

To our customers,

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## Old Company Name in Catalogs and Other Documents

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On April 1<sup>st</sup>, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: <http://www.renesas.com>

April 1<sup>st</sup>, 2010  
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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# RENESAS TECHNICAL UPDATE

Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan  
Renesas Technology Corp.

Product Category	MPU/MCU		Document No.	TN-SH7-A757A/E	Rev.	1.00
Title	SH7619 magnetics connection		Information Category	Technical Notification		
Applicable Product	R4S76190x125BG(V) R4S76191x125BGV (x=B/N/W/D)	Lot No.	Reference Document	SH7619 Group Hardware Manual ( REJ09B0237-0600 )		
		All lots				

We would like to inform valued customers of the in using SH7619 Group as follows.

- NOTE -

This document describes a supplement of the former technical update (Errata of guideline in SH7619 Ethernet Physical Layer:Document No. TN-SH7-A718A/E, Term of Figure 22.11).

Below shows how to define the connection between magnetics and this LSI.

## GLOSARRY

- 1<sup>st</sup> side of magnetics means SH7619 side, 2<sup>nd</sup> side means cable side.
2. Below shows the two cases, one is that 3<sup>rd</sup> pin(RD+) and 6<sup>th</sup> (RD-) of the cable are connected through center-tap of 2<sup>nd</sup> port of magnetics, and the other is that they are not connected to the center-tap.

CASE1: 3<sup>rd</sup>&6<sup>th</sup> are connected to center-tap.

The 3<sup>rd</sup> pin(RD+) and 6<sup>th</sup> (RD-) of the cable are connected to center-tap through a resistor.

In this case, please make the total resistor from resistors on 1<sup>st</sup> and 2<sup>nd</sup> sides, 50ohm.

Figure 1 shows  $R_{total} = 53ohm$ . (approximately 53ohm) from the  $1/R_{total} = 1/82 + 1/150$ .

(Figure 1)

CASE2: 3<sup>rd</sup>&6<sup>th</sup> are NOT connected to center-tap.

The 3<sup>rd</sup> pin(RD+) and 6<sup>th</sup> (RD-) of the RJ45 are connected to center-tap through a resistor.

In this case, please make the resistor of 1<sup>st</sup> side, 50ohm.

(Figure 2)

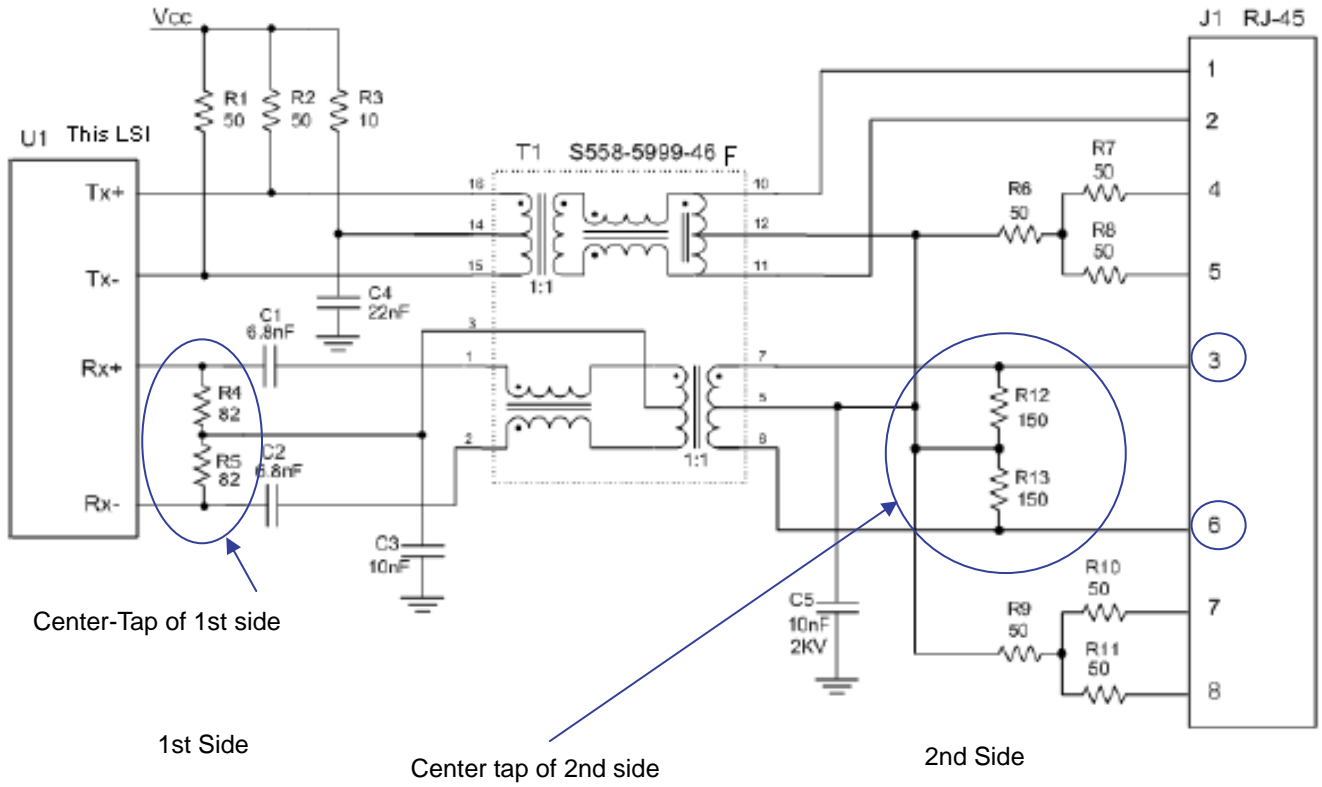


Figure 1. The case with Belfuse(Magnetics is apart from RJ45 connector) [Partially cited from belfuse homepage]

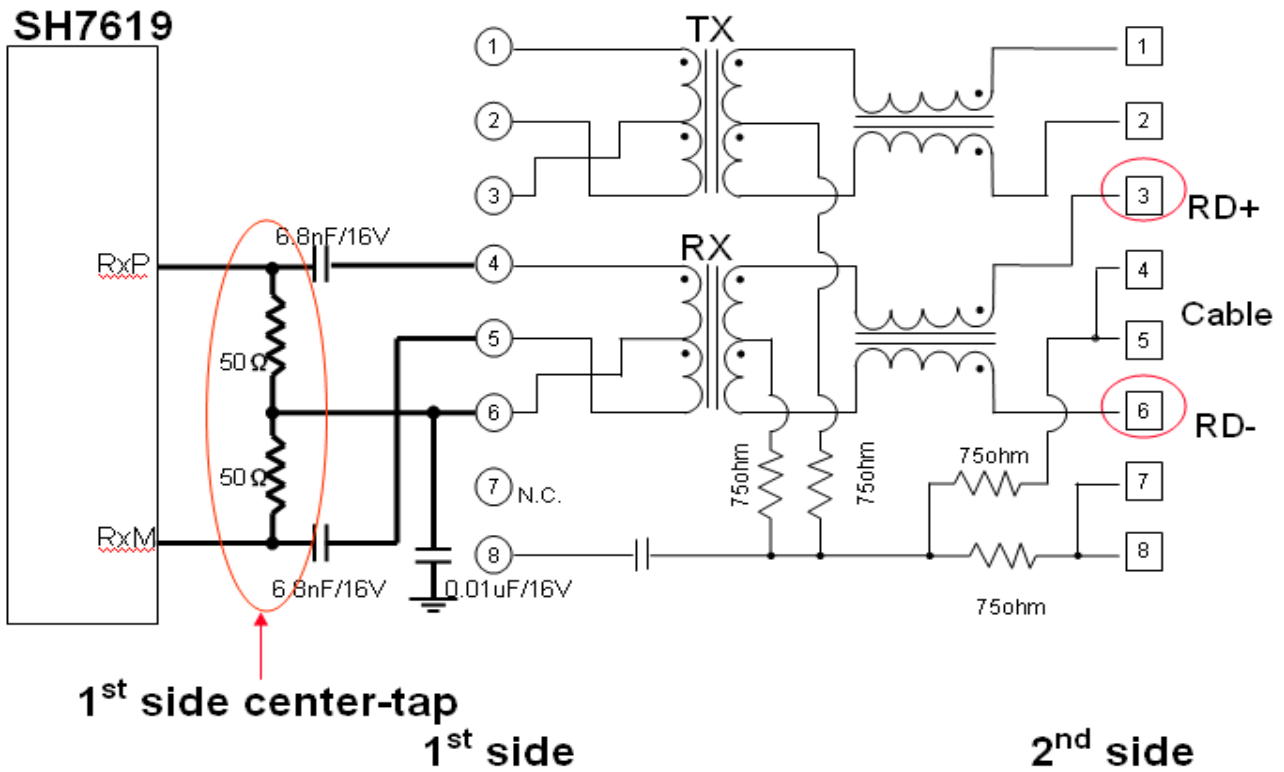


Figure 2. The case with TDK TLA-6T718(Magnetics is built in RJ45 connector) [Partially cited from TDK Homepage]

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