

PRODUCT SPECIFICATION

C u s t o m e r : _____
P r o d u c t N a m e : _____ **Silicon Capacitor** _____
P a r t N O : _____ FSC0402D204M04R5 _____
I s s u e D a t e : _____

Prepared	Checked	Customer Check
ChenTT	Zelig	

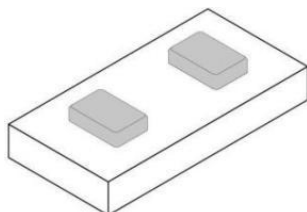
Silicon Capacitor – Horizontal Dual Pad 0402 200nF BV4.5V

Features

This device delivers exceptional reliability and maintains outstanding stability across a wide range of operating temperatures and supply voltages. It features ultra-low leakage current, ensuring high insulation resistance, and is fully compatible with lead-free reflow soldering processes. The design also achieves extremely low equivalent series inductance (ESL) and equivalent series resistance (ESR), making it well-suited for high-frequency and high-temperature applications.

Typical Applications

This product is well-suited for high-speed digital logic applications, broadband test instrumentation, and microwave to millimeter-wave systems. It also supports synchronous optical network interfaces and offers high volumetric efficiency, making it an ideal choice for space-constrained, high-performance designs



Product Information

Product Name	Package Finishing	Description
FSC0402D204M04R5	Ni: 6um, Au: 0.06um	200nF/0402/BV 4.5V –Horizontal Dual Pad – 1.0 x 0.50 x 0.10 mm

Electrical Characteristics

Symbol	Parameters	Test Conditions	Min.	Typ.	Max.	Unit
C	Capacitance value	@25°C, 1.0MHz, Vbias= 0V, Vac= 0.2Vrms	-	200	-	nF
ΔC_P	Capacitance tolerance	@25°C	-15		15	%
T _{OP}	Operating temperature		-55	25	150	°C
ΔC_T	Capacitance temperature variation	@-55°C to 150°C, 1.0MHz, Vbias= 0V, Vac= 0.2Vrms	-	85	-	ppm/°C
RV _{DC}	Rated voltage		-	-	1.8	V _{DC}
BV	Break down voltage	@25 °C, <50mA, 1~5s	4.5	-	-	V
ΔC_{VDC}	Capacitance voltage variation	From 0 V to RV _{DC} , @25°C, 1.0MHz	-	-	-0.05	%/V _{DC}
IR	Insulation resistor	@RV _{DC} , 25°C, 60s, <50mA	-	10	-	GΩ

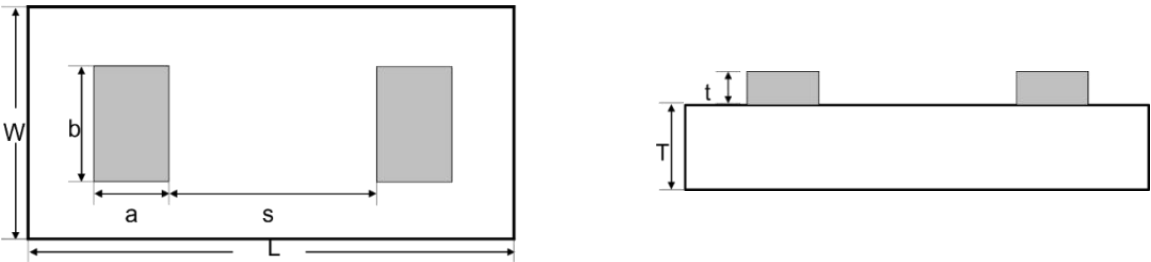
Pad Metallization

This surface-mounted silicon capacitor is supplied as standard with bumping as shown. Alternative metallization options—including SAC305 Type 6, copper, thick gold, or aluminum pads—are available upon request.



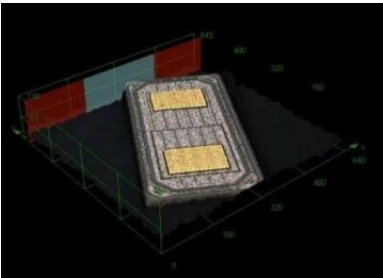
Package outline

The product is delivered as a bare silicon die.

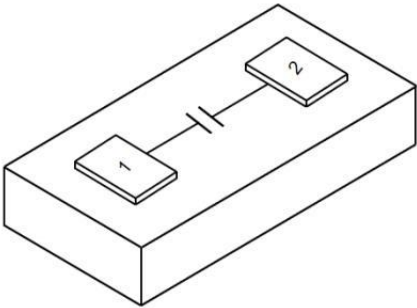


Dimensions and tolerances

	L (mm)	W (mm)	T (mm)	a (mm)	b(mm)	s(mm)	t(mm)
Component dimension	1.0 ± 0.02	0.5 ± 0.02	0.10 ± 0.06	0.26	0.3	0.20	0.006



Isometric view



Pin configuration

Package format

Tape and Reel:

The dies are placed into the carrier tape pockets with the solder bumps oriented downward, while the die marking is positioned adjacent to the sprocket holes along the tape edge.

