



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Surface Mount Type **SP-Cap**

Series : **SX (Low ESR Products)**



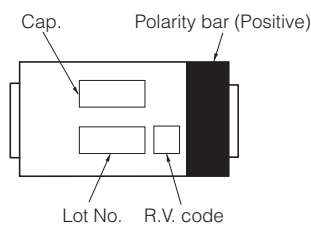
Features

- Large capacitance (560 μ F max.)
- Low ESR (4.5 m Ω to 9 m Ω)
- High ripple current (8500 mAr.m.s. max.)
- RoHS compliance, Halogen free

Specifications

Series	SX			
Category temp. range	-55 °C to +105 °C			
Rated voltage range	2 V.DC to 6.3 V.DC			
Nominal cap.range	82 μ F to 560 μ F			
Capacitance tolerance	\pm 20 % (120 Hz/+20 °C)			
DC leakage current	$I \leq 0.1 CV$ (μ A) 2 minutes			
Dissipation factor ($\tan \delta$)	≤ 0.06 (120 Hz/+20 °C)			
Surge voltage (V.DC)	Rated voltage \times 1.25 (15 °C to 35 °C)			
Endurance	+105 °C, 2000 h, rated voltage applied			
	Capacitance change	Within \pm 20 % of the initial value		
	$\tan \delta$	≤ 2 times of the initial limit		
	DC leakage current	≤ 3 times of the initial limit		
Damp heat (Steady state)	+60 °C, 90 %, 500 h, No-applied voltage			
	Capacitance change of initial measurd value	2 to 2.5 V.DC	4 V.DC	6.3 V.DC
		+70 %, -20 %	+60 %, -20 %	+50 %, -20 %
	$\tan \delta$	≤ 2 times of the initial limit		
DC leakage current	Within the initial limit			

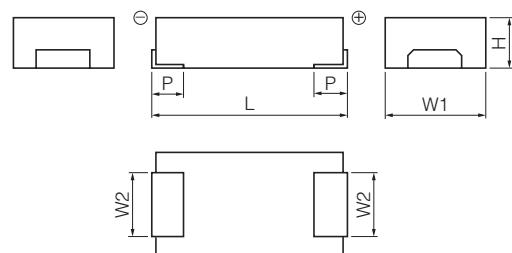
Marking



Rated voltage mark

d	2 V.DC
e	2.5 V.DC
g	4 V.DC
j	6.3 V.DC

Dimensions (not to scale)



Unit : mm

Series	L \pm 0.2	W1 \pm 0.2	W2 \pm 0.1	H \pm 0.1	P \pm 0.3
SX	7.3	4.3	2.4	1.9	1.3

* Externals of figure are the reference.

Characteristics list

Reflow *3 <Standard>

Series	Rated voltage (V.DC)	Capacitance (±20%) (μF)	Case size (mm)			Specification		Part number	Min.*4 Packaging Q'ty (pcs)
			L	W	H	*1 Ripple current (mAr.m.s.)	*2 ESR (mΩ max.)		
SX	2	180	7.3	4.3	1.9	6300	9	EEFSX0D181ER	3500
		220	7.3	4.3	1.9	6300	9	EEFSX0D221ER	3500
		270	7.3	4.3	1.9	6300	9	EEFSX0D271ER	3500
			7.3	4.3	1.9	7500	6	EEFSX0D271XE	3500
			7.3	4.3	1.9	8500	4.5	EEFSX0D271E4	3500
		330	7.3	4.3	1.9	6300	9	EEFSX0D331ER	3500
			7.3	4.3	1.9	7500	6	EEFSX0D331XE	3500
			7.3	4.3	1.9	8500	4.5	EEFSX0D331E4	3500
		390	7.3	4.3	1.9	6300	9	EEFSX0D391ER	3500
			7.3	4.3	1.9	7500	6	EEFSX0D391XE	3500
	7.3		4.3	1.9	8500	4.5	EEFSX0D391E4	3500	
	470	7.3	4.3	1.9	6300	9	EEFSX0D471ER	3500	
		7.3	4.3	1.9	7500	6	EEFSX0D471XE	3500	
		7.3	4.3	1.9	8500	4.5	EEFSX0D471E4	3500	
	560	7.3	4.3	1.9	8500	4.5	EEFSX0D561E4	3500	
	2.5	150	7.3	4.3	1.9	6300	9	EEFSX0E151ER	3500
		180	7.3	4.3	1.9	6300	9	EEFSX0E181ER	3500
		220	7.3	4.3	1.9	6300	9	EEFSX0E221ER	3500
			7.3	4.3	1.9	7000	7	EEFSX0E221E7	3500
		270	7.3	4.3	1.9	7000	7	EEFSX0E271E7	3500
		330	7.3	4.3	1.9	6300	9	EEFSX0E331ER	3500
			7.3	4.3	1.9	7500	6	EEFSX0E331XE	3500
			7.3	4.3	1.9	8500	4.5	EEFSX0E331E4	3500
		390	7.3	4.3	1.9	6300	9	EEFSX0E391ER	3500
			7.3	4.3	1.9	7500	6	EEFSX0E391XE	3500
			7.3	4.3	1.9	8500	4.5	EEFSX0E391E4	3500
		470	7.3	4.3	1.9	6300	9	EEFSX0E471ER	3500
			7.3	4.3	1.9	7500	6	EEFSX0E471XE	3500
			7.3	4.3	1.9	8500	4.5	EEFSX0E471E4	3500
	4	82	7.3	4.3	1.9	6300	9	EEFSX0G820ER	3500
100		7.3	4.3	1.9	6300	9	EEFSX0G101ER	3500	
150		7.3	4.3	1.9	6300	9	EEFSX0G151ER	3500	
		7.3	4.3	1.9	7000	7	EEFSX0G151E7	3500	
180		7.3	4.3	1.9	6300	9	EEFSX0G181ER	3500	
220		7.3	4.3	1.9	6300	9	EEFSX0G221ER	3500	
270	7.3	4.3	1.9	6300	9	EEFSX0G271ER	3500		
6.3	120	7.3	4.3	1.9	7000	7	EEFSX0J121E7	3500	
	150	7.3	4.3	1.9	6300	9	EEFSX0J151ER	3500	
	180	7.3	4.3	1.9	6300	9	EEFSX0J181ER	3500	

*1: Ripple current (100 kHz/ +45°C), *2: ESR (100 kHz/+20°C)

*3: Please refer to the page of "Mounting Specifications".

*4: Please contact us when 500 pcs packing is necessary.

Temperature compensation multipliers for ripple current

Temp.	T ≤ 45 °C	45 °C < T ≤ 85 °C	85 °C < T ≤ 105 °C
Coefficient	1.0	0.7	0.25