAR	A	2.2	0.5	6	10.0
TCSCN0G335*AAR	A	3.3	0.5	6	8.0
TCSCN0G106*BAR	B	10	0.5	6	3.5
TCSCN0G156*CAR	C	15	0.6	6	2.5
TCSCN0G226*CAR	C	22	0.9	6	1.8
TCSCN0G336*CAR	C	33	1.3	6	1.8
TCSCN0G476*DAR	D	47	1.9	6	1.0
TCSCN0G686*DAR	D	68	2.7	6	0.8
6.3 volt Rating @+85 °C (4 volt Rating @+125 °C)					
TCSCN0J155*AAR	A	1.5	0.5	6	10.0
TCSCN0J225*AAR	A	2.2	0.5	6	8.0
TCSCN0J685*BAR	B	6.8	0.5	6	3.5
TCSCN0J106*CAR	C	10	0.6	6	3.0
TCSCN0J156*CAR	C	15	0.9	6	1.8
TCSCN0J226*CAR	C	22	1.4	6	1.8
TCSCN0J336*DAR	D	33	2.0	6	1.5
TCSCN0J476*DAR	D	47	3.0	6	0.8
10 volt Rating @+85 °C (6.3 volt Rating @+125 °C)					
TCSCN1A105*AAR	A	1.0	0.5	4	12.0
TCSCN1A155*AAR	A	1.5	0.5	6	8.0
TCSCN1A475*BAR	B	4.7	0.5	6	3.5
TCSCN1A685*CAR	C	6.8	0.7	6	3.0
TCSCN1A106*CAR	C	10	1.0	6	1.8
TCSCN1A156*CAR	C	15	1.5	6	1.8
TCSCN1A226*DAR	D	22	2.2	6	1.2
TCSCN1A336*DAR	D	33	3.3	6	0.8
16 volt Rating @+85 °C (10 volt Rating @+125 °C)					
TCSCN1C684*AAR	A	0.68	0.5	4	12.0
TCSCN1C105*AAR	A	1.0	0.5	4	10.0
TCSCN1C335*BAR	B	3.3	0.5	6	3.5
TCSCN1C475*CAR	C	4.7	0.7	6	3.0
TCSCN1C685*CAR	C	6.8	1.0	6	1.9
TCSCN1C106*CAR	C	10	1.6	6	1.8
TCSCN1C156*DAR	D	15	2.4	6	1.2
TCSCN1C226*DAR	D	22	3.5	6	0.8
20 volt Rating @+85 °C (13 volt Rating @+125 °C)					
TCSCN1D474*AAR	A	0.47	0.5	4	15.0
TCSCN1D684*AAR	A	0.68	0.5	4	12.0
TCSCN1D225*BAR	B	2.2	0.5	6	3.5
TCSCN1D335*CAR	C	3.3	0.7	6	3.5
TCSCN1D475*CAR	C	4.7	1.0	6	2.4
TCSCN1D685*CAR	C	6.8	1.4	6	1.9
TCSCN1D106*DAR	D	10	2.0	6	1.3
TCSCN1D156*DAR	D	15	3.0	6	1.0

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Part Number	Case Size	Capacitance (μ F)	DC Leakage (μ A) @ +25 °C Max.	DF (%) @ +25 °C 120Hz Max.	ESR (Ω) @ +25 °C 100KHz Max.
25 volt Rating @ +85 °C (16 volt Rating @ +125 °C)					
TCSCN1E334*AAR	A	0.33	0.5	4	15.0
TCSCN1E474*AAR	A	0.47	0.5	4	14.0
TCSCN1E155*BAR	B	1.5	0.5	6	5.0
TCSCN1E335*CAR	C	3.3	0.8	6	2.5
TCSCN1E475*CAR	C	4.7	1.2	6	2.4
TCSCN1E685*DAR	D	6.8	1.7	6	1.4
TCSCN1E106*DAR	D	10	2.5	6	1.0
35 volt Rating @ +85 °C (22 volt Rating @ +125 °C)					
TCSCN1V154*AAR	A	0.15	0.5	4	19.0
TCSCN1V224*AAR	A	0.22	0.5	4	18.0
TCSCN1V334*AAR	A	0.33	0.5	4	15.0
TCSCN1V474*BAR	B	0.47	0.5	4	8.0
TCSCN1V105*BAR	B	1.0	0.5	4	5.0
TCSCN1V225*CAR	C	2.2	0.7	6	3.5
TCSCN1V335*CAR	C	3.3	1.2	6	2.5
TCSCN1V475*DAR	D	4.7	1.6	6	1.5
TCSCN1V685*DAR	D	6.8	2.3	6	1.3

All technical data relates to an ambient temperature of +25 °C.
 Capacitance and DF are measured at 120Hz, 0.5V RMS with a maximum DC bias of 2.0 volts.
 DCL is measured at rated voltage after 5 minutes.
 * Insert K for \pm 10% tolerance and M for \pm 20%.