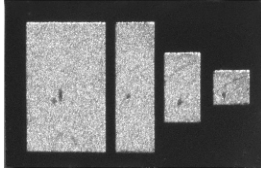


Thin Film Binary MOS Capacitors



Product may not
be to scale

FEATURES

- Wire bondable
- User value selection
- Four capacitors with common connection
- Capacitance range: 0.25 pF to 15 pF in binary increments
- Dielectric: Silicon dioxide
- Chip size: 0.019 x 0.030 inches
- Substrate: Silicon with gold backing

CHIP
CAPACITORS

The CBA MOS capacitor chips each contain four different capacitors in binary increments allowing the user many choices in value selection. Two versions of CBA capacitors are available: one with a total capacitance of 3.75 pF and one with a total capacitance of 15 pF.

These chips are manufactured using Vishay Electro-Films (EFI) sophisticated Thin Film equipment and manufacturing technology. The CBAs are 100 % electrically tested and visually inspected to MIL-STD-883.

APPLICATIONS

Vishay EFI CBA binary MOS multi-value capacitor chips are designed for hybrid packages in which microwave circuits are to be trimmed. This is done on the CBA chips by selecting the bonding pad for the required capacitance and wire-bonding by conventional techniques.

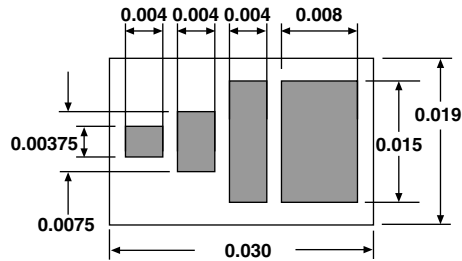
WV (DC) VALUES AND TOLERANCES

CAPACITOR MODEL	CBA 3.75 pF	CBA 15 pF
Total Capacitance	3.75 pF	15 pF
Individual Capacitance	0.25 pF, 0.50 pF, 1.0 pF, 2.0 pF	1.0 pF, 2.0 pF, 4.0 pF, 8.0 pF
Tolerance	± 25 %	± 10 %
DC Working Voltage	100 V	30 V

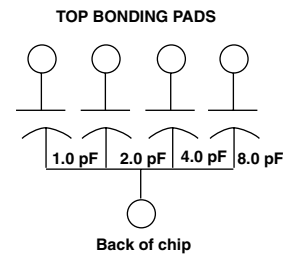
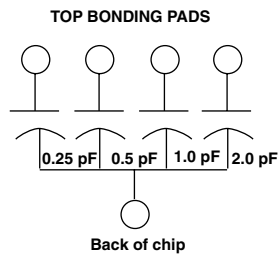
STANDARD ELECTRICAL SPECIFICATIONS

PARAMETER	
Peak Voltage at + 25 °C	1.5 x working voltage
Dissipation Factor, 1 kHz, 1 V _{RMS} , + 25 °C	0.1 % max. MOS
Q at 1 mHz, 50 mV _{RMS} , + 25 °C	1000 min.
TCC, - 55 °C to + 150 °C	+ 15 ± 25 ppm/°C
Insulation Resistance at Working Voltage, + 25 °C	10 ⁹ min.
Operating Temperature Range	- 55 °C to + 150 °C
Thermal Shock	± 0.25 % + 0.25 pF max. ΔC/C
Moisture Resistance, MIL-STD-202, Method 106	± 1.0 % + 0.25 pF max. ΔC/C
Short Time Overload, + 25 °C, 5 s; 1.5 x Working Voltage	± 0.25 % + 0.25 pF max. ΔC/C
High Temperature Exposure: 100 h at + 150 °C Ambient	± 0.25 % + 0.25 pF max.
Life, MIL-STD-202, Method 108, Condition D, + 125 °C Ambient, 1000 h at Working Voltage	± 2.0 % + 0.25 pF max. ΔC/C

CONFIGURATIONS in inches



SCHEMATIC



CHIP CAPACITORS

MECHANICAL SPECIFICATIONS in inches	
PARAMETER	
Chip Size	0.019 x 0.030 ± 0.002 (0.48 x 0.75 ± 0.05 mm)
Chip Thickness	0.010 ± 0.003 (0.25 ± 0.08 mm)
Chip Substrate Material	Semiconductor silicon
Dielectric	Silicon dioxide (MOS)
Bonding Pads	10 kÅ minimum aluminum
Backing	3 kÅ minimum gold

Options: Gold bonding pads 15 kÅ minimum
Other value combinations available
Consult Applications Engineer

ORDERING INFORMATION					
Example: 100 % visualled, 3.75 pF ± 25 %, aluminum pads, class H visual inspection					
W	CBA	004	3750	C	L
INSPECTION/ PACKAGING	PRODUCT FAMILY	PROCESS CODE	CAPACITANCE VALUE (pF)	MULTIPLIER CODE	TOLERANCE CODE
W = 100 % visually inspected parts per MIL-STD-883		004 = CBA	Use first 4 significant digits of the capacitance (C _T)	C = 0.001 B = 0.01 A = 0.1 0 = 1 1 = 10	K = 10 % M = 20 % L = 25 % N = 50 %
X = Sample, visually inspected parts loaded in matrix trays (4 % AQL)					



Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.