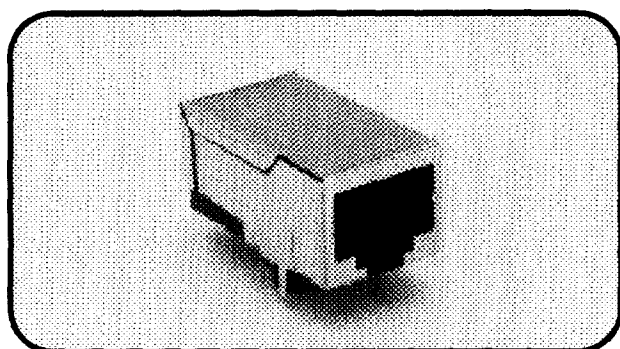


MODULAR JACK CONNECTORS

MJFS Series

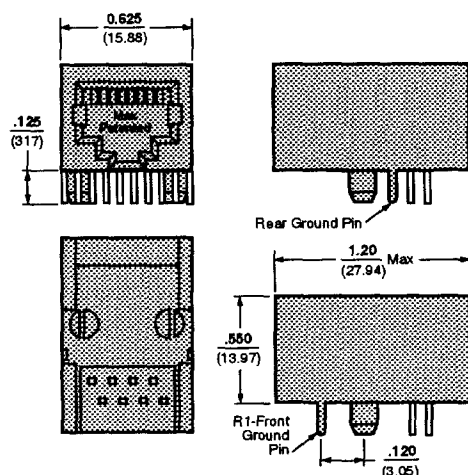
Filtered Transformer, Shielded, Standard PCB Footprint



Features

- UL and CSA approved E107337 and E145613
- Meets FCC requirements
- Meets IEEE 802.3 requirements 10/100BaseT, and 100BaseT
- Space saving
- Optimized performance
- Standard PCB layout
- Drop in replacement for existing connector

Dimensions



Notes:

*Consult factory for panel cutout, and further specifications. Custom designs welcomed.

** Request from factory a detailed filter diagram for each specific application. Also provide factory with the specific semiconductor needing the filtering and Maxconn can provide a specification which will match the recommendation given by the semiconductor manufacturer.

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Performance Specifications

Materials and Finish

Housing: Glass filled polyester, UL 94V-0 rated, high-temp. black

Contacts: 0.35mm Phosphor bronze (C5210)

Contact Plating: Palladium nickel 50 microinch

Shielding: 0.25mm thickness copper alloy plated with 90 microinch tin

Mechanical Characteristics

Durability: 1000 mating cycles

Electrical Characteristics

Current/Voltage: 150Vac at 1.5 amps maximum at 25°C

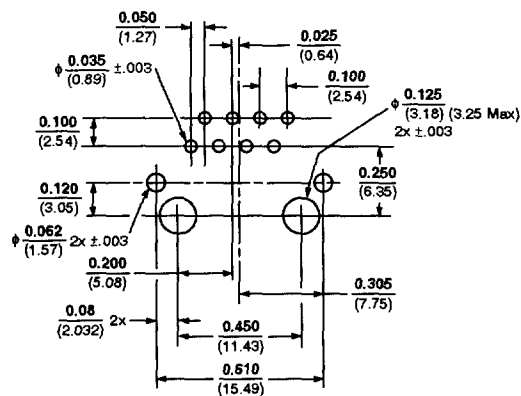
Dielectric Withstanding Voltage: 1000 Vac RMS minimum, 60 Hz

Contact Resistance: 30 milliohms maximum

Insulation Resistance: 500 megohms minimum

Operating Temperature: -40°C to +125°C

PCB Layout Top View



How to Order

MJFS - R - 8 8 - - GF5 - XXF1

Series

Mounting

R - Right angle
R1 - Right angle
Front ground pin
G - Gand type

Number of Positions

6, 8

Number of Contacts

6, 8

Number of Ports

2, 4, 6, 8

Blank - Single port

Filter

XXF1 - ISDN
XXF2 - 10BaseT
XXF3 - 100BaseT
XXF4 - Token Ring

Grounding Tabs

Blank No grounding tabs
GF5 Ground Flange



MODULAR JACK CONNECTORS

MJFS Series Filtered Transformer, Shielded, Standard PCB Footprint

ISDN Transformer Specifications (Design 3)

Electrical Specifications

Isolation Voltage: 1000 Vrms

Turns Ratio: 1:2CT $\pm 2\%$ (Pri:Sec)

OCL: TX: 22mH minimum @ 10kHz, 0.1V

CD: 180pF maximum (Pri)

Cw/w: 100pF maximum (Pri/Sec) @ 100kHz 0.1V

LL: (Sec): 11 μ H maximum @ 100kHz 0.1V (Pri Shorted)

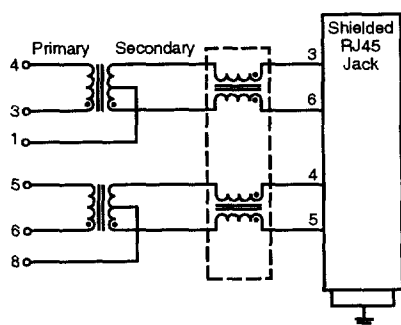
DCR: 2.4 $\pm 25\%$ ohms (Pri)

DCR: 4.4 $\pm 25\%$ ohms (Sec)

I_{dc}: 1mA maximum

Choke: OCL: 40 μ H typical

Schematic



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10 Base-T Filtered Transformer Specifications (Design 4)

Electrical Specifications

Isolation Voltage: 1500 Vrms

Insertion Loss: (1 - 10MHz): -1dB maximum

Attenuation at 30 MHz:

Transmit: 30dB minimum

Receive: 18dB minimum

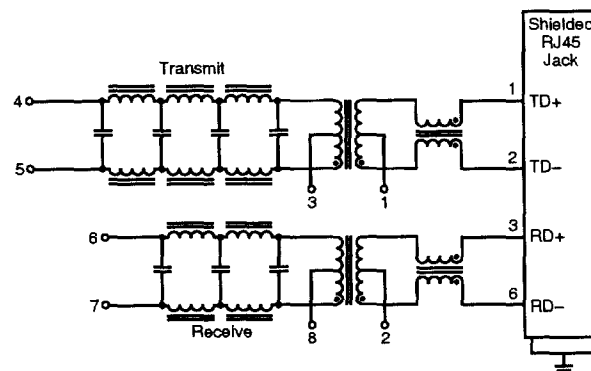
Return Loss: (1 - 10MHz): 15dB minimum

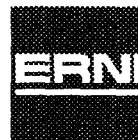
Cutoff Frequency: 17MHz typical

Cross Talk: (1 - 10MHz): -30dB minimum

VO Impedance: 100 ohms

Schematic





MODULAR JACK CONNECTORS

MJFS Series Filtered Transformer, Shielded, Standard PCB Footprint

100 Base Combo Filtered Transformer Specifications (Design 6)

Electrical Specifications

Isolation Voltage: 1500 Vrms (Input to Output)

Turns Ratio: TX: 2:1 ($\pm 2\%$), RX: 1:1:1 ($\pm 2\%$)

OCL: TX: 140 μ H minimum, RX: 350 μ H minimum @ 100kHz, 100mV

Rise Time: (10 - 90%): 3.0ns typical

Insertion Loss: (1M - 125 MHz): -1.0dB maximum

Return Loss:

100 kHz - 60 MHz -15 dB minimum (Tx)/ -17 dB minimum Rx

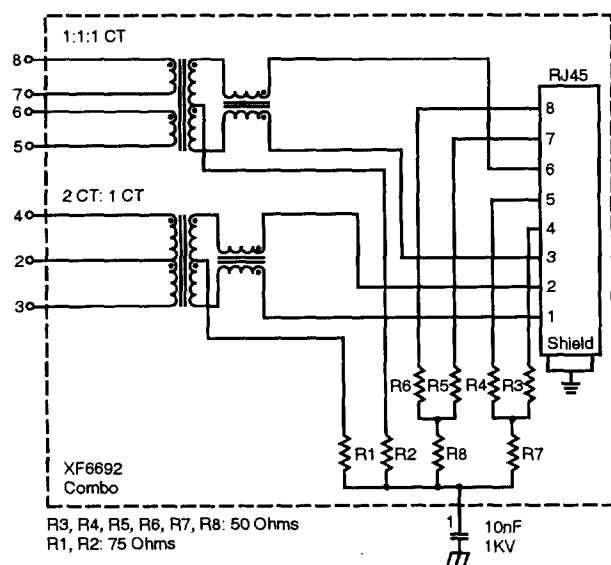
60MHz - 100MHz -11dB minimum Tx/ -15dB minimum Rx)

Common Mode to Differential Mode Attenuation::

100 kHz - 60 MHz -45 dB minimum (Tx)/ -40 dB minimum Rx

60MHz - 100MHz -40dB minimum Tx/ -35dB minimum Rx)

Schematic



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ATM 100 Base Filtered Transformer Specifications (Design7)

Electrical Specifications

Isolation Voltage: 1500 Vrms

Rise Time: 2ns typical @ 10 - 90%

Insertion Loss: (0.1 - 125 MHz): -1.1dB maximum

Return Loss:

0.1 - 60 MHz -15 dB (Tx)/ -17 dB Rx typical

60 - 125MHz -11dB Tx/ -15dB (Rx) typical

Cross Talk:

0.1 - 60 MHz -40 dB minimum

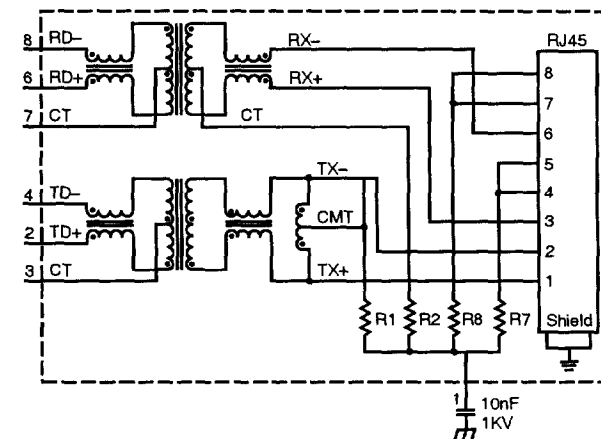
60 - 125MHz -38 dB minimum

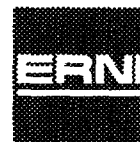
Common Mode to Differential Mode Rejection:

100 kHz - 60 MHz -45 dB minimum (Tx)/ -40 dB minimum Rx

60MHz - 100MHz -40dB minimum Tx/ -35dB minimum (Rx)

Schematic





MODULAR JACK CONNECTORS

MJFS Series Filtered Transformer, Shielded, Standard PCB Footprint

ATM 100 Base Filtered Transformer Specifications (Design 8)

Electrical Specifications

Isolation Voltage: 1500 Vrms

Rise Time: 2.5ns typical @ 10 - 90%

Insertion Loss: (0.1 - 125MHz) -1.1dB maximum

Return Loss: (0.1 - 60MHz) -15dB Tx/-17dB Rx typical

(60 - 125MHz) -11dB Tx/-15dB Rx typical

Cross Talk: (0.1 - 60MHz) -40dB minimum

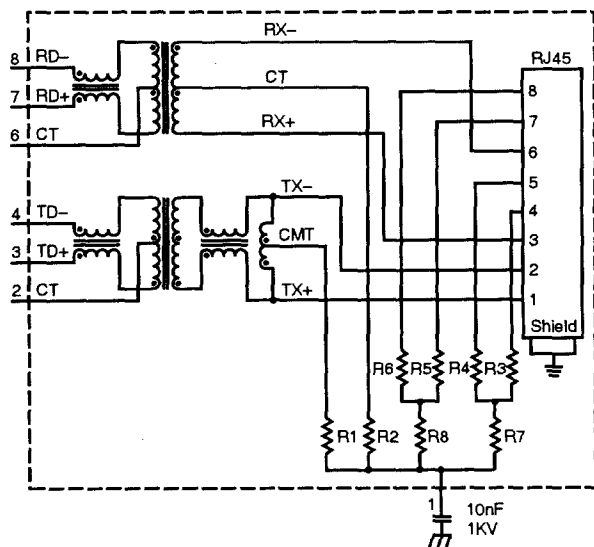
(60 - 125MHz) -38dB minimum

Common Mode to Differential Mode Rejection:

(0.1 - 60MHz) -45dB Tx/-40dB Rx minimum

(60 - 125MHz) -40dB Tx/-35dB Rx minimum

Schematic



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10/100 Base TX Filtered Transformer Specifications (Design 5)

Electrical Specifications

Isolation Voltage: 2000 Vrms

Turns Ratio: 1:1CT

Pri/Sec DCR: 0.90 ohms maximum

Rise Time/Fall Time: 4ns tmaximum

Cw/w (Pri/Sec): 15pF maximum

Leakage Inductance: (Pri): 0.4µH maximum

Insertion Loss: (0.1 - 125MHz) -1.1dB maximum

Return Loss: (0.1 - 60MHz) -18dB minimum

(60 - 125MHz) -12dB minimum

Cross Talk: (0.1 - 125MHz) -38dB minimum

Schematic

