



P/ACTIVE EMI/RFI TAPPED FILTER

Features

- 8 Filter Channels in Miniature QSOP Package
- Ideal Frequency Response to Over 3 GHz
- Low In-Band Insertion Loss Maintains Signal Integrity
- Low Distortion Low Cross Talk
- ESD Protected

Applications

- EMI/RFI Filter
- Low Pass Filter
- SCSI Port Filter
- LCD Panel Display Filter

Pin Assignments

1	GND	GND	24
2	Filt1	Filt1	23
3	Filt2	Filt2	22
4	Filt3	Filt3	21
5	GND	GND	20
6	Filt4	Filt4	19
7	Filt5	Filt5	18
8	GND	GND	17
9	Filt6	Filt6	16
10	Filt7	Filt7	15
11	Filt8	Filt8	14
12	GND	GND	13

Product Description

Note: CAMDs P/Active Tapped Filters are a higher performance, upgraded versions of the original PRC201/211/221 series which provides 2KV ESD protection, minimized lead inductance and parasitic capacitive effects (with added ground pins), and improved crosstalk and filter performance characteristics at high data transmission rates. They exhibit almost ideal RC characteristics to 3GHz. The PACTF series is recommended for all new designs.

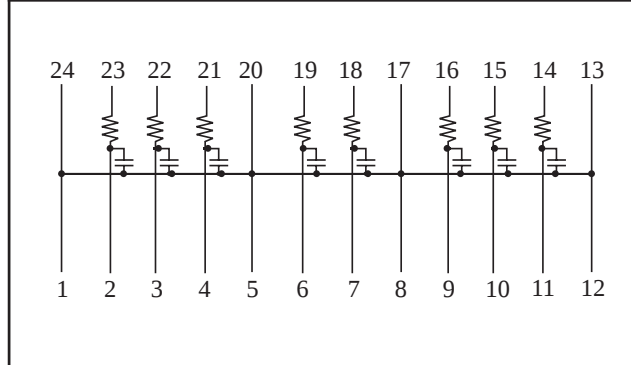
CAMDs P/Active Tapped Filter is a highly integrated thin film resistor-capacitor network designed to suppress EMI/RFI noise at I/O ports of personal computers and peripherals, workstations, Local Area Network (LAN), Asynchronous Transfer Mode (ATM), and Wide Area Network (WAN). The filter includes ESD protection circuitry which prevents device destruction when subjected to ESD discharges of greater than 2KV. The ESD protection circuitry permits the filter to operate on bipolar signals of up to $\pm 6V$. CAMDs PACTF is housed in a surface mount package suitable for bottom side mounting to the board. This integrated network solution minimizes space and routing problems and improves reliability and yields.

Why P/Active EMI/RFI filters? EMI/RFI filters are needed to suppress noise at low and high frequencies of the signal. Ferrite beads, commonly 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. Also, conventional thick film-based EMI/RFI filters do not effectively suppress noise at high frequencies.

STANDARD SPECIFICATIONS

Absolute Tolerance (R)	$\pm 10\%$
Absolute Tolerance (C)	$\pm 10\%$
Absolute Tolerance (C=15pF)	$\pm 20\%$
Operating Temperature Range	0°C to 70°C
Power Rating/Resistor	100mW
Leakage Current	1 μA @ 25°C max.
Crosstalk	< 5% (typical)
(see Test Circuit)	
ESD Clamp	
Positive Clamp	> 6 Volts
Negative Clamp	< -6 Volts
ESD Protection	> 2 KV
Storage Temperature	-65°C to +150°C
Package Power Rating	1.00W, max.

SCHEMATIC CONFIGURATION





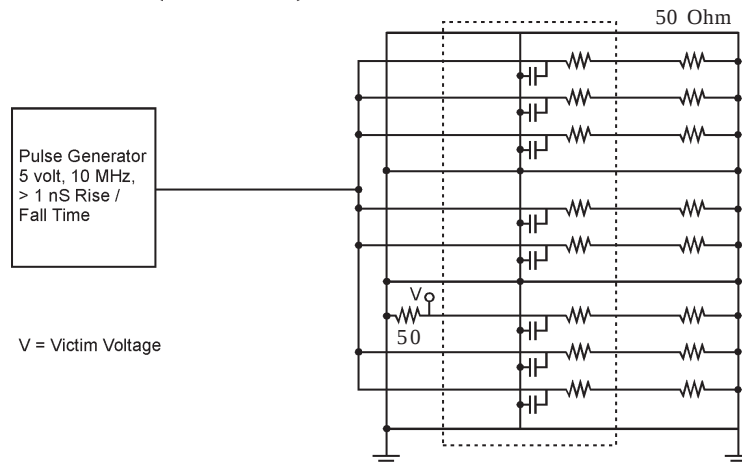
STANDARD VALUES			
R (Ω)	C (pf)	RC Code	fc @ 3db $\pm$
10	15	100/150T	1063 MHz
10	100	100/101T	160 MHz
15	47	150/470T	226 MHz
25	100	250/101T	64 MHz
25	200	250/201T	32 MHz
33	47	330/470T	103 MHz
33	180	330/101T	27 MHz
33	220	330/221T	22 MHz
39	50	390/500T	82 MHz
39	220	390/221T	19 MHz
47	33	470/330T	103 MHz
47	47	470/470T	72 MHz
100	100	101/101T	16 MHz

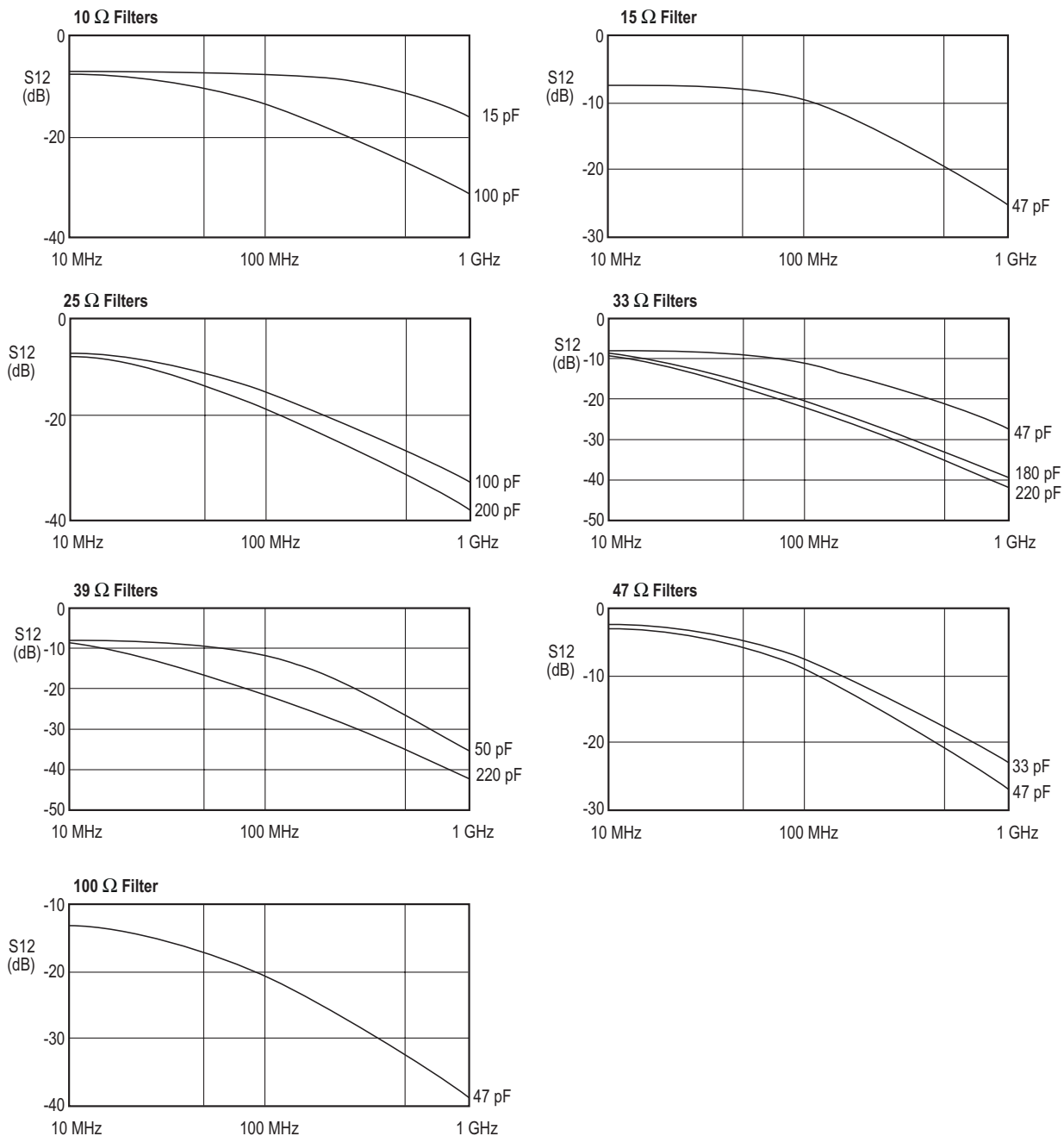
$\pm$ with 0 source impedance

STANDARD PART ORDERING INFORMATION					
RC Code	Package		Ordering Part Number		Part Marking
	Pins	Style*	Tubes	Tape & Reel	
100/150T	24	QSOP	PAC100/150TFQ/T	PAC100/150TFQ/R	PAC100/150TFQ
100/101T	24	QSOP	PAC100/101TFQ/T	PAC100/101TFQ/R	PAC100/101TFQ
150/470T	24	QSOP	PAC150/470TFQ/T	PAC150/470TFQ/R	PAC150/470TFQ
250/101T	24	QSOP	PAC250/101TFQ/T	PAC250/101TFQ/R	PAC250/101TFQ
250/201T	24	QSOP	PAC250/201TFQ/T	PAC250/201TFQ/R	PAC250/201TFQ
330/470T	24	QSOP	PAC330/470TFQ/T	PAC330/470TFQ/R	PAC330/470TFQ
330/101T	24	QSOP	PAC330/101TFQ/T	PAC330/101TFQ/R	PAC330/101TFQ
330/221T	24	QSOP	PAC330/221TFQ/T	PAC330/221TFQ/R	PAC330/221TFQ
390/500T	24	QSOP	PAC390/500TFQ/T	PAC390/500TFQ/R	PAC390/500TFQ
390/221T	24	QSOP	PAC390/221TFQ/T	PAC390/221TFQ/R	PAC390/221TFQ
470/330T	24	QSOP	PAC470/330TFQ/T	PAC470/330TFQ/R	PAC470/330TFQ
470/470T	24	QSOP	PAC470/470TFQ/T	PAC470/470TFQ/R	PAC470/470TFQ
101/101T	24	QSOP	PAC101/101TFQ/T	PAC101/101TFQ/R	PAC101/101TFQ

* Also available in 300 mil wide SOIC package. Contact your local CAMD Sales Representative or the factory for availability.

Filter Cross Talk Test Circuit ($T_A=25^\circ\text{C}$)



**Filter Insertion Loss (S12, dB), Typical (T_A = 25°C) Representative Sample****ATTENUATION CURVES**

S parameters are measured using a Hewlett Packard HP8753C Network Analyzer with a HP85047A S-parameter Test Set.