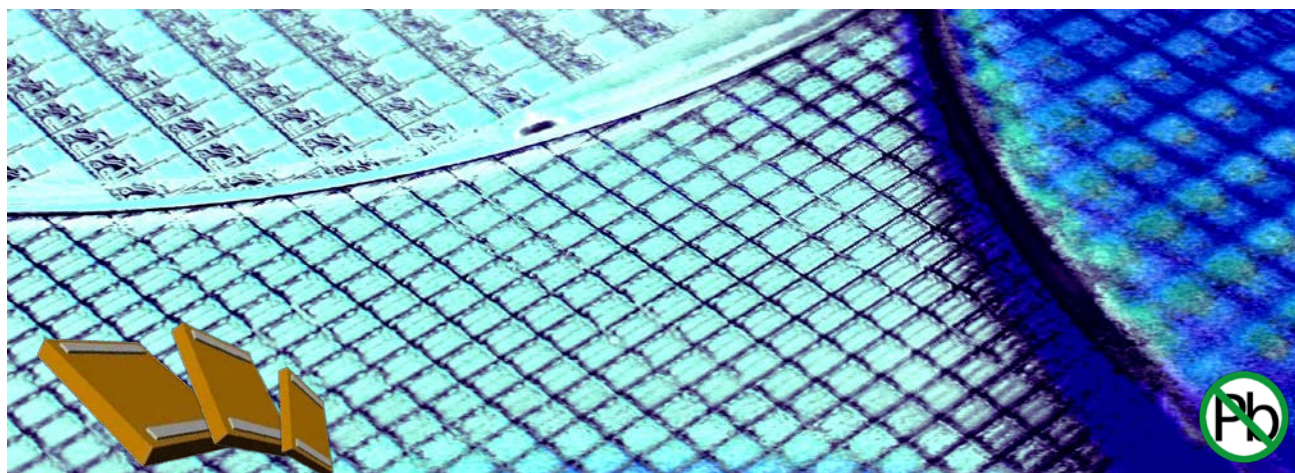


LPSC423.xxx - 0201 Low Profile Silicon Capacitor

Rev 3.0



Key features

- Ultra low profile (100µm)
- High stability of capacitance value:
 - ◆ Temperature $<\pm 0.5\%$ (-55°C to +150°C)
 - ◆ Voltage $<0.1\%$ /Volts
 - ◆ Negligible capacitance loss through ageing
- Unique high capacitance in EIA/0201 package size, up to 10 nF
- High reliability (FIT <0.017 parts / billion hours)
- Low leakage current < 100 pA
- Low ESL and Low ESR
- Suitable for lead free reflow-soldering

Thanks to the unique IPDiA Silicon capacitor technology, most of the problems encountered in demanding applications can be solved.

Low Profile Silicon Capacitors are available with **thicknesses down to 80µm** and are the most appropriate solution in applications with height constraints.

LPSC is the perfect choice for embedded technologies, modules, systems in package, when designers are looking at **utmost decoupling behaviours**.

The Silicon capacitor technology offers a capacitor integration capability (up to 250nF/mm²) which allows **downsizing** compared to Tantalum and MLCC.

Key applications

- All demanding applications, such as medical, telecom, computer industries
- Decoupling / Filtering / Charge pump (i.e.: Pacemakers / mobile phones)
- High reliability applications
- Devices with battery operations
- Extreme miniaturization
- Suitable for Embedded technologies

The IPDiA technology features **high reliability**, up to 10 times better than alternative capacitor technologies such as Tantalum or MLCC, and eliminates cracking phenomena.

Silicon Capacitor technology also offers a very stable capacitor value over the full operating voltage & temperature range, with a high and stable insulation resistance.

This Silicon based technology is RoHS compliant and compatible with lead free reflow soldering process.

Electrical specification

		Capacitance value					
Unit	1 pF	Contact IPDiA Sales	Contact IPDiA Sales	Contact IPDiA Sales	Contact IPDiA Sales	Contact IPDiA Sales	Contact IPDiA Sales
	10 pF	Contact IPDiA Sales	Contact IPDiA Sales	Contact IPDiA Sales	Contact IPDiA Sales	Contact IPDiA Sales	Contact IPDiA Sales
	0.1 nF	Contact IPDiA Sales	Contact IPDiA Sales	Contact IPDiA Sales	Contact IPDiA Sales	Contact IPDiA Sales	Contact IPDiA Sales
	1 nF	10nF: 935.121.423.510					

(*) 80 µm thickness on request

(**) Extended temperature range (up to +250 °C) available, see Xtreme Temperature Silicon Capacitor product: XTSC

(***) Other values on request.

Parameters	Value
Capacitance range	10 nF ^(***)
Capacitance tolerances	±15 % ^(***)
Operating temperature range	-55 °C to 150 °C ^(**)
Storage temperatures	-70 °C to 165 °C
Temperature coefficient	<±0.5 %, from -55 °C to +150 °C
Breakdown voltage (BV)	11 VDC ^(***)
Capacitance variation versus RVDC	0.1 % / V (from 0 V to RVDC)
Equivalent Serial Inductor (ESL)	Max 100 pH
Equivalent Serial Resistor (ESR)	Max 400mΩ ^(***)
Insulation resistance	100GΩ min @ 3V, 25°C
Ageing	Negligible, < 0.001 % / 1000 h
Reliability	FIT<0.017 parts / billion hours,
Capacitor height	Max 100 µm ^(*)

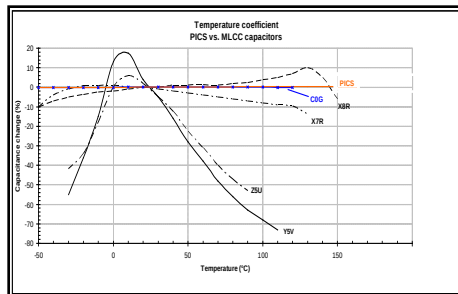


Fig.1 Capacitance change versus temperature variation compared with alternative dielectrics

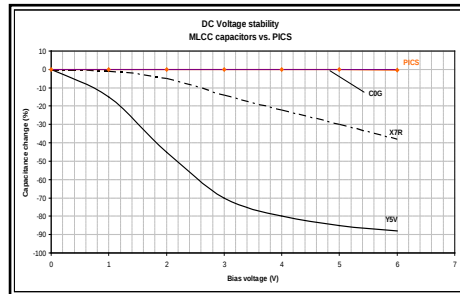


Fig.2 Capacitance change versus voltage variation compared with alternative dielectrics

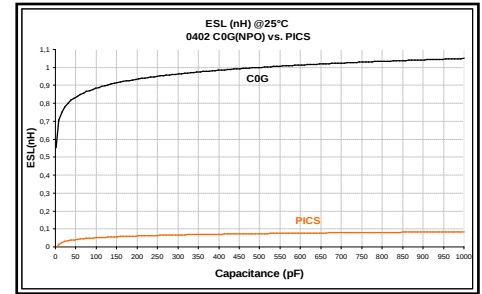


Fig.3 ESL versus capacitance value compared with alternative dielectrics

Part Number

935.121. **B.2** **S.** **U** **XX** **Value (E6)**

i.e.: 10 nF/0201 case (LPSC type)
→ 935.121.423.510

Breakdown Voltage
4 = 11V

Size
3 = 0201

Unit

0 = 10f	5 = 1n
1 = 0.1p	6 = 10n
2 = 1p	7 = 0.1u
3 = 10p	8 = 1u
4 = 0.1n	9 = 10u

Termination and Outline

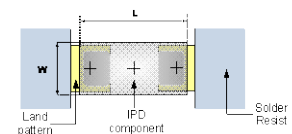
Termination

Lead-free nickel/solder coating compatible with automatic soldering technologies: reflow and manual.

Typical dimensions, all dimensions in mm.

Package outline

Typ.		0201
Comp. size	L	0.8±0.03
	W	0.60±0.03



(0201 PCB footprint)

Packaging

Tape and reel, tray, waffle pack or wafer delivery.

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Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

Телефон: 8 (812) 309 58 32 (многоканальный)

Факс: 8 (812) 320-02-42

Электронная почта: org@eplast1.ru

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.