





10BASE-T 4-PORT MODULE

Quad Flatpack Surface Mount Package



SURFACE MOUNT

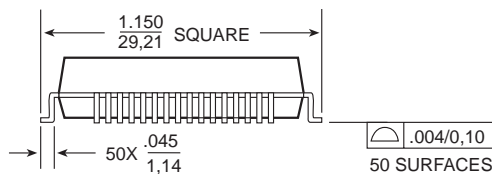
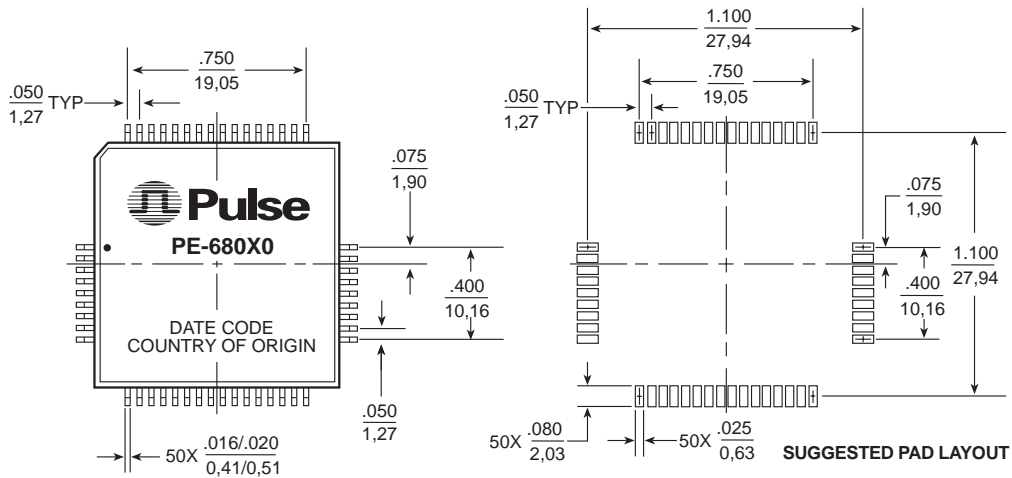


-  Pre-equalization resistors integrated inside module
-  Exceeds IEEE 802.3i-1993 10-Base-T specifications
-  Optimized design for multipoint applications – 4 channels in 1 package
-  235°C peak IR reflow temperature rating

Electrical Specifications @ 25°C — Operating Temperature 0°C to 70°C

Part Number	Insertion Loss (dB MAX)	Attenuation (Transmit) (dB MIN)			Return Loss (dB MIN)	Crosstalk (dB MIN)	Common Mode Rejection (Transmit) (dB MIN)				Hi-pot (Vrms MIN)
	1-10 MHz	30 MHz	50 MHz	100 MHz	5-10 MHz	5-10 MHz	10 MHz	50 MHz	100 MHz	200 MHz	
PE-68040	-5.0	-30	-38	-44	-18	-35	-57	-49	-50	-35	2000
PE-68060	-5.0	-30	-38	-44	-18	-35	-57	-49	-50	-35	2000
PE-68080	-5.0	-30	-38	-44	-18	-35	-60	-50	-50	-35	2000
PE-68090	-6.0	-30	-38	-44	-18	-35	-57	-49	-50	-35	2000

Mechanical



Dimensions: $\frac{\text{Inches}}{\text{mm}}$

Unless otherwise specified all tolerances are $\pm \frac{.005}{1.27}$

Weight8.8 grams
Tape & Reel110/reel
Tray36/tray

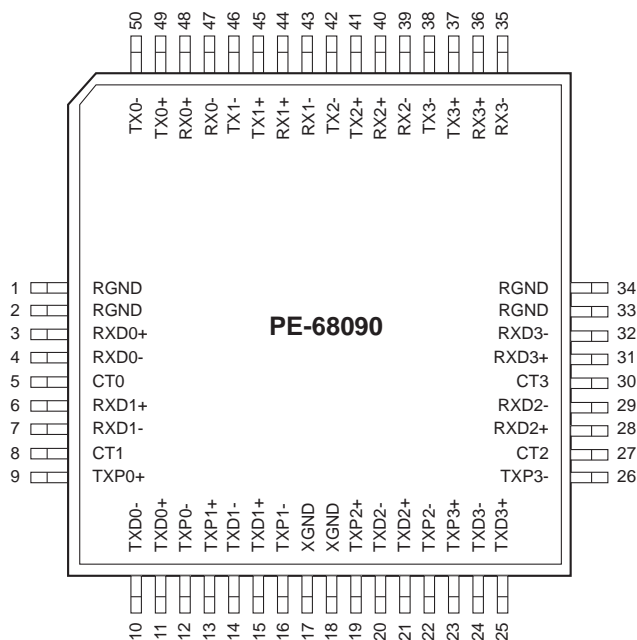
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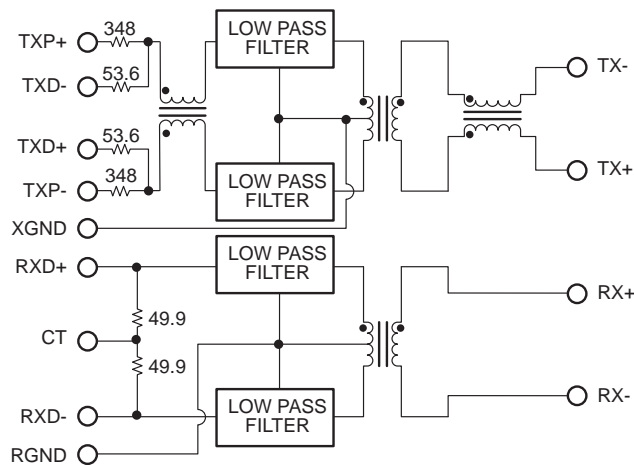


Pin Designations for National DP83950B RIC

Pin Out

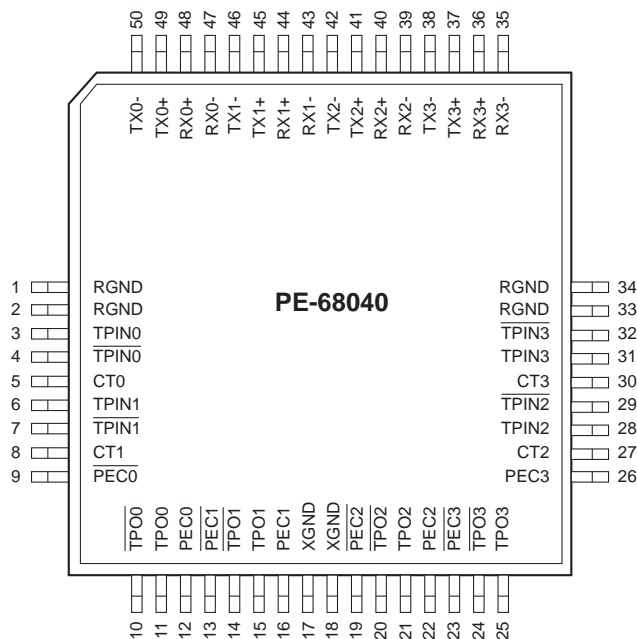


Schematic

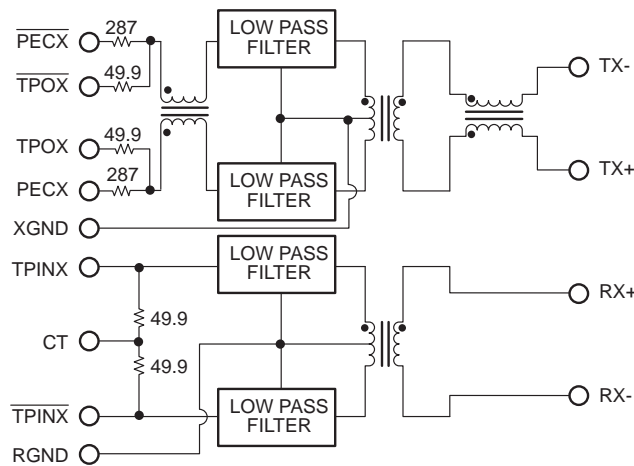


Pin Designations for AT&T Chip T7240A

Pin Out



Schematic

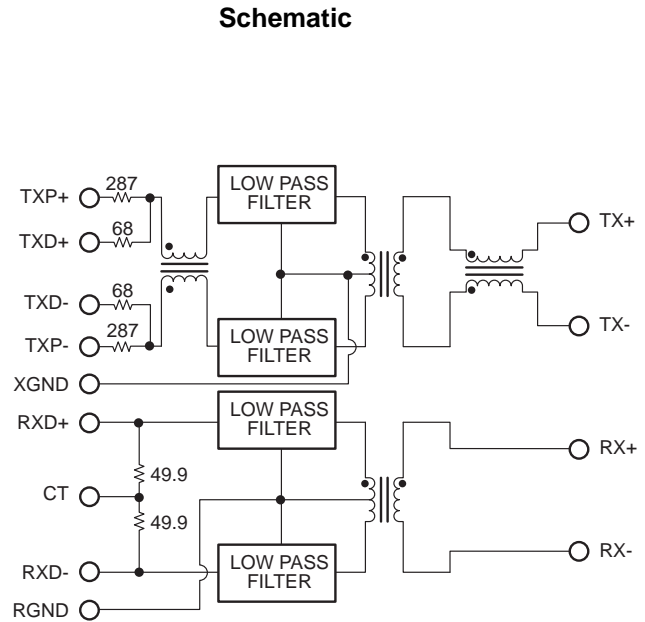
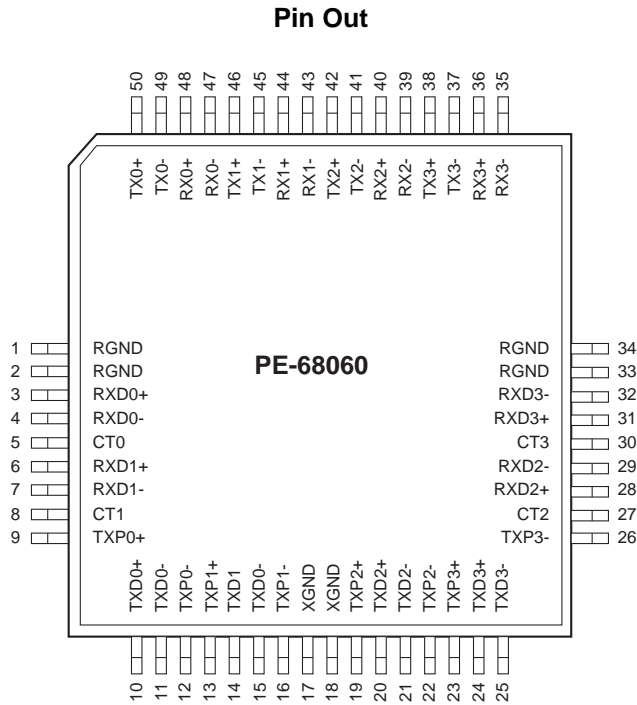


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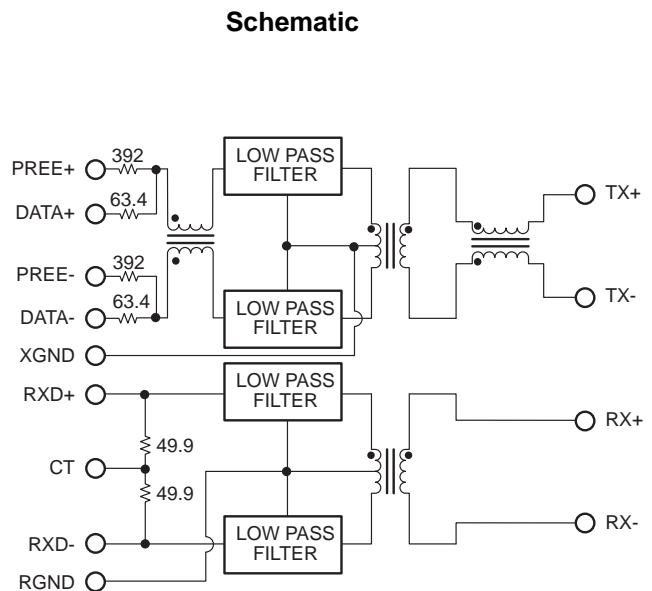
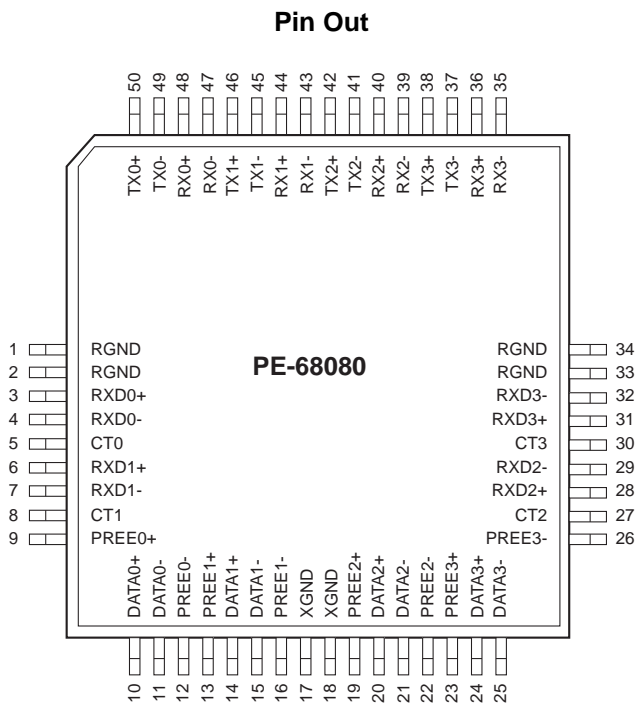
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Pin Designations for AMD IMR Chip AM79C980



Pin Designations for LSI Logic Chip L64381



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Application

Pulse's "Quadpak" interface module provides the complete analog solution, for 10Base-T multiport applications, in a robust SMT package. Each channel includes low pass filters, isolation transformers, and common mode chokes. Transmit channels are optimized with pre-equalization resistors, controlling signal shape, and spectral content to ensure IEEE compliance. Receive channels are terminated with impedance matching resistors.

Electrical Functions Include:

- 1. Impedance matching** – The low pass filters in conjunction with selected resistor values effectively match the impedance characteristics of the IC to those of the transmission line. Precision wound inductors help control passband impedances and lower return loss parameters. The proper cut-off frequency minimizes insertion loss and delay distortion while maximizing attenuation in the stopband.
- 2. EMI Suppression** – The filter module is designed to control signal harmonics and jitter, reflections, cross-talk interferences, and common mode noise which may contribute to radiated and conducted emissions. High impedance common mode chokes significantly minimize their effects.

- 3. Equipment Isolation** – The transformer is designed to withstand 2000 Vrms, ensuring protection from static charge on the twisted pair line. Each module is fully tested to ensure compliance with ECMA 97 and IEEE 802.3-1993 standards.

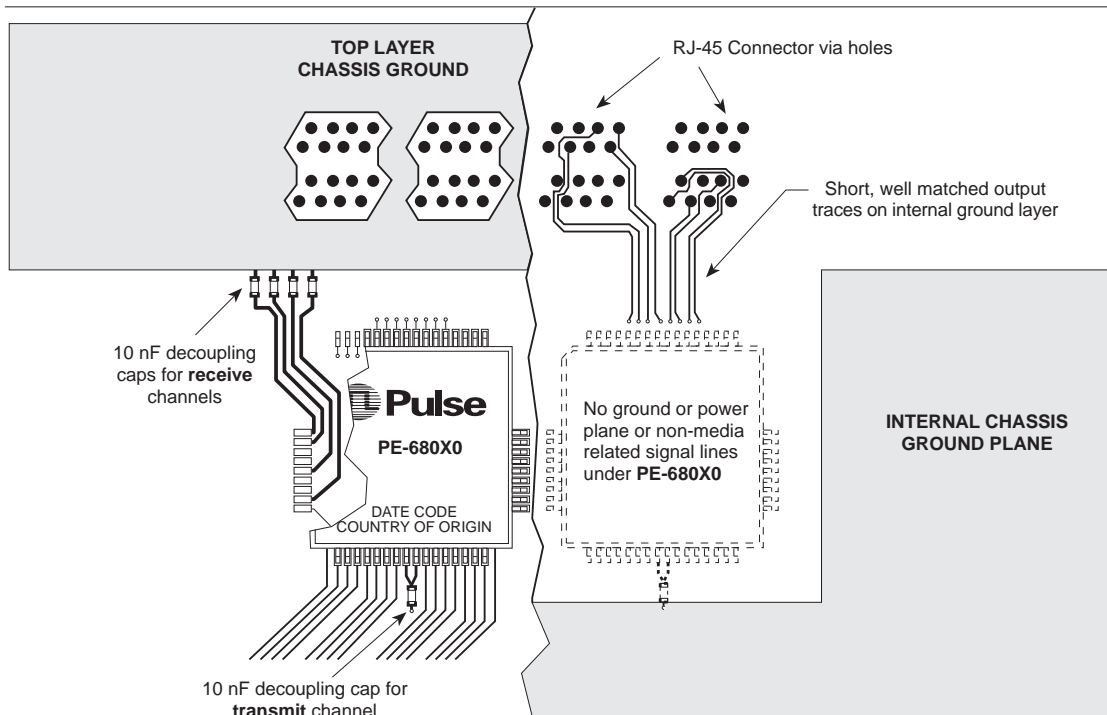
In typical applications, such as multiport repeaters, many channels are in close proximity. User compliance with FCC/CISPR22 Class B requirements can be achieved by applying rigorous design guidelines to suppress noise mechanisms. Attention to high frequency signal paths, good PCB grounding techniques and component placement are critical. For an example of this, please refer to the illustration below.

Mechanical Features Include:

- 1. Light Weight** — Under 10 grams for rapid pick and place.
- 2. Compliant Leads** — Provide excellent solder joint reliability.
- 3. Square Form Factor** — 1:1 aspect ratio for optimized thermal management.

Note: Modules are packaged in trays unless tape & reel is specified. Please add the suffix "T" (i.e. PE-68040T) for tape and reel orders, which must be ordered in increments of 110 pieces.

Recommended Layout



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Distributor

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