



## P/ACTIVE EMI/RFI T FILTER

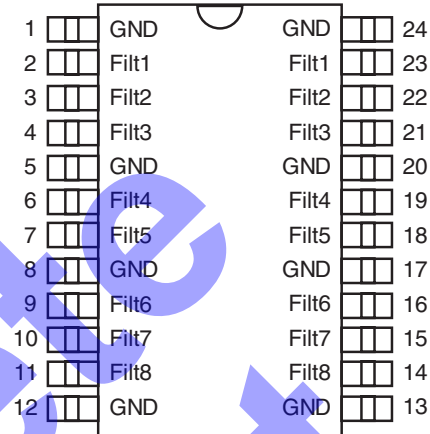
### Features

- 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



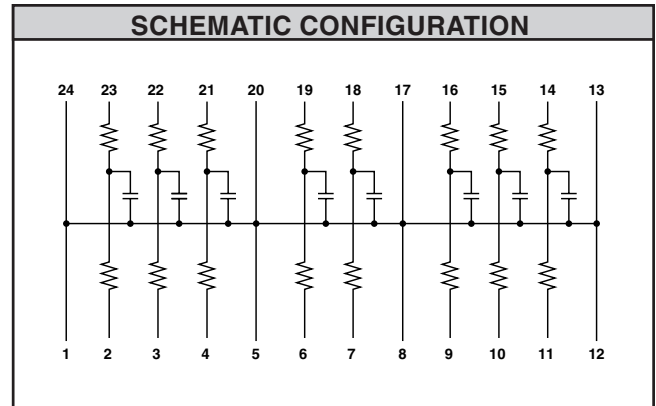
### Product Description

Note: CAMD's P/Active T Filter is a higher performance, upgraded version of the original PRC200/210 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 3 GHz. The PACT series is recommended for all new designs.

CAMD's P/Active T 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  $\pm 6V$ . CAMD's PACT 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)	$\pm 10\%$
Operating Temperature Range	0°C to 70°C
Power Rating/Resistor	100mW
Leakage Current	1 $\mu$ A @ 25°C MAX
Crosstalk (see Text Circuit)	< 5% (typical)
ESD Clamp	
Positive Clamp	> 6V
Negative Clamp	< -6V
ESD Protection	> 2KV
Storage Temperature	-60°C to 150°C
Package Power Rating	1.00W, MAX





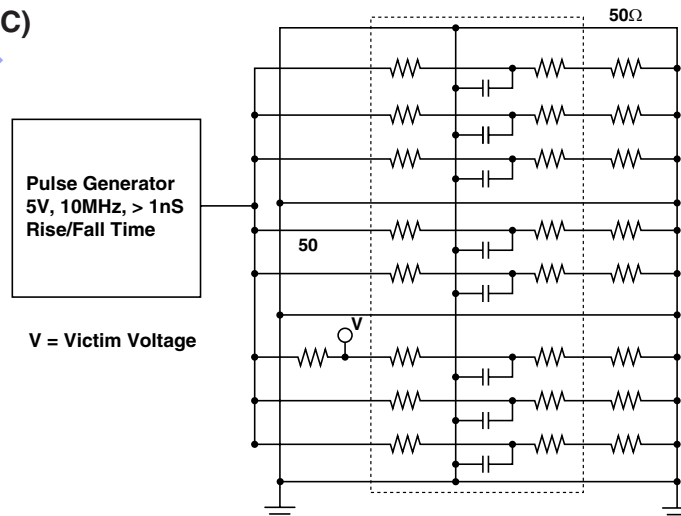
STANDARD VALUES			
R(W)	C(pF)	RC Code	fc @ 3db‡
10	15	100/150T	1063MHz
	100	100/101T	160MHz
15	47	150/470T	226MHz
25	100	250/101T	64MHz
	200	250/201T	32MHz
33	47	330/470T	103MHz
	100	330/101T	27MHz
	220	330/221T	22MHz
39	50	390/500T	82MHz
	220	390/221T	19MHz
47	33	470/330T	103MHz
	47	470/470T	72MHz
100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

‡ 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	PAC100/150TQ/T	PAC100/150Q/R	PAC100/150TQ
100/101T	24	QSOP	PAC100/101TQ/T	PAC100/101TQ/R	PAC100/101TQ
150/470T	24	QSOP	PAC150/470TQ/T	PAC150/470TQ/R	PAC150/470TQ
250/101T	24	QSOP	PAC250/101TQ/T	PAC250/101TQ/R	PAC250/101TQ
250/201T	24	QSOP	PAC250/201TQ/T	PAC250/201TQ/R	PAC250/201TQ
330/470T	24	QSOP	PAC330/470TQ/T	PAC330/470TQ/R	PAC330/470TQ
330/101T	24	QSOP	PAC330/101TQ/T	PAC330/101TQ/R	PAC330/101TQ
330/221T	24	QSOP	PAC330/221TQ/T	PAC330/221TQ/R	PAC330/221TQ
390/500T	24	QSOP	PAC390/500TQ/T	PAC390/500TQ/R	PAC390/500TQ
390/221T	24	QSOP	PAC390/221TQ/T	PAC390/221TQ/R	PAC390/221TQ
470/330T	24	QSOP	PAC470/330TQ/T	PAC470/330TQ/R	PAC470/330TQ
470/470T	24	QSOP	PAC470/470TQ/T	PAC470/470TQ/R	PAC470/470TQ
101/101T	24	QSOP	PAC101/101TQ/T	PAC101/101TQ/R	PAC101/101TQ

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

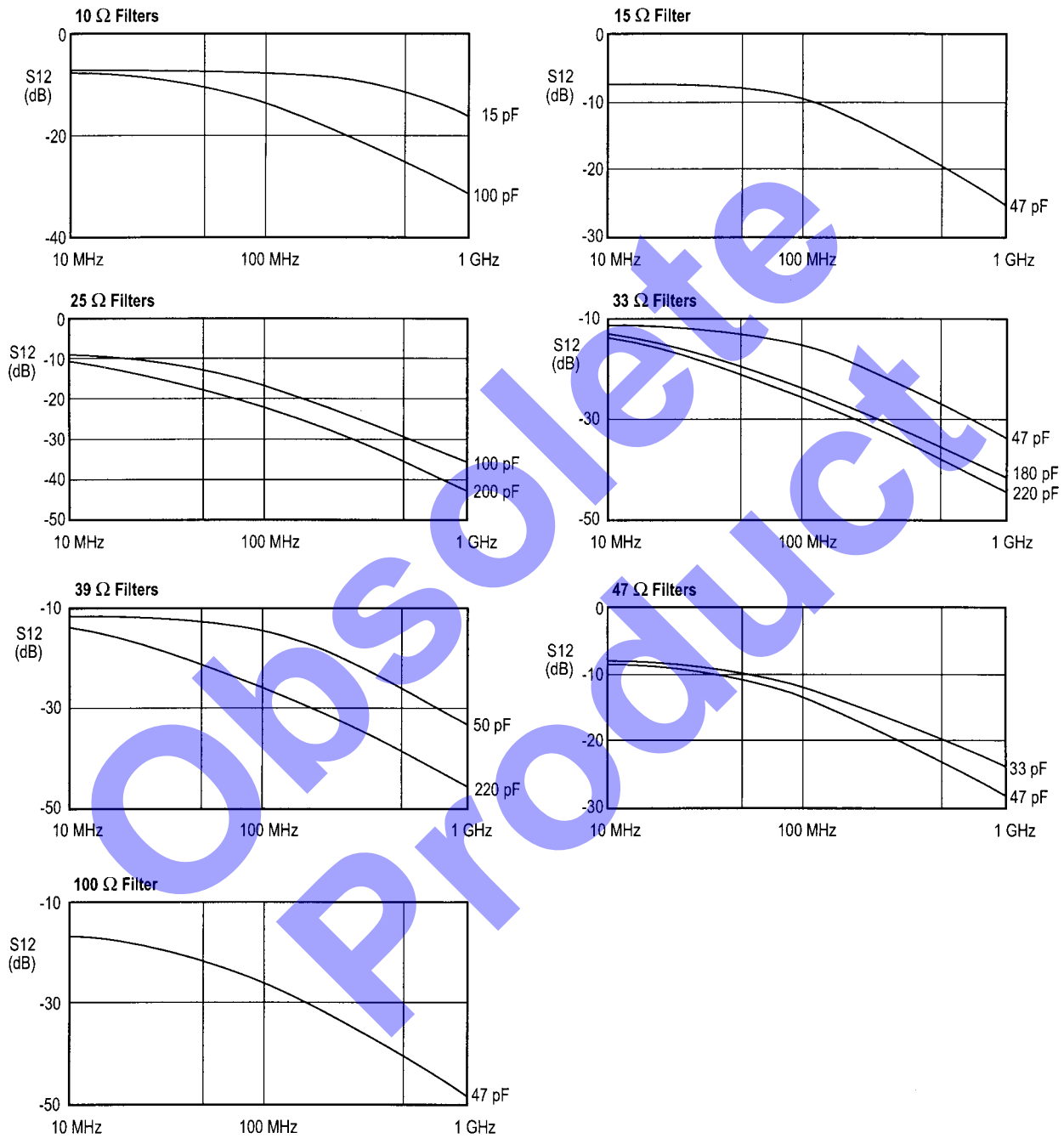
**Filter Cross Talk Test Circuit (TA = 25°C)**





Filter Insertion Loss (S12, dB), Typical (T<sub>A</sub> = 25°C) Representative Sample

ATTENUATION CURVES



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