

SURFACE MOUNT FILTER MAGNETIC MODULES For Token Ring Applications



-  Supports TI380C30/C60 transceivers
-  Designed to meet Token Ring IEEE 802.5 specifications including low cutoff frequency
-  Supports STP 150 Ω or UTP 100 Ω transmission cable
-  Low cost solution

Electrical Specifications @ 25°C

Part Number	Return Loss (dB MIN)				Insertion Loss (dB MAX)						Comm-Comm Mode Rejection (dB MIN)				Crosstalk (dB MIN)		
	1 to 17 MHz		17 to 25 MHz		8 MHz		16 MHz		24 MHz		5 MHz	20 MHz	70 MHz	200 MHz	8 MHz	16 MHz	32 MHz
	150 Ω	100 Ω	150 Ω	100 Ω	150 Ω	100 Ω	150 Ω	100 Ω	150 Ω	100 Ω							
PE-67566	-14	-14	-8	-8	-0.5	-0.8	-0.8	-1.1	-1.8	-1.9	-40	-40	-30	-20	—	—	—
PE-67567	-20	-15	-15	-12	-0.5	-0.5	-0.5	-0.5	-0.8	-0.8	-34	-34	-30	-20	—	—	—
PE-67585	Transmit																
	—	-12	—	-8	-0.5	-0.8	-0.8	-1.1	-1.8	-1.9	-40	-40	-30	-20	-55	-50	-45
	Receive																
PE-67595	—	-15	—	-10													
	-16	-16	-9.0	-9.0	4 MHz		-1.0	1.0	-1.8	-1.8	-30	-30	-20	-20	-50	-50	24 MHz 46

Description

PE-67566

The PE-67566, PCMCIA compatible filter magnetics module has been designed to interface with the transmit side of Texas Instruments' TI380C60 transceiver chip or TI380C30 integrated commprocessor/transceiver chip. This module provides impedance matching, signal isolation, and signal conditioning. It is fully compliant with the IEEE 802.5 requirements.

PE-67567

The PE-67567 transformer and choke module has been designed to interface with the receive side of Texas Instruments' TI380C60 transceiver chip or TI380C30 integrated commprocessor/transceiver chip. This PCMCIA compatible module provides impedance matching,

signal isolation and EMI suppression. The PE-67567 is fully compliant with the IEEE 802.5 requirements.

PE-67585, PE-67595

The PE-67585 and PE-67595 are complete transmit and receive interface modules for the Texas Instrument TI380C60 transceiver chip and TI380C30 integrated commprocessor/transceiver chip. Fully compliant with the IEEE 802.5 standard, these modules provide signal isolation, impedance matching and EMI filtering for both transmit and receive channels. The PE-67585 has separate outputs for UTP and STP. The PE-67595 has a 120 Ω output for either UTP or STP.

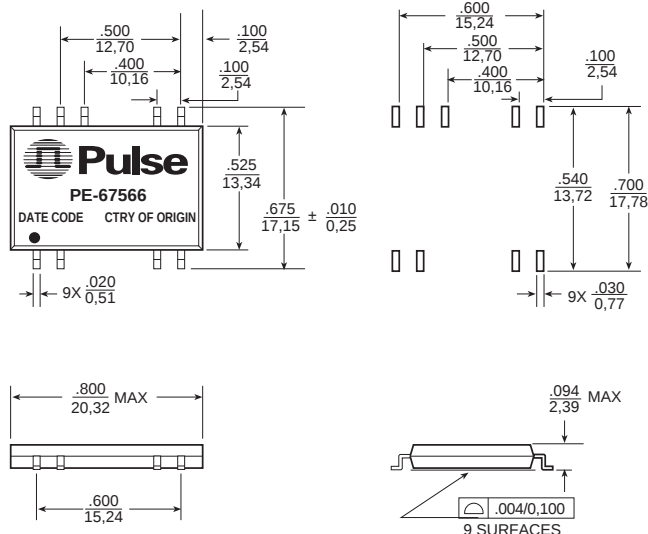
SURFACE MOUNT FILTER MAGNETIC MODULES For Token Ring Applications



Mechanical

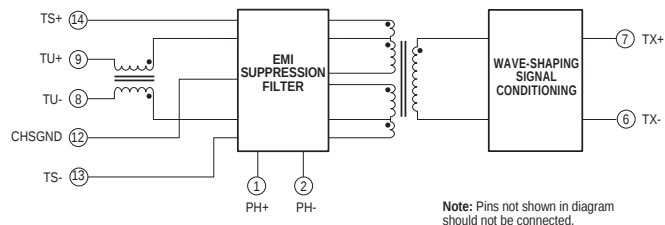
Schematic

PE-67566



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

Unless otherwise specified, all tolerances are $\pm \frac{.010}{0,25}$

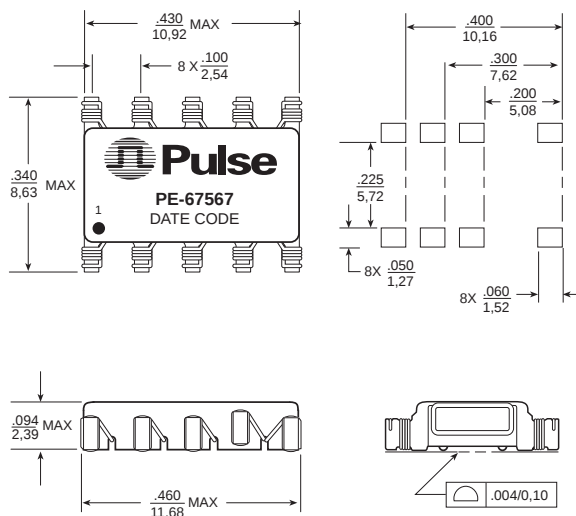


Weight 1.5 grams
Tape & Reel600/reel
Tube25/tube

Mechanical

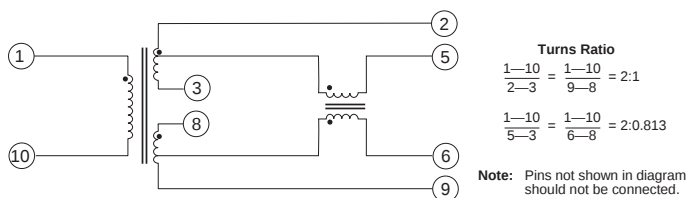
Schematic

PE-67567



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

Unless otherwise specified, all tolerances are $\pm \frac{.010}{0,25}$



Weight 0.3 grams
Tape & Reel1500/reel
Tube25/tube

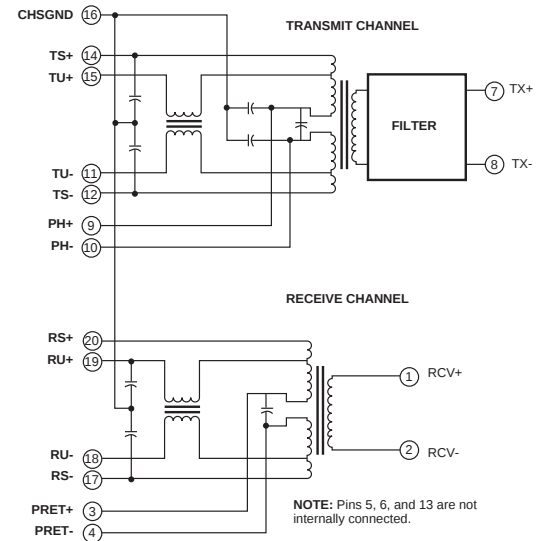
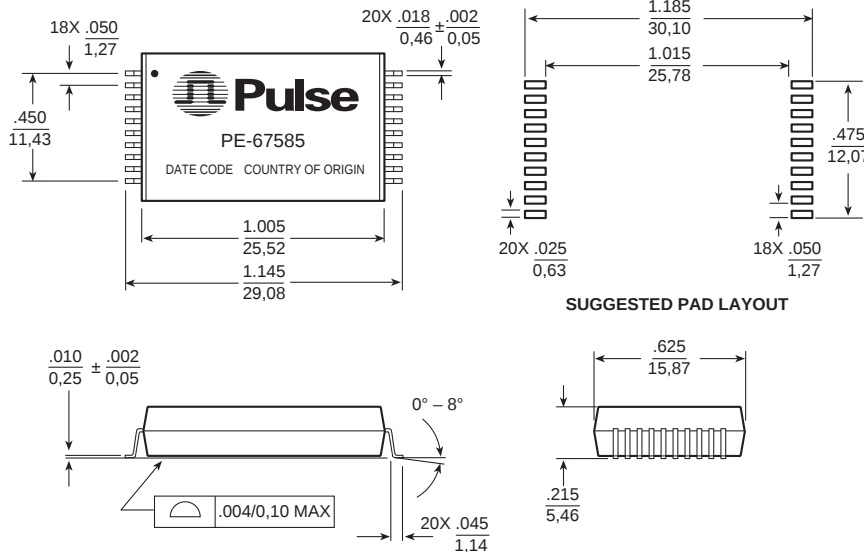
SURFACE MOUNT FILTER MAGNETIC MODULES For Token Ring Applications



Mechanical

Schematic

PE-67585



Dimensions: Inches
mm

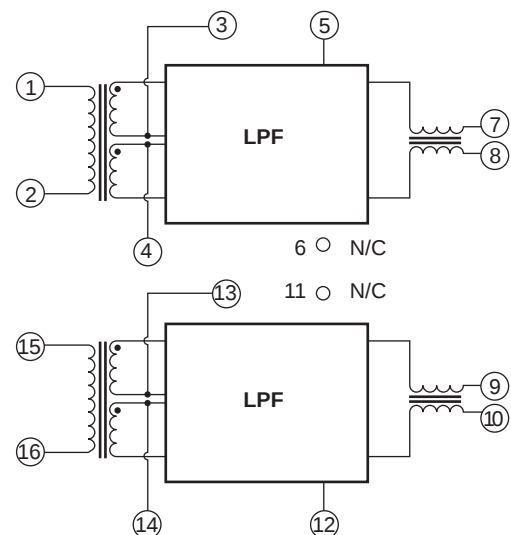
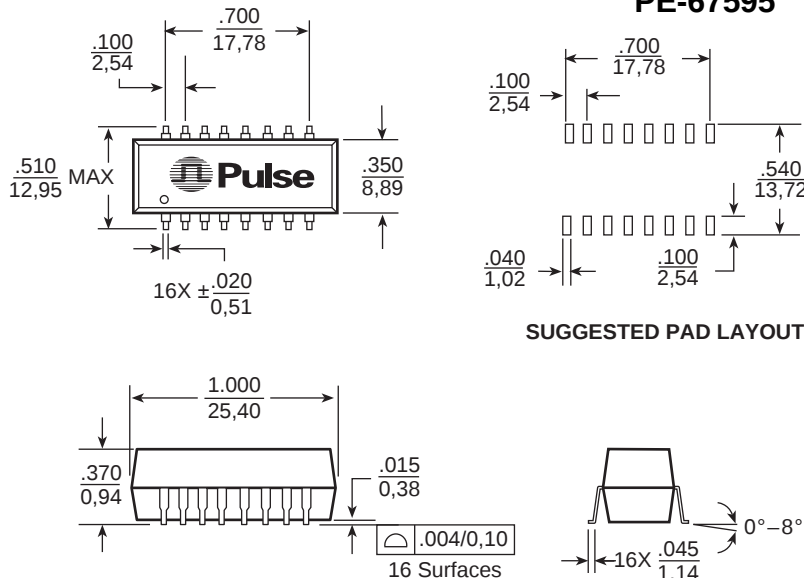
Unless otherwise specified, all tolerances are ± .005 / 0,13

Weight 4.3 grams
 Tape & Reel160/reel
 Tube20/tube

Mechanical

Schematic

PE-67595



Dimensions: Inches
mm

Unless otherwise specified, all tolerances are ± .010 / 0,25

Weight 4.0 grams
 Tape & Reel160/reel
 Tube20/tube

SURFACE MOUNT FILTER MAGNETIC MODULES For Token Ring Applications



Surface Mount Filter/Magnetics Modules for TI 380C30/C60 Token Ring Chip Set

Pin Descriptions					
Pin Number				Symbol	Function/Description
PE-67566	PE-67567	PE-67585	PE-67595		
—	1	1	1	RX+	Differential Manchester receive data to the I.C.
—	10	2	2	RX-	Differential Manchester receive data to the I.C.
—	3	3	3	PHR+	Return path for phantom drive on the "A" receive channel. Can be used for fault determination and to allow sensing the presence of phantom drive.
—	8	4	4	PHR-	Return path for phantom drive on the "B" receive channel. Can be used for fault determination and to allow sensing the presence of phantom drive.
1	—	9	13	PH+	Phantom drive input port, provided for transmitting an activated ring insertion command to the concentrator from the front end I.C.
2	—	10	14	PH-	Phantom drive input port, provided for transmitting an activated ring insertion command to the concentrator from the front end I.C.
7	—	7	15	TX+	Differential Manchester transmit data to the I.C.
6	—	8	16	TX-	Differential Manchester transmit data to the I.C.
9	—	15	7	TU+	Filtered, shaped differential Manchester transmit data, including phantom drive, to UTP ring. Connect directly to the RJ-45 pin 6.
14	—	14	7	TS+	Filtered, shaped differential Manchester transmit data, including phantom drive, to STP ring. Connect directly to the DB-9 pin 9, or the MICs orange wire.
13	—	12	8	TS-	Filtered, shaped differential Manchester transmit data, including phantom drive, to STP ring. Connect directly to the DB-9 pin 5, or the MICs black wire.
8	—	11	8	TU-	Filtered, shaped differential Manchester transmit data, including phantom drive, to UTP ring. Connect directly to the RJ-45 pin 3.
12	—	16	5, 12	CHSGND	Common mode filter return. Connect to chassis ground.
—	6	18	10	RU-	Raw differential Manchester receive data, including phantom drive, from UTP ring. Connect directly to the RJ-45 pin 5.
—	9	17	10	RS-	Raw differential Manchester receive data, including phantom drive, from STP ring. Connect directly to the DB-9 pin 6 or the MIC's green wire.
—	2	20	9	RS+	Raw differential Manchester receive data, including phantom drive, from STP ring. Connect directly to the DB-9 pin 1 or the MIC's red wire.
—	5	19	9	RU+	Raw differential Manchester receive data, including phantom drive, from UTP ring. Connect directly to the RJ-45 pin 4.

Note: Pins not shown in the above table are not connected.

SURFACE MOUNT FILTER MAGNETIC MODULES For Token Ring Applications



Application Notes

Pulse's filter magnetic modules have been designed for use with Texas Instruments' IEEE-802.5 compliant transceiver chips, TI380C60 and TI380C30. The referenced application circuits should serve as a starting point for design. To reduce induced noise, attention should be given to the layout of the Token Ring interface circuitry, especially to the selection of components and their placement.

The Token Ring transceiver provides a 150 Ω impedance to the transceiver IC's output driver. The 1:1 isolation transformer interfaces the IC driver to a 150 Ω low pass filter. The line isolation transformer also provides taps for 100 Ω media connections. The cut-off frequency and phase characteristics of this filter are precisely controlled to maximize the attenuation of signal harmonics above 30 MHz, while minimizing signal delay distortion.

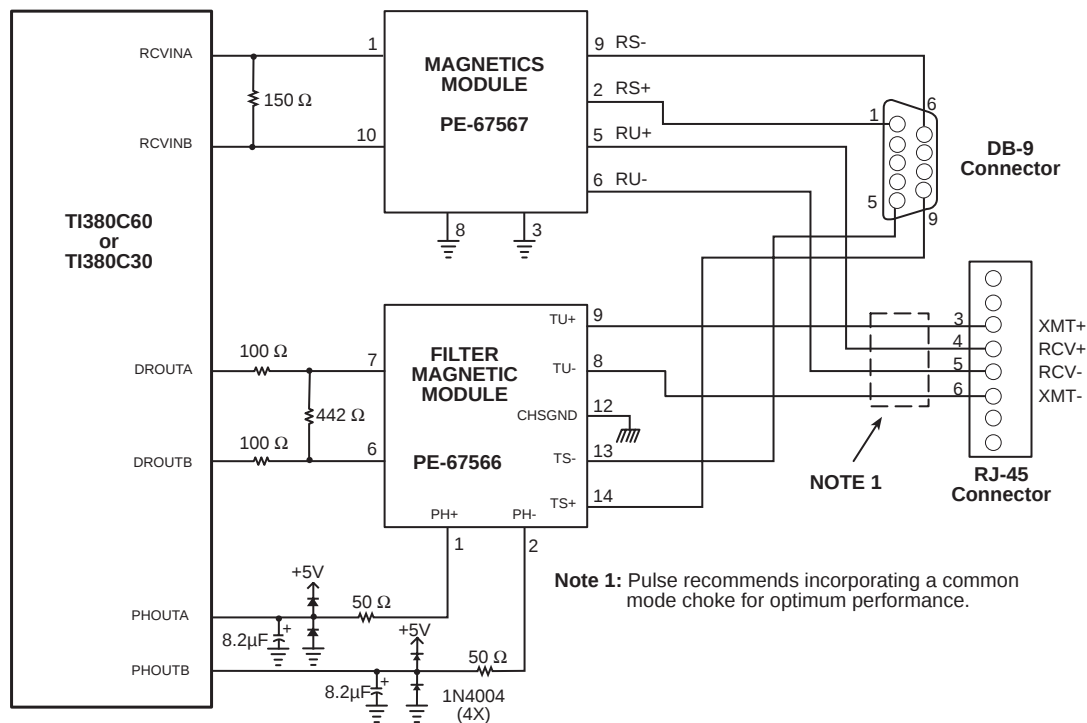
The receive channel consists of a line isolation transformer with turns ratio of 1:1 for 150 Ω media. The line isolation transformer also provides taps for 100 Ω media connections. The common mode choke prevents impulse noise, picked up from the media, from entering the IC receiver input. Common mode filter circuitry is included in both transmit and receive channels for improved EMI suppression.

Do not connect to both the UTP (100 Ω) and STP (150 Ω) simultaneously. The modules have been optimized to support only one media connection at a time. All pins that are unspecified or not in use should be left unconnected.

Depending on the EMI characteristics of the board layout, additional common mode suppression may be necessary. Please contact Pulse for information on Token Ring Filter Magnetic Modules.

Typical Application Circuit

PE-67566, PE-67567

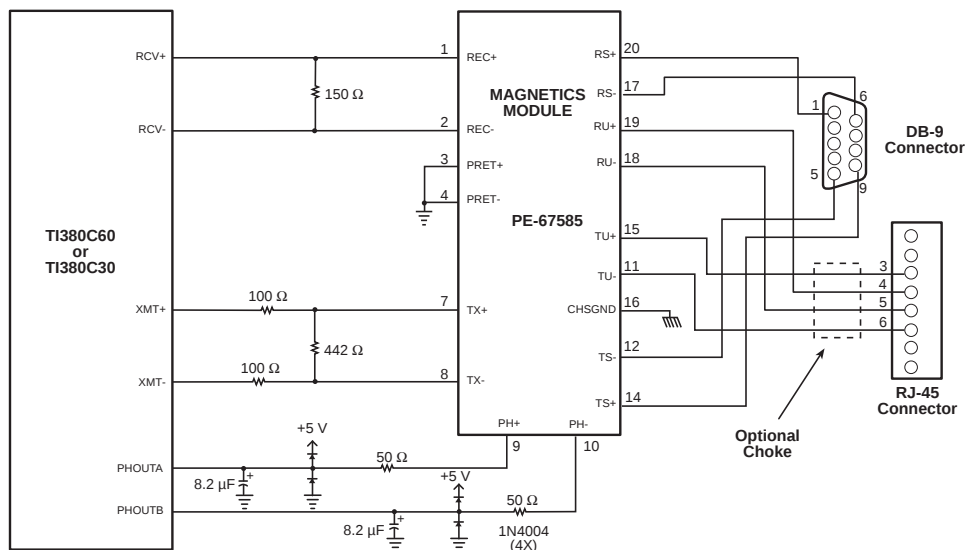


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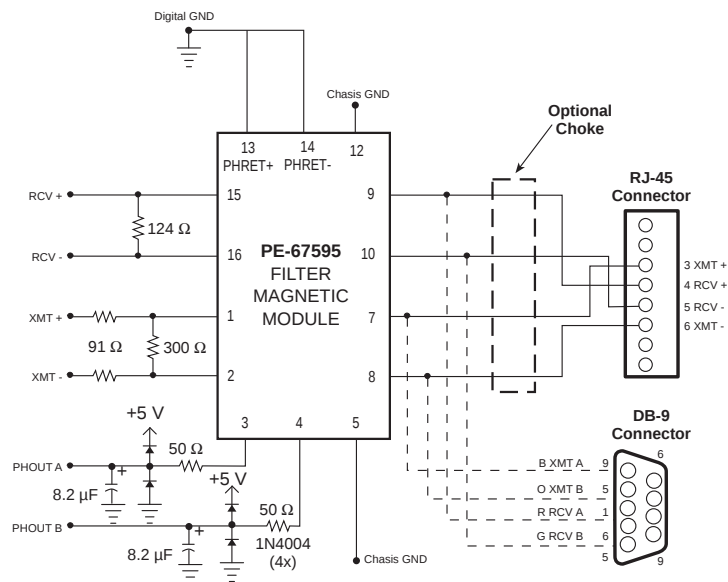


Typical Application Circuit

PE-67585



PE-67595



Notes:

1. Transmit and receive sides of the module are interchangeable.
2. Pins not shown are not to be connected.
3. Do not connect UTP and STP simultaneously.

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Distributor

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