EMI/RFI Tapped Filter

Features

- 8 EMI/RFI protection lines/package
- Stable resistor-capacitor network
- No signal delays
- Saves board space and component cost
- Suitable for PCMCIA interface cards

Applications

- EMI/RFI Filter
- Low Pass Filter

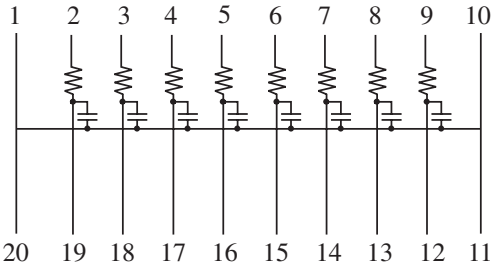
Product Description

CAMD's PRC201/211/221 Tapped Filter is designed to suppress EMI/RFI noise on high speed data lines and at I/O ports of PCMCIA fax/modem and LAN type cards. This integrated thin film resistor-capacitor network is housed in a ultra low profile, surface mount package suitable for bottom side mounting to the card which minimizes space and routing problems and improves reliability.

Why thin film EMI/RFI filters? EMI/RFI filters are needed to suppress noise at low and high frequencies of the signal. Ferrite beads used for EMI/RFI filtering are bulky and ineffective at low frequencies and have saturation problems at high frequencies. Resistor-capacitor networks offer the best technical approach for effective EMI/RFI filtering. Conventional thick film-based EMI/RFI filters do not effectively suppress noise at high frequencies due to the fact that EMI/RFI filters using thick film technology have high parasitic inductance which becomes the dominant component of the capacitor's impedance past resonance, and therefore significantly affects high frequency performance of the filter.

CAMD's PRC201/211/221 Tapped Filter is fabricated on a silicon substrate using advanced thin film technology. These EMI/RFI filters have very low parasitic inductance and suppress EMI/RFI noise at low and high frequencies to well above 1000 MHz.

SCHEMATIC CONFIGURATION



STANDARD PART ORDERING INFORMATION

	Package		Ordering Part Number		
RC Code	Pins	Style	Tubes	Tape & Reel	Part Marking
100/150F	20	SOIC	PRC201100K/150M/T	PRC201100K/150M/R	PRC201100K/150M
330/101F	20	SOIC	PRC201330K/101M/T	PRC201330K/101M/R	PRC201330K/101M
330/251F	20	SOIC	PRC201330K/251M/T	PRC201330K/251M/R	PRC201330K/251M
330/470F	20	SOIC	PRC201330K/470M/T	PRC201330K/470M/R	PRC201330K/470M
390/221F	20	SOIC	PRC201390K/221M/T	PRC201390K/221M/R	PRC201390K/221M
470/470F	20	SOIC	PRC201470K/470M/T	PRC201470K/470M/R	PRC201470K/470M
750/500F	20	SOIC	PRC201750K/500M/T	PRC201750K/500M/R	PRC201750K/500M
101/101F	20	SOIC	PRC201101K/101M/T	PRC201101K/101M/R	PRC201101K/101M
101/151F	20	SOIC	PRC201101K/151M/T	PRC201101K/151M/R	PRC201101K/151M

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STANDARD PART ORDERING INFORMATION (Continued)					
	Package		Ordering Part Number		
RC Code	Pins	Style	Tubes	Tape & Reel	Part Marking
100/150F	20	QSOP	PRC211100K/150M/T	PRC211100K/150M/R	PRC211100K/150M
330/101F	20	QSOP	PRC211330K/101M/T	PRC211330K/101M/R	PRC211330K/101M
330/251F	20	QSOP	PRC211330K/251M/T	PRC211330K/251M/R	PRC211330K/251M
330/470F	20	QSOP	PRC211330K/470M/T	PRC211330K/470M/R	PRC211330K/470M
390/221F	20	QSOP	PRC211390K/221M/T	PRC211390K/221M/R	PRC211390K/221M
470/470F	20	QSOP	PRC211470K/470M/T	PRC211470K/470M/R	PRC211470K/470M
750/500F	20	QSOP	PRC211750K/500M/T	PRC211750K/500M/R	PRC211750K/500M
101/101F	20	QSOP	PRC211101K/101M/T	PRC211101K/101M/R	PRC211101K/101M
101/151F	20	QSOP	PRC211101K/151M/T	PRC211101K/151M/R	PRC211101K/151M
100/150F	20	TSSOP	PRC221100K/150M/T	PRC221100K/150M/R	PRC221100K/150M
330/101F	20	TSSOP	PRC221330K/101M/T	PRC221330K/101M/R	PRC221330K/101M
330/251F	20	TSSOP	PRC221330K/251M/T	PRC221330K/251M/R	PRC221330K/251M
330/470F	20	TSSOP	PRC221330K/470M/T	PRC221330K/470M/R	PRC221330K/470M
390/221F	20	TSSOP	PRC221390K/221M/T	PRC221390K/221M/R	PRC221390K/221M
470/470F	20	TSSOP	PRC221470K/470M/T	PRC221470K/470M/R	PRC221470K/470M
750/500F	20	TSSOP	PRC221750K/500M/T	PRC221750K/500M/R	PRC221750K/500M
101/101F	20	TSSOP	PRC221101K/101M/T	PRC221101K/101M/R	PRC221101K/101M
101/151F	20	TSSOP	PRC221101K/151M/T	PRC221101K/151M/R	PRC221101K/151M

NON-STANDARD PART ORDERING INFORMATION				
PRC201 (Example)	XXX	T1	XXX	T2
Part Series	R Code	R Tolerance	C Code	C Tolerance
PRC201 - SOIC		K - ±10%		K - ±10%
PRC211 - QSOP		M - ±20%		M - ±20%
PRC221 - TSSOP				

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 VALUES				
R (Ω) ±10%	C (pf) ±10%	Breakdown Voltage (max)	RC Code	fc @ 3bd*
10	15	296V	100/150F	1062MHz
33	100	82V	330/101F	48MHz
33	250	29V	330/251F	19MHz
33	47	94V	330/470F	103MHz
39	220	33V	390/221F	19MHz
47	47	94V	470/470F	72MHz
75	50	191V	750/500F	42MHz
100	100	82V	101/101F	16MHz
100	150	46V	101/151F	11MHz

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.

* With 0 source impedance.

NON-STANDARD SPECIFICATIONS	
Absolute Tolerance (R)	±10%
Absolute Tolerance (C)	±10%

NON-STANDARD VALUES	
Resistance Range	10Ω to 100Ω
Capacitance Range	15pF to 180pF