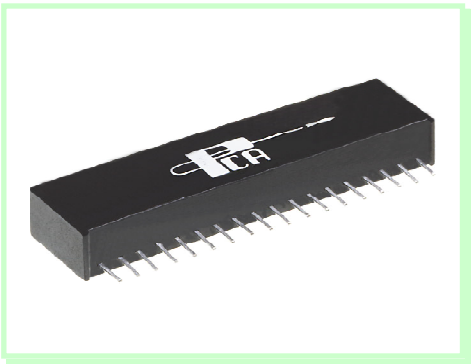
Token Ring Transceiver Module

EPT7075

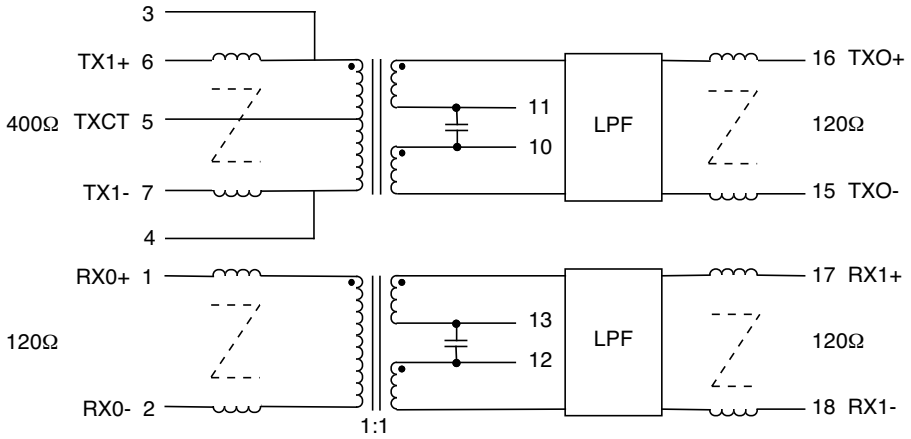


- Designed for Pericom PIC 3020 •
[Also recommecnded for PIC 3000A]
- Optimized for 120Ω Cable Operations •
- Enhanced Common Mode Rejection Capability •
- Complies with or exceeds IEEE 802.5 Requirements •

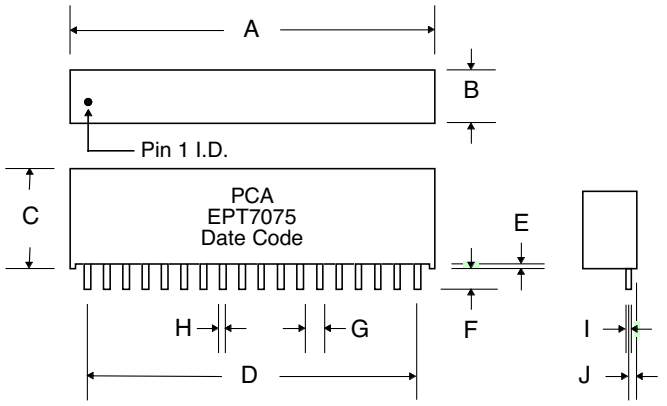
Electrical Parameters @ 25° C

Impedance (Ω) [Xmit/Rcv]	Insertion Loss (dB Max.)						Return Loss (dB Min.)						Common Mode Rejection (dB Min.)								Crosstalk (dB Min.)
Chip Side 400/120	1-16 MHz		32 MHz		36 MHz		1-6 MHz		6-17 MHz		17-25 MHz		1-30 MHz		30-100 MHz		100-200 MHz		200-300 MHz		1-30 MHz
Cable Side	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	
120	-.6	-1	-7	-7	-20	-20	-18	-15	-12	-15	-8	-10	-65	-40	-30	-30	-30	-30	-30	-30	-35

Schematic



Package



Dimensions

Dim.	(Inches) Min.	Max.	Nom.	(Millimeters) Min.	Max.	Nom.
A	1.890	1.900		37.85	38.10	
B	.240	.250		6.73	6.99	
C	.510	.520		11.43	11.68	
D	1.300	Typ.		33.02	Typ.	
E	.010	.030		.254	.381	
F	.125	.150		3.18	3.56	
G	.100	Typ.		2.54	Typ.	
H	.015	.021		.381	.533	
I	.008	.012		.203	.305	
J	.035	Typ.		3.43	.356	

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CST7075a Rev. 10/17/96

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The circuit below is a guideline for interconnecting PCA's EPT7075 with Pericom PIC 3020 Token Ring PHY chip for 4 Mb/16Mb applications over STP or UTP cable. Note that this module is optimized for a "current source" driver. Only one type of cable should be driven by the module: either UTP or STP. This module is ideally suited for applications with only one RJ45 connector installed. Changing to STP is accomplished by using an adaptor without any need for additional impedance transforming device embedded in it. The same approach is usable if one were to drive the European standard 120Ω cable, which poses no problems.

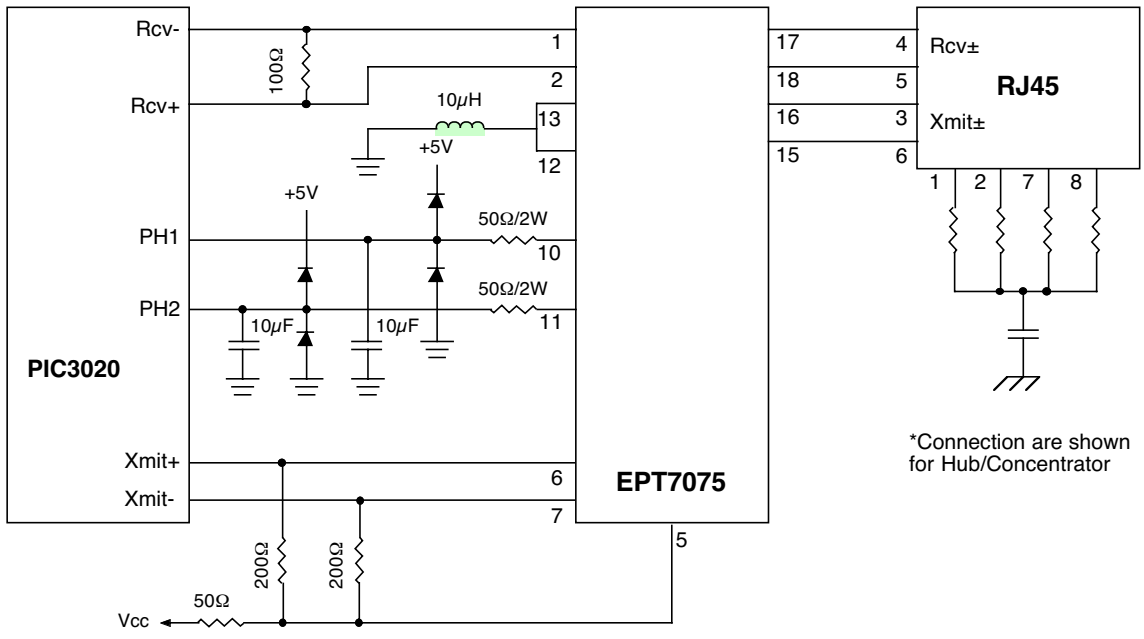
Note that the receiver side is enhanced with similar filtering. This will allow its usage in a DTR System.
The pull down resistors to chassis via a cap shown around the RJ45 connector have been known to suppress unwanted radiation that unused wires pick up from the immediate environment. This is specially true if driving UTP cable. Their placement and use are to be considered carefully before a design is finalized.

No specific recommendation is made here for phantom circuitry, implementation varies. Please note that additional emission control has been observed if both nodes of the phantom bypass capacitor on the transmit channel are pulled to the chassis ground via suitable capacitors.

It is recommended that there be a neat separation of ground planes in the layout. It is generally accepted practice to limit the plane off at least 0.05 inches away from the chip side pins of EPT7075. There need not be any ground plane beyond this point.

For best results, PCB designer should design the outgoing traces preferably to be 50Ω, balanced and well coupled to achieve minimum radiation from these traces.

Typical Application Circuit Connection to PIC3020 (or Equivalent). For NIC.



*Connection are shown for Hub/Concentrator

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