



# High-Precision Silicon-Based RF Capacitors

**Solves Users' Assembly Problems  
While Extending High Q and  
SRF Beyond 15 GHz**



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# HPC

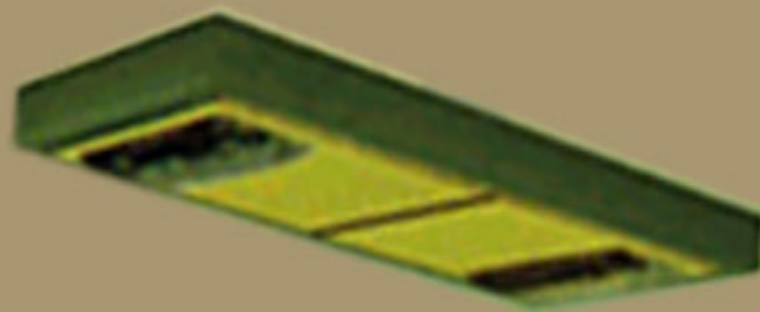
## HPC Silicon Chip Capacitors

### Chip Sizes

0201

0402

0603



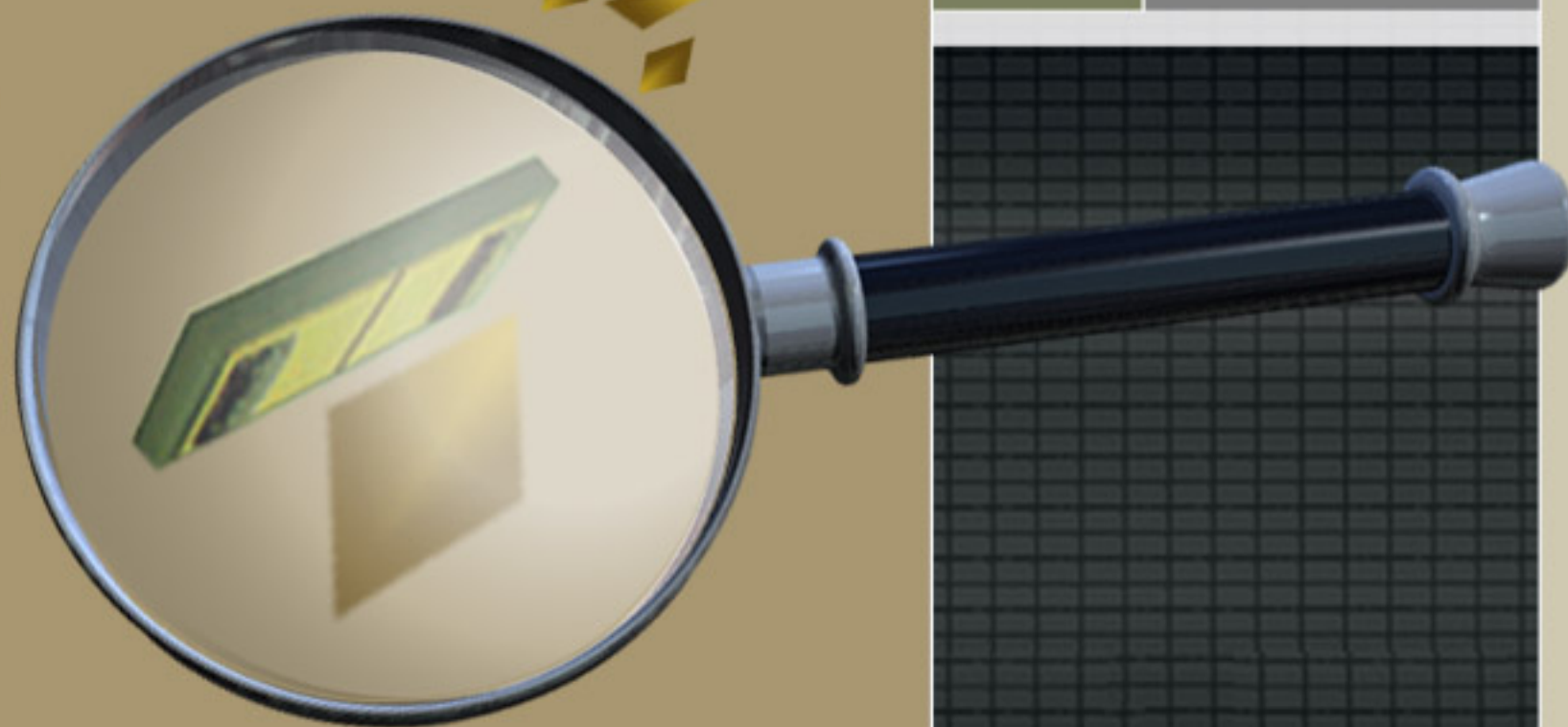
Single-sided contact eliminates tombstone effect and improves board assembly



# HPC

## HPC Silicon Chip Capacitors for RF Applications

**Small size –  
Unprecedented  
capacitance  
vs. frequency  
stability**





## HPC Silicon Chip Capacitors For Smart Card Applications

- High Q more than 1000 @ 1 GHz for 1.2 pF (0402)
- Low ESR under  $.18\Omega$  @ 1 GHz for 1.2 pF (0402)
- Low parasitic inductance  $\sim 0.035$  nH
- High SRF above 15 GHz
- Up to 180 pF and thickness of .18 mm (0402)



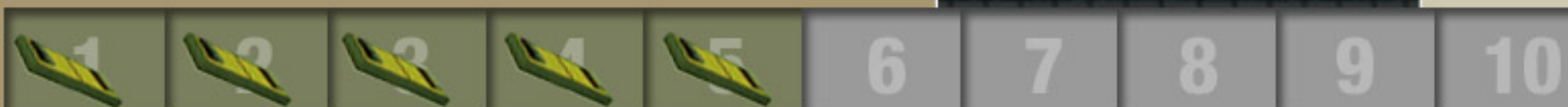
**0.18 mm  
PROFILE**



## HPC Silicon Chip Capacitors Tight Tolerances

- A:  $\pm 0.05$  pF
- B:  $\pm 0.10$  pF
- C:  $\pm 0.25$  pF
- F:  $\pm 1\%$
- G:  $\pm 2\%$
- J:  $\pm 5\%$

Extremely stable capacitance in wide range of frequencies (1 MHz to 15 GHz)







## HPC Silicon Chip Capacitors

### Size   Range

0201 > 0.1 pF to 39 pF

0402 > 0.1 pF to 180 pF

0603 > 0.2 pF to 560 pF

For applications in wireless communications devices such as mobile and cordless phones, GPS systems, VCOs, filter and matching networks, RF modules, and base stations.



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## HPC Silicon Chip Capacitors

**Providing Excellent Capacitance  
Stability vs. Frequency**

**From 1 MHz to 15 GHz**



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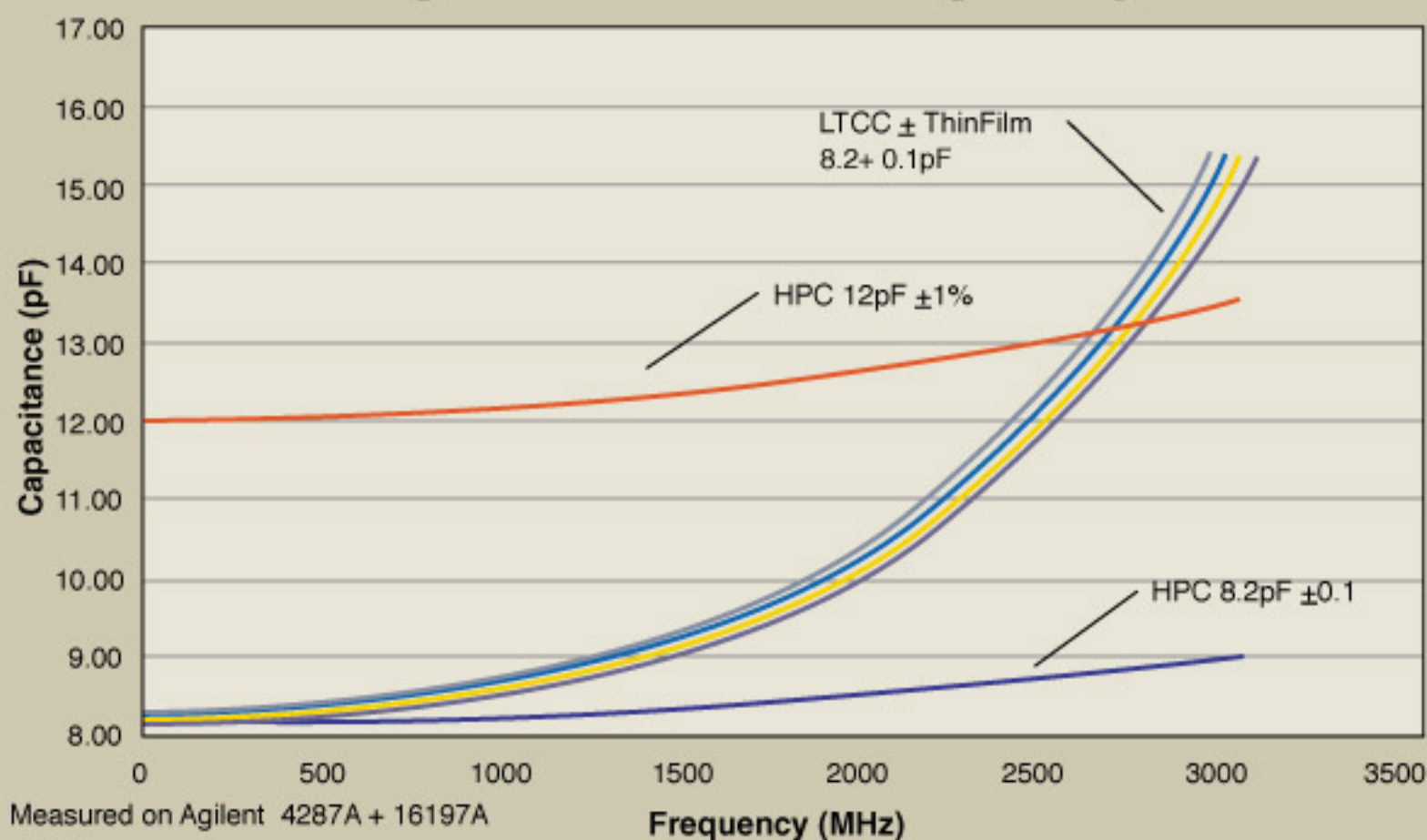
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# HPC Silicon Chip Capacitors

## Capacitance vs. Frequency





# HPC



## HPC Silicon Chip Capacitors Design Kits available in sizes 0201, 0402, 0603

For applications in  
wireless communications,  
VCO, filter and matching  
networks, RF power  
amplifiers, DC blocks,  
RF modules, GPS, GSM



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## **HPC Silicon Chip Capacitors** **The High-Performance Capacitor** **For RF Applications**

