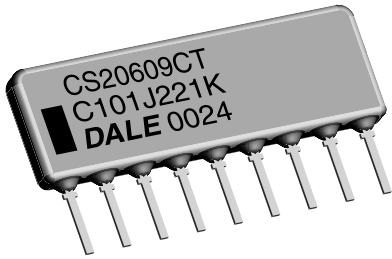


## Resistor/Capacitor Networks

### 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" [6.35mm], "C" 0.350" [8.89mm] and "E" 0.325" [8.26mm] 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 DALE MODEL	PROFILE	SCHEMATIC	RESISTOR CHARACTERISTICS					CAPACITOR CHARACTERISTICS	
			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	B M	E	0.125	10-1M	2, 5	200	100	0.01µF	10(K), 20(M)
CS206	C	T	0.125	10-1M	2, 5	200	100	33pF to 0.1µF	10(K), 20(M)
CS206	E	A	0.125	10-1M	2, 5	200	100	0.01µF	10(K), 20(M)

**TECHNICAL SPECIFICATIONS**

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

**Capacitor Temperature Coefficient:**

COG maximum 0.15%, X7R maximum 2.5%

**Package Power Rating (maximum at 70°C):**

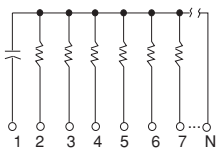
8 PINS = 0.80 Watt  
 9 PINS = 0.90 Watt  
 10 PINS = 1.00 Watt

**EIA Characteristics:**

COG and X7R (COG capacitors may be substituted for X7R capacitors).

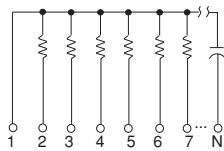
**SCHEMATICS** in inches [millimeters]

0.250" [6.35] High ("B" Profile)



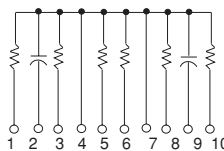
Circuit E

0.250" [6.35] High ("B" Profile)



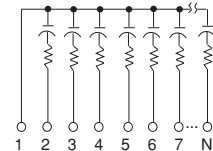
Circuit M

0.325" [8.26] High ("E" Profile)



Circuit A

0.350" [8.89] High ("C" Profile)



Circuit T

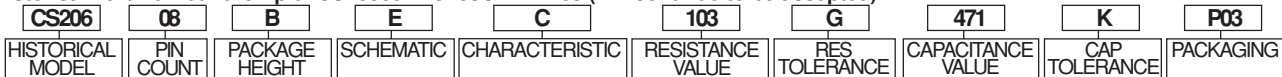
**GLOBAL PART NUMBER INFORMATION**

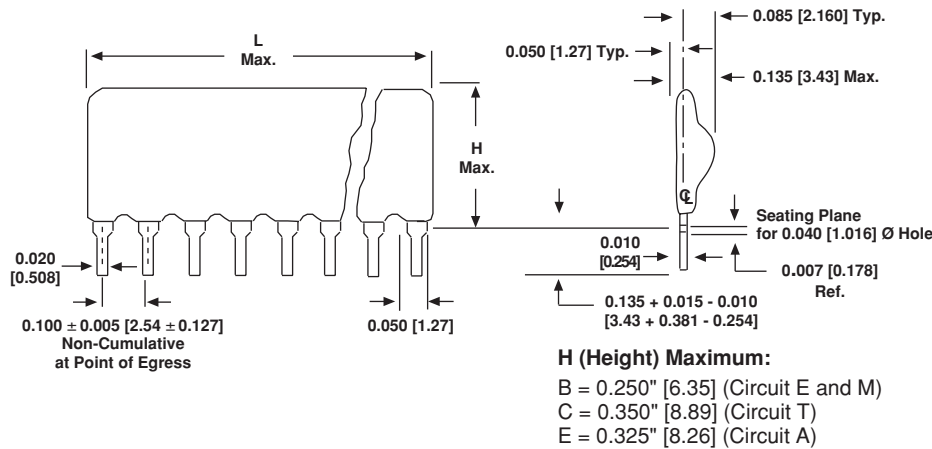
New Global Part Numbering: 20608EC103G471KP (preferred part numbering format)



GLOBAL MODEL	PIN COUNT	PACKAGE/SCHEMATIC	CHARACTERISTIC	RESISTANCE HEIGHT	RES. TOLERANCE	CAPACITANCE VALUE	CAP. TOLERANCE	PACKAGING	SPECIAL
206 = CS206	04 = 4 Pin 08 = 8 Pin 18 = 18 Pin	E = BE M = BM A = EA T = CT S = Special	C = COG X = XR7 S = Special	2 digit significant figure, followed by a multiplier 100 = 10Ω 333 = 33KΩ 105 = 1MΩ	G = ± 2% J = ± 5% S = Special	(in picofarads) 2 digit significant figure, followed by a multiplier 330 = 33pF 392 = 390pF 104 = 1µF	K = ±10% M = ±20% S = Special	E = Lead Free, Bulk P = Tin/Lead, Bulk	Blank = Standard (Dash Number) (up to 2 digits)

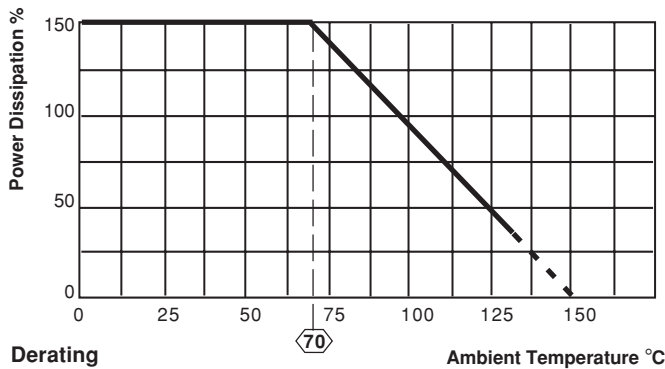
Historical Part Number example: CS20608BEC103G471KP03 (will continue to be accepted)



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



MATERIAL 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® or D, date code
Moisture Resistance:	Meets requirements of MIL-STD-202, Method 106.

PERFORMANCE		
TEST	CONDITION	MAX. ΔR (Typical Test Lots)
Thermal Shock	Subject to 5 cycles from - 65°C to + 125°C.	± 0.5% ΔR
Short Time Overload	2.5 x rated working voltage for 5 seconds at + 25°C.	± 0.25% ΔR
Moisture Resistance	Cycle from + 25°C to + 65°C to + 25°C over 8 hours 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 hours. Condition networks at -10°C for 3 hours, then return to temperature cycling. On completion of cycling condition networks at + 25°C at 50% r.h. for 22 to 24 hours.	± 0.5% ΔR
Resistance to Soldering Heat	Immerse pins in melted solder to the lead standoffs at + 350°C for 3 seconds max.	± 0.25% ΔR
Mechanical Shock	18 shocks of 100 G and 6 ms.	± 0.25% ΔR
Vibration	12 cycles varied logarithmically from 10Hz to 2000Hz to 10Hz over 20 minutes.	± 0.25% ΔR
Load Life	1000 hours at + 70°C, rated power applied 1.5 hours "ON, 0.5 hour "OFF".	± 1.0% ΔR
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°C for 5 seconds maximum.	Minimum 95% solder coverage
Terminal Strength	Withstand 2.2 kg pull 1 minute.	± 0.25% ΔR
Case Insulation Resistance	100 V applied between case and terminals tied together.	IR = 10,000 Megohm minimum