P/ACTIVE™ IEEE 1284 ECP/EPP TERMINATION NETWORK

Features

- Stable resistor-capacitor network
- 9 terminating lines/package
- Saves board space, reduces assembly cost, simplifies routing
- ESD protected
- Miniature QSOP package

Applications

- ECP/EPP Parallel Port termination
- EMI/RFI filter
- Notebook and Desktop computers
- Engineering Workstations and Servers

Product Description

Note: CAMD's P/Active™ 1284 Parallel Port Termination Network is an upgraded version of the original PRC1284 or IPEC1284 which provides ESD protection, minimized lead inductance and parasitic capacitive effects, and improved crosstalk and filter performance characteristics at high data transmission rates. The PAC1284 is recommended for all new designs.

Advanced, enhanced high-speed parallel ports, conforming to the IEEE 1284 standard, are used to provide communications with external devices such as tape back-up drives, ZIP drives, printers, parallel port SCSI adapters, external LAN adapters, scanners, video capture, and other PC peripherals. These advanced ports also support bi-directional transfers to 2MB/sec. To effectively support these higher transfer data rates, the IEEE 1284 standard recommends a combined termination, pull-up filter network between the driver/receiver and the cable at both ends of the parallel port interface. In addition, government EMC compatibility requirements impose strict filtering on the parallel port. CAMD's P/Active 1284 Parallel Port Termination Network addresses all of these requirements by providing a nine line, IEEE 1284 compliant network, in a thin film integrated circuit. Two of these devices replace up to 54 discrete components and provide a complete parallel port termination solution for space-critical applications.

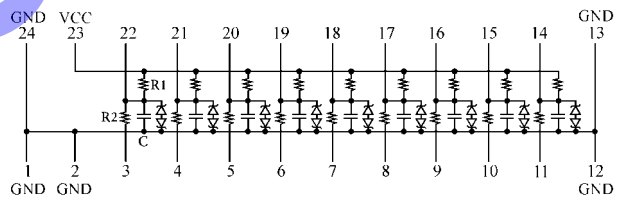
CAMD's P/Active technology provides high reliability and low cost through manufacturing efficiency. The P/Active 1284 includes pull-up, series termination, an EMI filter capacitor, and ESD protection for the capacitors. The resistors and capacitors are fabricated using proprietary state-of-the-art thin film technology.[1] CAMD's solution is silicon-based and has the same reliability characteristics as today's microprocessor products. The device is protected from ESD discharges to over 4,000 volts.

STANDARD SPECIFICATIONS	
Absolute Tolerance (R)	±10%
Absolute Tolerance (C)	±20%
Operating Temperature Range	0°C to 70°C
V_{CC}	6V max
Power Rating/Resistor	100mW
Maximum Leakage Current (at V_{CC} Max)	1µA@25°C
Signal Clamp Voltage: Positive Clamp Negative Clamp	>6V <-6V
ESD Immunity (Human Body Model) MIL-STD-883, Method 3015 In System Protection (Note 1)	>4KV * >6KV *
Storage Temperature	-65°C to 150°C
Package Power Rating	1.00W, max.

*Guaranteed by design.

Note 1: Pins 1, 2, 12, 13, 24, and 23 grounded. Pins 3 through 11 open, ESD contact discharge, between ground and pins 14 through 22, one at a time.

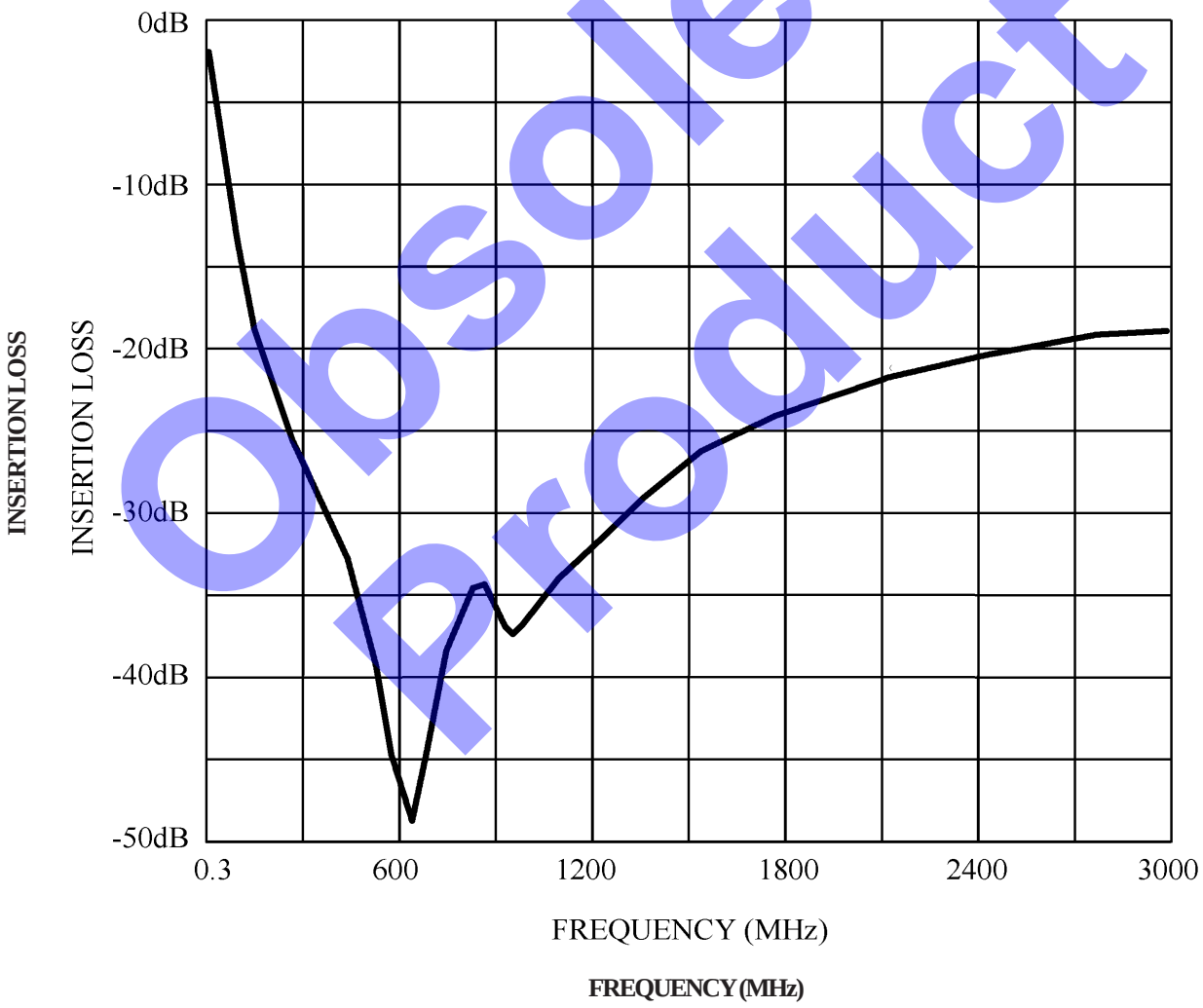
SCHEMATIC CONFIGURATION



STANDARD VALUES			
R1(Ω)	R2(Ω)	C(pf)	RC Code
1K	33	180	01
2.2K	33	220	02
4.7K	10	180	03
4.7K	33	180	04
4.7K	33	62	06

STANDARD PART ORDERING INFORMATION					
	Package		Ordering Part Number		
RC Code	Pins	Style	Tubes	Tape & Reel	Part Marking
01	24	QSOP	PAC1284-06Q/T	PAC1284-01Q/R	PAC128401Q
02	24	QSOP	PAC1284-06Q/T	PAC1284-02Q/R	PAC128402Q
03	24	QSOP	PAC1284-06Q/T	PAC1284-03Q/R	PAC128403Q
04	24	QSOP	PAC1284-06Q/T	PAC1284-04Q/R	PAC128404Q
06	24	QSOP	PAC1284-06Q/T	PAC1284-06Q/R	PAC128406Q

Typical Filter Insertion Loss for PAC 1284-02 (S12 in dB, T_A = 25°C)



FREQUENCY (MHz)

Filter insertion loss is measured using Hewlett Packard HP8753C.