

Token Ring Interface Module

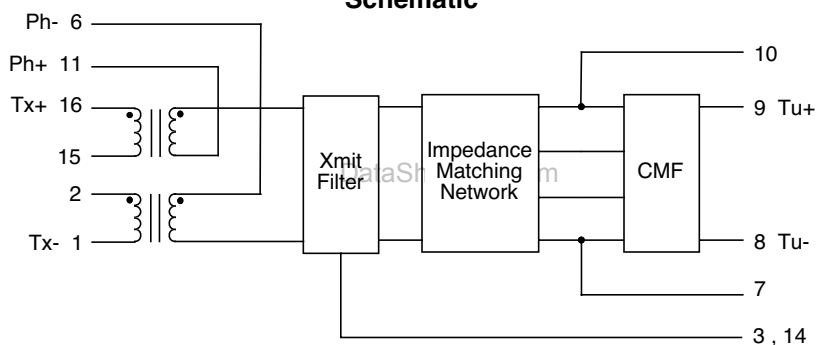
EPT7088

- Optimized for Texas Instrument's TI38054 •
- Supports both UTP Transmission •
- Complies with or exceeds IEEE 802.5 Requirements •

Electrical Parameters @ 25° C

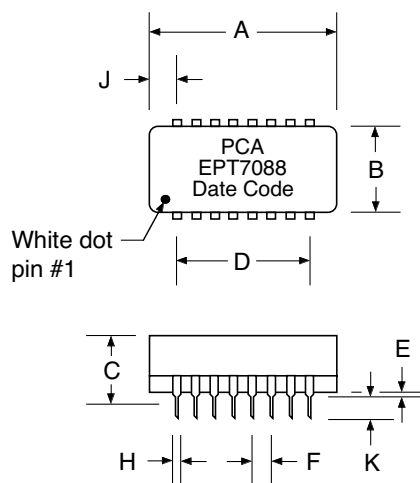
Impedance (Ω)	Insertion Loss								Return Loss (dB Min.)			Common Mode Rejection (dB Min.)						
	(dB Max.)				(dB Min.)				1-6 MHz	6-17 MHz	17-25 MHz	100 KHz	1 MHz	5 MHz	20 MHz	70 MHz	100 MHz	200 MHz
Chip Side 600	1-4 MHz	8 MHz	16 MHz	24 MHz	32 MHz	36 MHz	44 MHz	80 MHz	1-6 MHz	6-17 MHz	17-25 MHz	100 KHz	1 MHz	5 MHz	20 MHz	70 MHz	100 MHz	200 MHz
Cable Side 100	-5	-8	-1	-1.9	-7	-25	-30	-25	-14	-12	-8	-65	-45	-30	-30	-15	-15	-20

Schematic



Pins 4, 5, 12, 13 are Not Connected

Package



Dimensions

Dim.	(Inches)			(Millimeters)		
	Min.	Max.	Nom.	Min.	Max.	Nom.
A	.990	1.000	.995	25.15	25.65	25.27
B	.442	.462	.452	11.23	11.73	11.48
C	.351	.371	.361	8.92	9.42	9.17
D	---	---	.700	---	---	17.78
E	.005	.025	.015	.130	.640	.381
F	---	---	.100	---	---	2.54
G	.525	.555	.540	13.34	14.10	13.72
H	.016	.022	.020	.406	.559	.508
I	---	---	.010	---	---	2.54
J	---	---	.147	---	---	3.75
K	.125	.150	.138	3.18	3.81	3.50

The circuit below is a guideline for interconnecting PCA's EPT7088 with a typical Token Ring PHY chip for 4 Mb/16Mb applications over UTP cable. Further details of system design should be obtained from the specific chip manufacturer. Note that this module is optimized for a "current source" driver such as TMS38054.

Typical insertion loss of the isolation transformer is 0.5dB up to 16 MHz. The Token Ring filter design follows the I.E.E.E 802.5 last recommendations in the Standard regarding the differential phase delay and the return loss right up to the filter cut off frequency. This module requires either a receiver module with only isolation transformer/common mode choke combination (such as the EPT7089) or another module identical to the EPT7088 to complete the transceiver operation.

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.

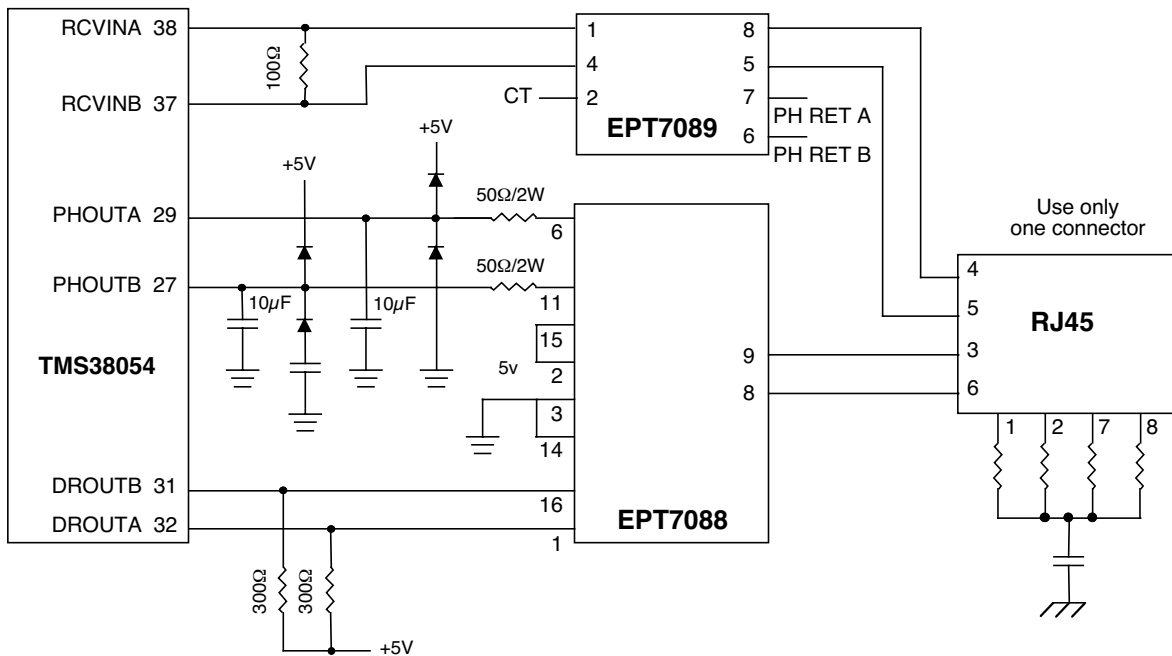
No specific recommendation is made here for phantom circuitry, implementation varies. Please note that additional emission control has been observed if both nodes of the phantom bypass capacitor on the transmit channel are pulled to the chassis ground via suitable capacitors.

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 EPT7088. 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.

DataSheet4U.com

Typical Application Circuit Connection to TMS38054 (or Equivalent)



Notes : Phantom returns are left unconnected. Applications vary. Your system may have a phantom drive return detection circuit needing pins 7 & 6 to be connected separately. Receiver CT can be grounded via a cap.