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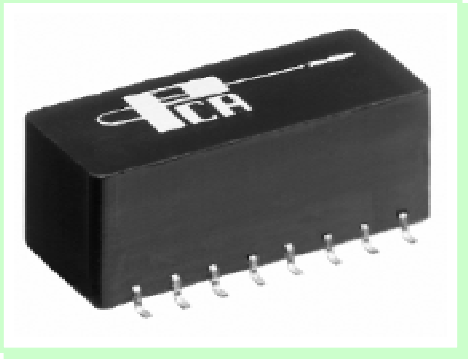
PCA ELECTRONICS INC.

Miniature Token Ring Transceiver Module

EPT7061GM

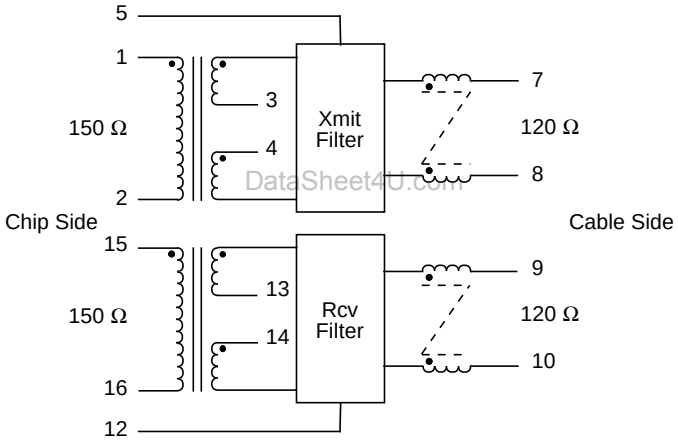


- Ideal for DTR Application with PHY Chip E.G. TI380C60 •
- Optimized for 120Ω •
- Recommended for UTP or STP Transmission •
- Complies with or exceeds IEEE 802.5 Requirements •

Electrical Parameters @ 25° C

Impedance (Ω) [Xmit/Rcv]	Insertion Loss (dB)								Return Loss (dB Min.)						Common Mode Rejection (dB Min.)								Crosstalk (dB Min.)
Chip Side 150	1-16 MHz Max.		32 MHz Min.		36 MHz Min.		44 MHz Min.		1-6 MHz		6-17 MHz		17-25 MHz		1-30 MHz		30-100 MHz		100-200 MHz		200-300 MHz		1-16 MHz
Cable Side	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	Xmit	Rcv	
120	-.8	-.8	-7	-7	-25	-25	-25	-25	-16	-16	-16	-16	-9	-9	-55	-55	-50	-50	-40	-40	-30	-30	-45

Schematic



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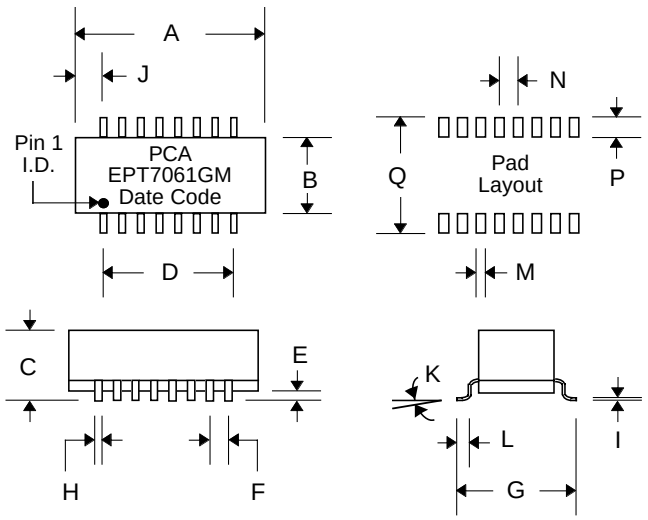
Package



Dimensions

Dim.	(Inches) Min.	Max.	Nom.	(Millimeters) Min.	Max.	Nom.
A	.980	1.00		24.89	25.40	
B	.365	.385		9.27	9.78	
C	.340	.360		8.64	9.14	
D	.700	Typ.		17.78	Typ.	
E	.010	.030		.254	.762	
F	.100	Typ.		2.54	Typ.	
G	.500	.520		12.70	13.21	
H	.018	.022		.457	.559	
I	.008	.012		.203	.305	
J	.145	Typ.		3.68	Typ.	
K	0°	8°		0°	8°	
L	.025	.045		.635	1.14	
M			.040			1.02
N			.100			2.54
P			.055			1.40
Q			.540			13.72

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Product performance is limited to specified parameters. Data is subject to change without prior notice.

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The circuit below is a guideline for interconnecting PCA's EPT7061GM with a typical Token Ring PHY chip for 4 Mb/16Mb applications over STP or UTP cable. Further details of system design should be obtained from the specific chip manufacturer. Note that this module is optimized for a "voltage source" driver such as TI380C60. Only one type of cable should be driven by the module: either UTP or STP.

Note that the two channels have identical filtering and other magnetics . This option is seen to be widely used by system designers when designing dedicated Token Ring systems.

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 return 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 EPT7061GM. There need not be any ground plane beyond this point.

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

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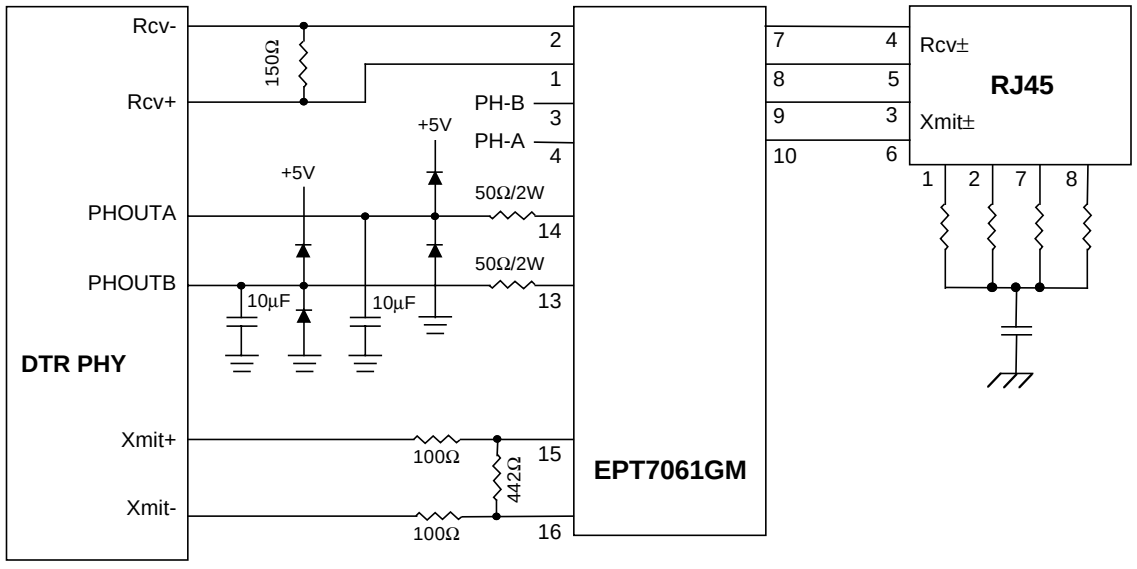
Typical Application Circuit Connection to TI380C60 (or Equivalent). Only NIC side shown.



Notes : 1. Pins 3 & 4 are left unconnected. Applications vary. Your system may have a phantom drive return detection circuit needing pins 3 & 4 to be connected separately.

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