



Clock Terminator and Local EMI/RFI Filter

Features

- Filters at source of emissions
- Stable resistor-capacitor network
- Ideal for high-speed logic
- Low lead inductance
- Reduces board space by 70% vs. 1206 discretes and component count by more than 50%

Applications

- Clock termination
- Point of contact filtering
- Low pass filtering
- EMI/RFI filtering

Product Description

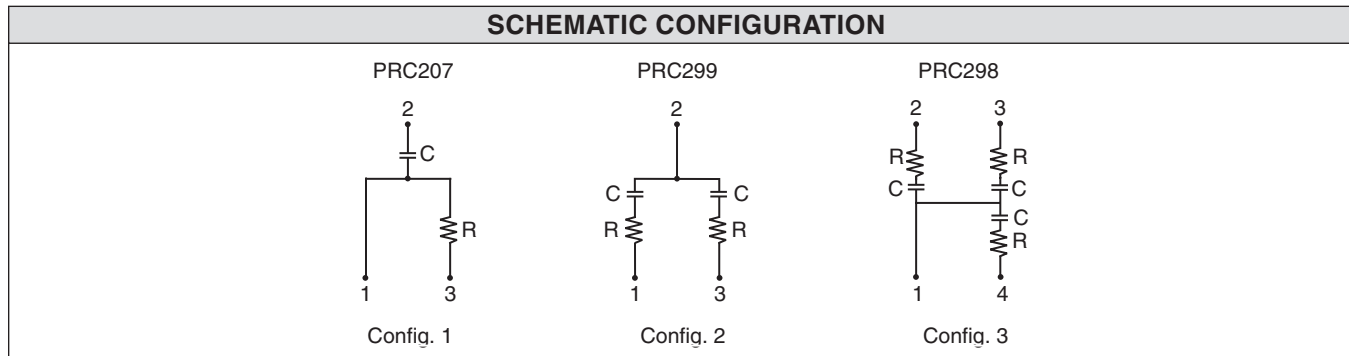
High speed microprocessors like Intel's Pentium® Pro, DEC's Alpha, Motorola's 68K and PowerPC, Sun's SPARC, MIPS, and other RISC-based systems require well-controlled and precise clock signals to maintain a high performance synchronous system. However, very fast edge rated clock signals exhibit transmission line effects on the clock lines resulting in undershoot and overshoot disturbances.

CAMDs PRC207/298/299 SOT resistor-capacitor integrated thin film networks are specifically designed to eliminate transmission line effects on high speed clock and data lines. They are effective in suppressing EMI/RFI noise at I/O ports and can also be used as "distributed" AC terminators when filtered lines are dispersed across the board.

These networks are fabricated on a silicon substrate using advanced thin film technology. They have low parasitic inductance compared to discrete and conventional thick film filters and provide effective AC termination and EMI/RFI noise suppression over a wide range of frequencies.

Why thin film RC networks? The PRC207/298/299 is an integrated RC network fabricated on a silicon substrate using advanced thin film technology. This technology insures a fixed time constant and does not create additional skew on the clock lines. It offers very low parasitic inductance compared to conventional discrete thick film-based approaches and provides effective termination at high frequencies.

SCHEMATIC CONFIGURATION



STANDARD PART ORDERING INFORMATION

RC Code	Package		Ordering Part Number		
	Pins	Style	Bag	Tape & Reel	Part Marking
11	3	SOT-23	PRC207330K/470M/B	PRC207330K/470M/R	RC11
12	3	SOT-23	PRC207470K/470M/B	PRC207470K/470M/R	RC12
13	3	SOT-23	PRC207470K/330M/B	PRC207470K/330M/R	RC13
14	3	SOT-23	PRC207500K/680M/B	PRC207500K/680M/R	RC14
15	3	SOT-23	PRC207750K/500M/B	PRC207750K/500M/R	RC15
16	3	SOT-23	PRC207101K/101M/B	PRC207101K/101M/R	RC16
17	3	SOT-23	PRC207500K/181M/B	PRC207500K/181M/R	RC17
18	3	SOT-23	PRC207400K/500M/B	PRC207400K/500M/R	RC18



STANDARD PART ORDERING INFORMATION (Continued)					
RC Code	Package		Ordering Part Number		
	Pins	Style	Bag	Tape & Ree	Part Marking
21	3	SOT-23	PRC299330K/470M/B	PRC299330K/470M/R	RC21
22	3	SOT-23	PRC299470K/470M/B	PRC299470K/470M/R	RC22
23	3	SOT-23	PRC299470K/330M/B	PRC299470K/330M/R	RC23
24	3	SOT-23	PRC299500K/680M/B	PRC299500K/680M/R	RC24
25	3	SOT-23	PRC299750K/500M/B	PRC299750K/500M/R	RC25
26	3	SOT-23	PRC299101K/101M/B	PRC299101K/101M/R	RC26
28	3	SOT-23	PRC299400K/500M/B	PRC299400K/500M/R	RC28
31	4	SOT-143	PRC298330K/470M/B	PRC298330K/470M/R	RC31
32	4	SOT-143	PRC298470K/470M/B	PRC298470K/470M/R	RC32
33	4	SOT-143	PRC298470K/330M/B	PRC298470K/330M/R	RC33
34	4	SOT-143	PRC298500K/680M/B	PRC298500K/680M/R	RC34
35	4	SOT-143	PRC298750K/500M/B	PRC298750K/500M/R	RC35
36	4	SOT-143	PRC298101K/101M/B	PRC298101K/101M/R	RC36
38	4	SOT-143	PRC298400K/500M/B	PRC298400K/500M/R	RC38
50	3	SOT-23	PRC299500K/101M/B	PRC299500K/101M/R	RC50
51	3	SOT-23	PRC299500K/680K/B	PRC299500K/680K/R	RC51
52	3	SOT-23	PRC299470J/470M/B	PRC299470J/470M/R	RC52
53	3	SOT-23	PRC299500M/101M/B	PRC299500M/101M/R	RC53
54	3	SOT-23	PRC299330J/470M/B	PRC299330J/470M/R	RC54

California Micro Devices can develop a fully customized solution which embodies the configuration shown in this data sheet or modified to suit specific application requirements. A Non-Recurring Engineering (NRE) charge will apply for all fully customized requirements and a minimum order/lot will be required.

Please direct your detailed circuit configuration and specification requirements to your local CAMD representative or to the factory for a quotation.

STANDARD SPECIFICATIONS	
Absolute Tolerance (R)	±10%
Absolute Tolerance (C)	±20%
Operating Temperature Range	0°C to 70°C
Power Rating/Resistor	100mW*
Storage Temperature	-65°C to 150°C
Package Power Rating	1W, max.

* 40mW for configuration 2

STANDARD VALUES											
R (Ω)	C (pf)	Config.	Breakdown Voltage (max)	RC Code	Config.	Breakdown Voltage (max)	RC Code	Config.	Breakdown Voltage (max)	RC Code	fc @ 3bd*
33	47	1	30V	11	2	45V	21	3	25V	31	103MHz
47	47	1	30V	12	2	45V	22	3	25V	32	72MHz
47	33	1	30V	13	2	45V	23	3	25V	33	103MHz
50	68	1	30V	14	2	45V	24	3	25V	34	47MHz
75	50	1	30V	15	2	45V	25	3	25V	45	42MHz
100	100	1	10V	16	2	10V	26	3	10V	56	16MHz
50	180	1	10V	17	-	-	-	-	-	-	18MHz
40	50	1	30V	18	2	45V	28	3	25V	38	80MHz

* with 0 source impedance