

Surface Mount Solid Aluminum Electrolytic Capacitors

- ◆ **Benefits of Flat Chip Al-Electrolytics**
- ◆ **NPC-Series**
- ◆ **NSP-Series**



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NIC [®] **NIC Components Corp.**

10 years cooperation of NIC and wts//electronic components enables us to support our customers with high quality products and logistical competence.

Characteristics of Solid Electrolyte

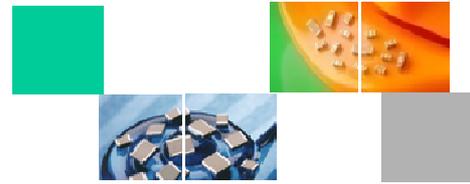
Aluminum Capacitors using a solid electrolyte are usually build with a high conductive polymer or an organic semiconductor material.

Their advantage is a fairly low ESR value. This ESR value does only change little when the capacitor is exposed to low temperature, which makes those capacitors suitable for cold environments.



Also Aluminum Solid Capacitors are having an excellent frequency characteristic as well as a good noise reduction.

As the solid material can not vaporize as the wet material may do, the life time of the Aluminum Solid Capacitors is also increased.



Why shall I use a SMD Flat Chip Aluminum Electrolytic Capacitor?

- Flat Chips may substitute tantalum chips as they use the same land pattern
- Flat Chips are suitable for Pb-free reflow soldering process
- Flat Chips will enable you to save space on your PCB
- Flat Chips offer a high-performance capacitor solution

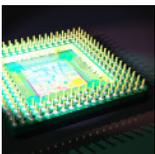
Where can I use a SMD Flat Chip Aluminum Electrolytic Capacitor?



Power Management
Power Supply
Voltage Regulators



Broadband
Ethernet
Servers



Multiprocessor
Mini PC

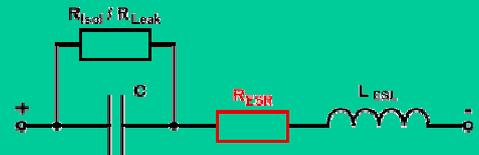
Where can I get samples of the SMD Flat Chip Capacitors?

You can order your sample kit today!

Just contact us at marketing@wts-electronic.de
Or visit our website www.wts-electronic.de

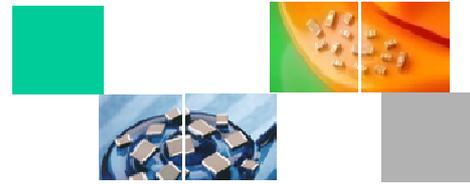
Equivalent Series Resistance (ESR)

The equivalent series resistance is the sum of losses within the capacitor. Those losses are unwanted, The ESR is also part of the equivalent circuit of a capacitor:



The ESR is influenced by the material, construction as well as the conductivity of the electrolyte. Solid electrolytes as they are used in flat chip aluminium caps have a very low ESR.

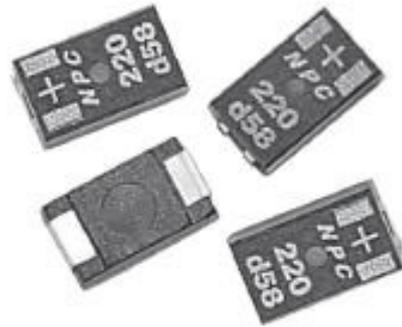




Flat Chip Alu Electrolytics

NPC Series

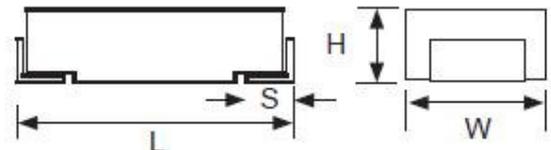
- Low impedance and low ESR (0.007 Ohm)
- Wide temperature range $-55^{\circ}\text{C} \dots +105^{\circ}\text{C}$
- Compatible with $+260^{\circ}\text{C}$ Reflow Soldering
- Gold Termination Plating
- High Ripple Current



CAPABILITIES

Capacitance Range	10 μF ...470 μF
Capacitance Tolerance	20%
Voltage Ratings	2.0Vdc...8Vdc
Ripple Current	up to 3,500mA
Case Size	"D" (EIA 7343)
Load Life	2000h

Case	L \pm 0.2	W \pm 0.2	H \pm 0.1	W1 \pm 0.1	S \pm 0.2
D1	7.3mm	4.3mm	1.4mm	2.4mm	1.3mm
D6			1.9mm		
D7			2.7mm		
D8			2.9mm		



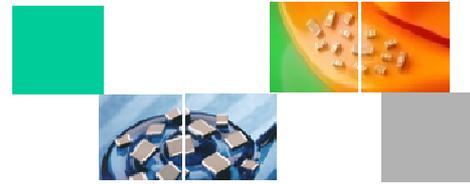
Cross Reference

- A700 (Kemet)
- PSL (NEC)
- EEFC D, EEFC X, EEFL (Panasonic)

We will help you to cross your parts! Just send us your requirements and we will help you to find the appropriate flat chip aluminum capacitor.

How to Order—Part Numbering

NPC 101 M 6.3 D7 X A TR F		
NPC	Series Name	Options
101	Capacitance in μF , first two digits are significant third digit no. of zeros	10 μF ...470 μF
M	Tolerance Code	M = 20%
6.3	Voltage	2V, 2.5V, 4V, 6.3V, 8V
D7	Case Size	D1, D6, D7, D8
X	ESR Specialty	X=Standard, Z = reduced ESR
A	Reflow characteristic	optional A = $+260^{\circ}\text{C}$ Reflow
TR	packaging	TR = Tape and Reel
F	RohS rating	F= RohS conform



Flat Chip Alu Electrolytics

NSP Series

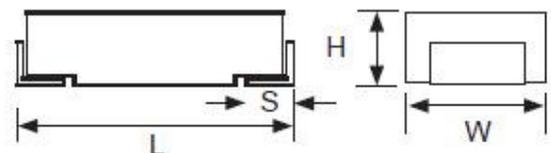
- Ultra low ESR (4,5mR) at high frequency
- Special polymer solid electrolyte
- Low profile (1.1mm)
- Compatible with +260°C Reflow Soldering
- High Ripple Current



CAPABILITIES

Capacitance Range	1.2μF...560μF
Capacitance Tolerance	20%
Voltage Ratings	2.0Vdc...16Vdc
Ripple Current	up to 3,800mA
Case Size	"D" (EIA 7343)
Load Life	1000h

Case	L ± 0.4	W ± 0.3	H	W1 ± 2.4	S ± 0.3
D2			1.8 ± 0.1mm		
D3			2.8 ± 0.2mm		
D4	7.3mm	4.3mm	4.2 ± 0.1mm	2.4mm	1.3mm
D5			1.1 ± 0.1mm		
D6			1.9 ± 0.2mm		



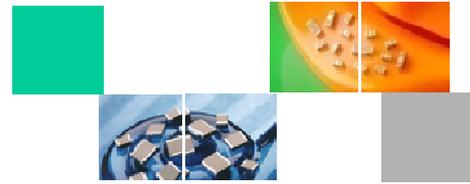
Cross Reference

- A700 (Kemet)
- PSL (NEC)
- EEFC D, EEFF D (Panasonic)
- EEFU D, EEFU E (Panasonic)

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How to Order—Part Numbering

NSP 101 M 12.5 D2 X A TR F		
NSP	Series Name	
101	Capacitance in μF, first two digits are significant third digit no. of zeros	2.2μF...560μF
M	Tolerance Code	M = 20%
12.5	Voltage	2V, 2.5V, 4V, 6.3V, 8V, 12.5V, 16V
D2	Case Size	D2, D3, D4, D5 D6
X	ESR Specialty	X=Standard, Z = reduced ESR
A	Reflow characteristic	optional A = +260°C Reflow
TR	packaging	TR = Tape and Reel
F	RohS rating	F= RohS conform



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We are looking forward to hear from you!