## **CS206**

Vishay Dale

# **Resistor/Capacitor Networks** ECL Terminators and Line Terminator, Conformal Coated, SIP



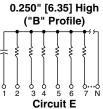
## **FEATURES**

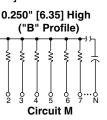
- 4 to 18 pins available
- X7R and COG capacitors available
- Low cross talk
- Custom design capability
- "B" 0.250" [6.35 mm], "C" 0.350" [8.89 mm] and "E" 0.325" [8.26 mm] maximum seated height available, dependent on schematic
- 10K ECL terminators, Circuits E and M. 100K ECL terminators, Circuit A. Line terminator, Circuit T

STANDARD ELECTRICAL SPECIFICATIONS									
VISHAY		SCHEMATIC		RESIST	OR CHARACTE	CAPACITOR CHARACTERISTICS			
DALE	PROFILE		POWER RATING P <sub>70°C</sub> W	RESISTANCE RANGE Ω	RESISTANCE TOLERANCE ± %	TEMP. COEFF. ± ppm/°C	T.C.R. TRACKING ± ppm/°C	CAPACITANCE RANGE	CAPACITANCE TOLERANCE ±%
CS206	В	E M	0.125	10 - 1M	2, 5	200	100	0.01 μF	10 (K), 20 (M)
CS206	С	Т	0.125	10 - 1M	2, 5	200	100	33 pF to 0.1 μF	10 (K), 20 (M)
CS206	E	A	0.125	10 - 1M	2, 5	200	100	0.01 μF	10 (K), 20 (M)
					C	apacitor T	emperature	Coefficient:	

TECHNICAL SPECIFICATIONS							
PARAMETER	UNIT	CS206					
Operating Voltage (at + 25 °C)	VAC	50 maximum					
Dissipation Factor (maximum)	%	C0G = 0.15; X7R = 2.5					
Insulation Resistance (at + 25 °C/rated voltage)	MΩ	100 000					
Dielectric Test	V	2.5 x rated voltage					
Operating Temperature Range	°C	- 55 to + 125 °C					

#### **SCHEMATICS** in inches [millimeters]





0.325" [8.26] High ("E" Profile) Ċ 0 5 6 2 8

### 0.350" [8.89] High ("C" Profile) 6 4 Ċ 0 6

Circuit T Circuit A **GLOBAL PART NUMBER INFORMATION** New Global Part Numbering: 20608EC103G471KP (preferred part numbering format) 6 0 8 Е С 3 G 4 7 Κ Ρ 1 0 PIN PACKAGE/ RESISTANCE RES. CAPACITANCE CAP CHARACTERISTIC PACKAGING COUNT SCHEMATIC VALUE TOLERANCE VALUE TOLERANCE 2 digit 04 = 4 Pin E = BE C = COG **G** = ± 2 % (in pF) **K** = ± 10 % E = Lead (Pb)-free **08** = 8 Pin  $\mathbf{M} = \mathbf{BM}$ **X** = X7R significant  $J = \pm 5 \%$ 2 digit significant  $M = \pm 20 \%$ Bulk **18** = 18 Pin S= Special S = Special  $\mathbf{A} = \mathbf{E}\mathbf{A}$ figure, followed S = Special figure, followed P = Tin/Lead,  $\mathbf{T} = \mathbf{CT}$ by a multiplier by a multiplier Bulk S = Special **100** = 10 Ω 330 = 33 pF **392** = 3900 pF 333 = 33 kO  $105 = 1 M\Omega$  $104 = 0.1 \, \mu F$ 

#### Historical Part Number example: CS20608BEC103G471KP03 (will continue to be accepted)

CS206	08	В	E	C	103	G	471	К	P03
HISTORICAL MODEL	PIN COUNT	PACKAGE HEIGHT	SCHEMATIC	CHARACTERISTIC	RESISTANCE VALUE	RESISTANCE TOLERANCE	CAPACITANCE VALUE	CAPACITANCE TOLERANCE	PACKAGING

2

GLOBAL

MODEL

206 = CS206

0

SPECIAL

Blank =

Standard

(Dash

Number)

(up to 2

digits)





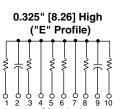


Package Power Rating (maximum at 70 °C): 8 PINS = 0.80 W 9 PINS = 0.90 W

## 10 PINS = 1.00 W

**EIA Characteristics:** COG and X7R (COG capacitors may be substituted for X7R capacitors)

COG maximum 0.15 %, X7R maximum 2.5 %



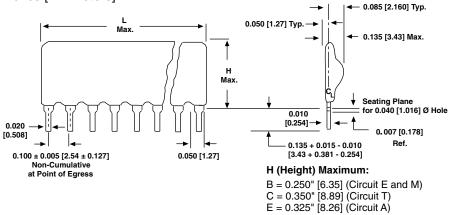


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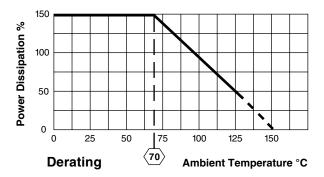
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#### **DIMENSIONS** in inches [millimeters]



Pin #1 is extreme left-hand terminal on side with marking.

NUMBER OF PINS	L MAXIMUM								
4 pin	0.400 [10.16]	7 pin	0.700 [17.78]	10 pin	1.000 [25.40]	13 pin	1.300 [33.02]	16 pin	1.600 [40.64]
5 pin	0.500 [12.70]	8 pin	0.800 [20.32]	11 pin	1.100 [27.94]	14 pin	1.400 [35.56]	17 pin	1.700 [43.18]
6 pin	0.600 [15.24]	9 pin	0.900 [22.86]	12 pin	1.200 [30.48]	15 pin	1.500 [38.10]	18 pin	1.800 [45.72]



TECHNICAL SPECIFICATIONS								
Flammability:	UL 94V-0							
Lead Material:	Phosphorus-bronze, solder plated							
Body Material:	Epoxy coated							
Solderability:	Per MIL-STD-202, Method 208E							
Part Marking:	Pin #1 identification, part number (abbreviated as space allows), DALE <sup>®</sup> or D, date code							
Moisture Resistance:	Meets requirements of MIL-STD-202, Method 106							

PERFORMANCE						
TEST	CONDITION	MAX. ∆R (Typical Test Lots)				
Thermal Shock	Subject to 5 cycles from - 65 °C to + 125 °C	± 0.5 % Δ <i>R</i>				
Short Time Overload	2.5 x rated working voltage for 5 s at + 25 °C	± 0.25 % ∆ <i>R</i>				
Moisture Resistance	Cycle from + 25 °C to + 65 °C to + 25 °C over 8 h at 90 - 98 % relative humidity, with 10 % of rated power applied, for 20 cycles. Stop cycling after an even number of cycles and stabilize networks at high humidity for 1 to 4 h. Condition networks at - 10 °C for 3 h, then return to temperature cycling. On completion of cycling condition networks at + 25 °C at 50 % r.h. for 22 to 24 h	± 0.5 % ∆ <i>R</i>				
Resistance to Soldering Heat	Immerse pins in melted solder to the lead standoffs at + 350 °C for 3 s max.	± 0.25 % ∆ <i>R</i>				
Mechanical Shock	18 shocks of 100 G and 6 ms	± 0.25 % ∆ <i>R</i>				
Vibration	12 cycles varied logarithmically from 10 Hz to 2000 Hz to 10 Hz over 20 min	± 0.25 % ∆ <i>R</i>				
Load Life	1000 h at + 70 °C, rated power applied 1.5 h "ON", 0.5 h "OFF"	± 1.0 % Δ <i>R</i>				
Resistance to Solvents	Immerse and scrub samples with isopropyl alcohol, trichlorethylene and Freon TMC	Marking remains legible				
Solderability	Immerse leads in 60/40 tin-lead solder using R flux at + 245 $^\circ$ C for 5 s maximum	Minimum 95 % solder coverage				
Terminal Strength	Withstand 2.2 kg pull 1 min	± 0.25 % ∆ <i>R</i>				
Case Insulation Resistance	100 V applied between case and terminals tied together	IR = 10 000 MΩ minimum				



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