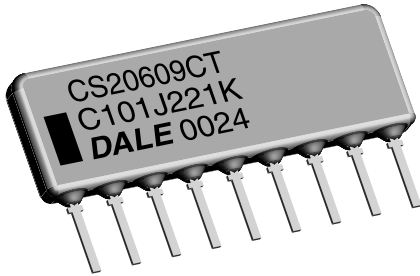


## Resistor/Capacitor Networks

### 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 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	E M	0.125	10 - 1M	2, 5	200	100	0.01 μF	10 (K), 20 (M)
CS206	C	T	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)

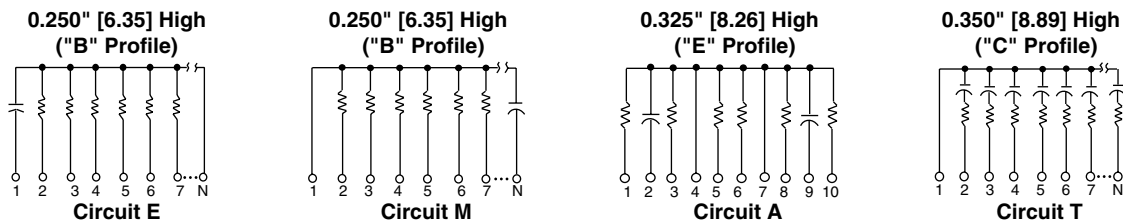
TECHNICAL SPECIFICATIONS		
PARAMETER	UNIT	CS206
Operating Voltage (at + 25 °C)	VAC	50 maximum
Dissipation Factor (maximum)	%	COG = 0.15; X7R = 2.5
Insulation Resistance (at + 25 °C/rated voltage)	MΩ	100 000
Dielectric Test	V	2.5 x rated voltage
Operating Temperature Range	°C	- 55 to + 125 °C

**Capacitor Temperature Coefficient:**  
COG maximum 0.15 %, X7R maximum 2.5 %

**Package Power Rating (maximum at 70 °C):**  
8 PINS = 0.80 W  
9 PINS = 0.90 W  
10 PINS = 1.00 W

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

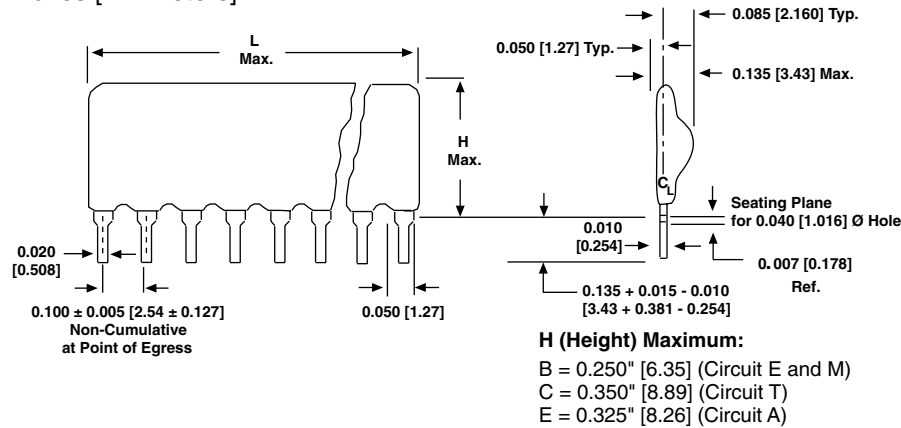
**SCHEMATICS** in inches [millimeters]



GLOBAL PART NUMBER INFORMATION																	
New Global Part Numbering: 20608EC103G471KP (preferred part numbering format)																	
2	0	6	0	8	E	C	1	0	3	G	4	7	1	K	P		
GLOBAL MODEL	PIN COUNT	PACKAGE/SCHEMATIC	CHARACTERISTIC	RESISTANCE VALUE	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 = X7R S = Special	2 digit significant figure, followed by a multiplier 100 = 10 Ω 333 = 33 kΩ 105 = 1 MΩ	G = ± 2 % J = ± 5 % S = Special	(in pF) 2 digit significant figure, followed by a multiplier 330 = 33 pF 392 = 3900 pF 104 = 0.1 μF	K = ± 10 % M = ± 20 % S = Special	E = Lead (Pb)-free, Bulk P = Tin/Lead, Bulk	Blank = Standard (Dash Number) (up to 2 digits)								
Historical Part Number example: CS20608BEC103G471KP03 (will continue to be accepted)																	
CS206	08	B	E	C	103	G	471	K	P03								
HISTORICAL MODEL	PIN COUNT	PACKAGE HEIGHT	SCHEMATIC	CHARACTERISTIC	RESISTANCE VALUE	RESISTANCE TOLERANCE	CAPACITANCE VALUE	CAPACITANCE TOLERANCE	PACKAGING								

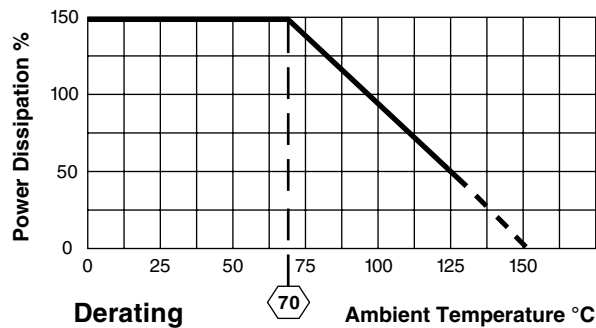
## Resistor/Capacitor Networks

### ECL Terminators and Line Terminator, Conformal Coated, SIP

**DIMENSIONS** in inches [millimeters]


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

NUMBER OF PINS	L MAXIMUM	NUMBER OF PINS	L MAXIMUM	NUMBER OF PINS	L MAXIMUM	NUMBER OF PINS	L MAXIMUM	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® 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 s at + 25 °C	± 0.25 % ΔR
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 % ΔR
Resistance to Soldering Heat	Immerse pins in melted solder to the lead standoffs at + 350 °C for 3 s max.	± 0.25 % ΔR
Mechanical Shock	18 shocks of 100 G and 6 ms	± 0.25 % ΔR
Vibration	12 cycles varied logarithmically from 10 Hz to 2000 Hz to 10 Hz over 20 min	± 0.25 % ΔR
Load Life	1000 h at + 70 °C, rated power applied 1.5 h "ON", 0.5 h "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 s maximum	Minimum 95 % solder coverage
Terminal Strength	Withstand 2.2 kg pull 1 min	± 0.25 % ΔR
Case Insulation Resistance	100 V applied between case and terminals tied together	IR = 10 000 MΩ minimum



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