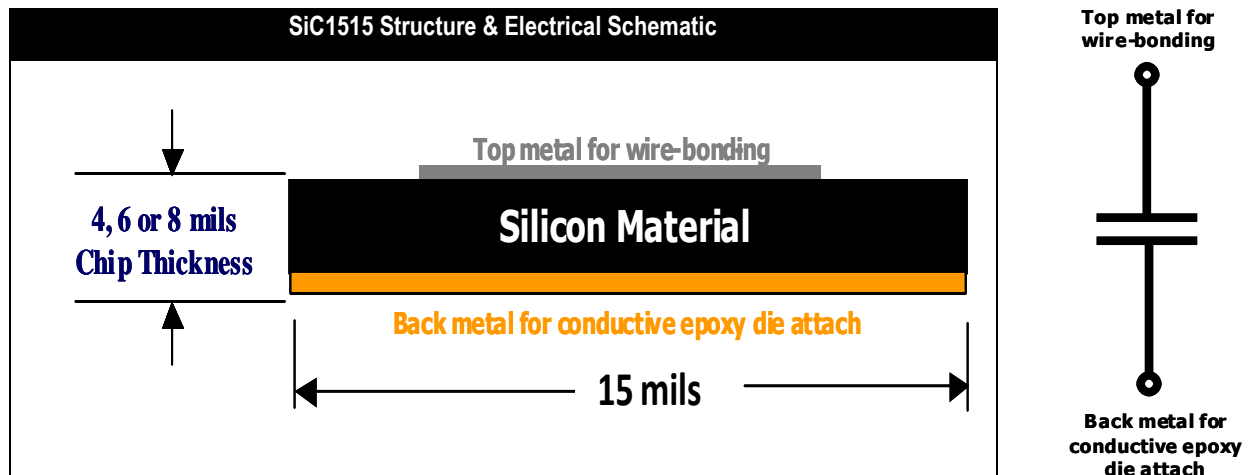


Thin Film MNOS Wire-bondable Chip Capacitor

OnChip Devices’ SiC1515 thin film top to bottom contact MNOS capacitors provide an extremely stable and precise component for a variety of hybrid microelectronic and multichip module applications. Other applications include voltage-controlled oscillators, filter networks, matching networks in modules for wireless communications including mobile phones, cordless phones, and global positioning systems.

The SiC1515 device is built on silicon with a single wire-bondable pad on the top and metallization on the backside of the chip suitable for epoxy die attach. A layer of Silicon Nitride dielectric film is sandwiched between these two metal plates to form the capacitor. OnChip’s high quality dielectric is deposited using proprietary processes to achieve capacitance values ranging from 30pF to 68pF. This dielectric material offers high stability and Q values while exhibiting low temperature and voltage coefficients. These Thin Film devices have extremely stable capacitances over a wide range of frequencies from 1MHz to several GHz. Additionally, their semiconductor construction provides an ultra-high Self-Resonant Frequency (SRF) and exceptionally low Equivalent Series Resistance (ESR).

ELECTRICAL SPECIFICATIONS	
Parameter	Test Conditions
Operating Temperature Range	-55°C + 125°C
D.C. Working Voltage @ 25°C	25V
Peak Voltage @ 25°C	1.5 x Working Voltage
Dissipation Factor @ 1 khz, 1V, 25°C	0.1% max
Q @ 1 Mhz, 50 mV, 25°C	1,000 min
Temperature Coefficient of Capacitance (TCC), -55°C + 150°C	±150ppm/°C



OBJECTIVE DATA SHEET

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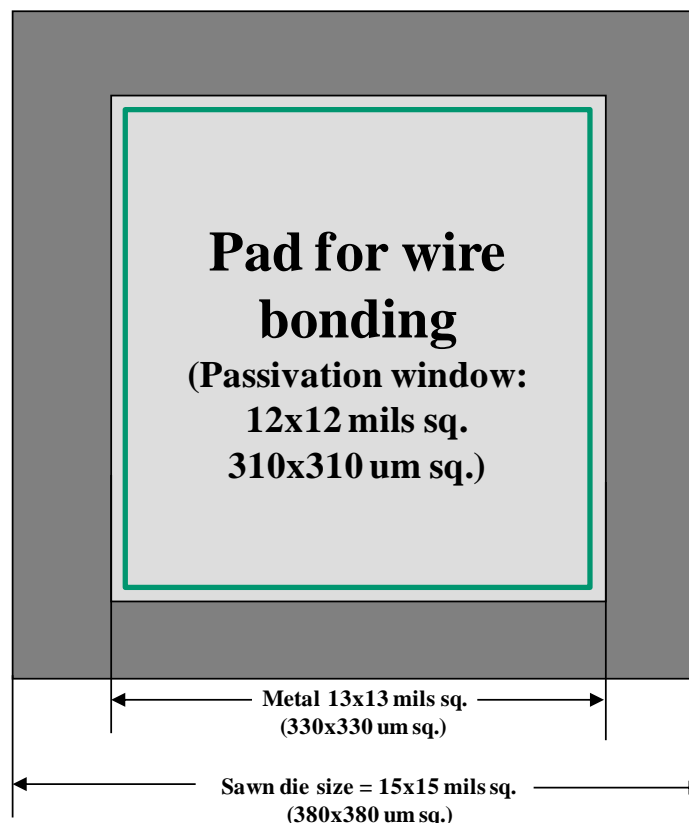
SiC1515

Ordering Part No.						
Part Family	Chip Thickness	Capacitance Value (30 to 68pF)	Tolerance	Package Type	Front Metal Pad for Wire Bonding	Back Metal for Die Attach (Typical thickness)
SiC1515	x4 = 4 mils	30 = 30pF	K = ±10%	W = Unsawn full 5" wafer	A = Aluminum	1= Ti/Ni/Au (550A/4,000A/2,500A)
	x6 = 6 mils	47 = 47pF	M = ±20%	B = Diced and shipped on mylar/tape	G = Gold	2 = Ti/Ag (550A/5,000A)
	x8 = 8 mils	50 = 50pF		P = Diced and shipped in Gelpak		

Part Number Example: SiC1515x4-68KWA1 is a 15 x 15 mils sq silicon chip with 68pF ±10% capacitance; shipped as 4 mils thick unsawn 5" wafers with Aluminum top pads and Ti/Ni/Au back metal.

Mechanical specifications	Unit
Die composition	Silicon wafer
Die shape	Square
Chip Length	380 (after saw) µm
Chip Width	380 (after saw) µm
Chip Thickness	4, 6 & 8 ±0.5 mils
Saw street width (space between each capacitor chip on the wafer)	60 (X-direction) µm 60 (Y-direction)
Top pad length (Passivation Window)	310 µm
Top pad width (Passivation Window)	310 µm
Top pad composition	Aluminum or Gold
Back metal (underside of die)	Gold or Silver (for conductive epoxy die attach)

Device Dimensions:



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SiC1515

Wafer Array: Saw step size is 17.3 x 17.3 mils sq. (440x440um sq.)

