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April 1st, 2010
Renesas Electronics Corporation

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M37549T-RLSS

Emulator MCU Board for 7548/7549 Group

User's Manual

Notes regarding these materials

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1. Outline

The M37549T-RLSS is an emulator MCU board for the 7548/7549 Group.

2. Package Components

(1)	M37549T-RLSS	1 pc.
(2)	M37549T-RLSS User's Manual (This manual)	1 pc.
(3)	M37549T-RLSS User's Manual (Japanese)	1 pc.

3. Specifications

Table 1 Specifications

Emulator	M38000T2-CPE *
Operating mode	Single-chip mode
Maximum operating frequency	Vcc = 4.5 to 5.0 V: 8.0 MHz (frequency/2 mode) Vcc = 2.4 to 5.0 V: 2.0 MHz (frequency/2 mode) Vcc = 2.2 to 5.0 V: 1.0 MHz (frequency/2 mode) Vcc = 4.0 to 5.0 V: 8.0 MHz (High-speed mode) Vcc = 2.4 to 5.0 V: 4.0 MHz (High-speed mode) Vcc = 1.8 to 5.0 V: 1.0 MHz (High-speed mode)
Operating power voltage	1.8 to 5.5 V

* A combination of the PC4701 and M38000TL2-FPD is not supported.

4. External Dimensions

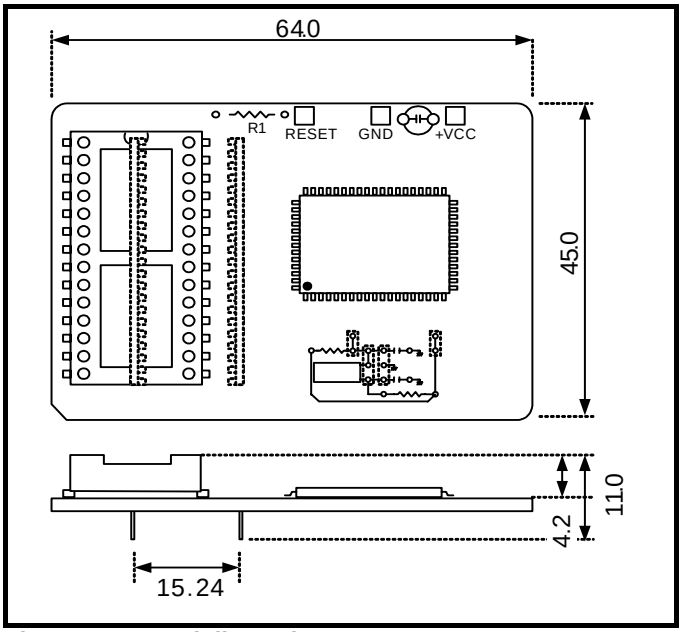

Figure 1 External dimensions

5. Connection Procedure to the user system

Connect the emulation probe to the connector on the upper panel of the M37549T-RLSS. Connect the M37549T-RLSS to the 42-pin SDIP socket on the user system. Table 2 shows pin allocation of the M37549T-RLSS, and Figure 2 shows connector dimensions.

Table 2 CN1 connector pin allocation

Pin No	Signal	Pin No	Signal
1	N.C	42	N.C
2	N.C	41	N.C
3	N.C	40	P13/AN3/KEY3
4	P14/AN4/KEY4	39	P12/AN2/CMP2
5	P15/AN5/KEY5	38	P11/AN1/CMP1
6	RESET	37	P10/AN0/CMP0
7	P16/AN6/KEY6	36	P31
8	P17/AN7/KEY7	35	P30
9	N.C	34	Reserved
10	N.C	33	Reserved
11	N.C	32	Reserved
12	P20/Xout/Xcout	31	Reserved
13	Vss	30	P07(LED7)/Srdy
14	P21/Xin/Xcin	29	P06(LED6)/Sclk
15	Vcc	28	P05(LED5)/TxD
16	CNVss	27	P04(LED4)/RxD
17	P00(LED0)/INT0	26	P03(LED3)/CAP0
18	P01(LED1)/INT1	25	P02(LED2)
19	N.C	24	N.C
20	N.C	23	N.C
21	Vss	22	N.C

* Do not connect signal to Reserved parts.

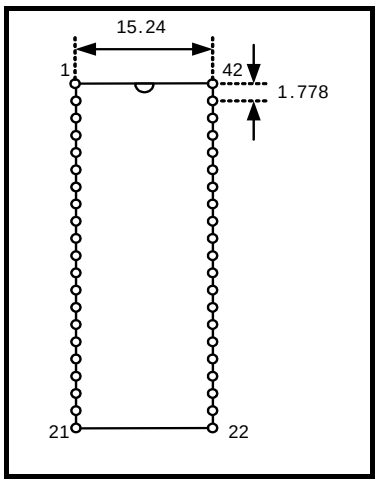

Figure 2 CN connector dimensions

6. Oscillator Circuit

This product has two oscillator circuit patterns for the main clock XIN and sub-clock XCIN. The oscillator circuit on the user system may not work properly because the oscillator circuit pin of the emulator MCU is not close enough to the oscillator circuit of the user system. In this case, mount the oscillator circuit on the oscillator circuit pattern of the M37549T-RLSS.

Figures 3, 4 and 5 show the M37549T-RLSS circuit pattern and diagram.

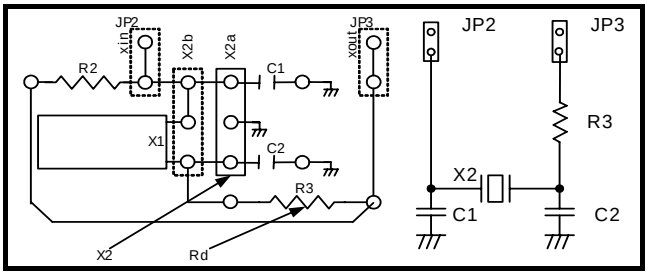

Figure 3 When a ceramic oscillator with built-in capacitor is used for Xin/Xout

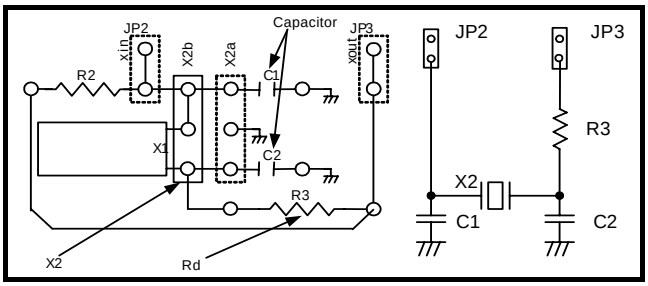

Figure 4 When a ceramic oscillator without built-in capacitor is used for Xin/Xout

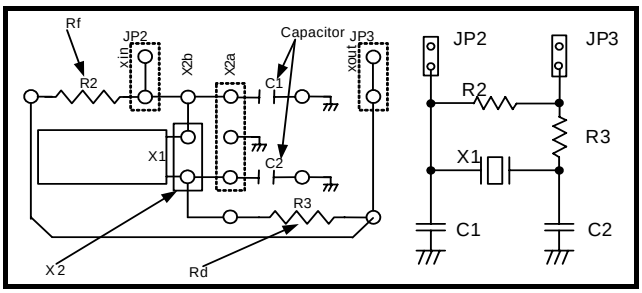

Figure 5 When Xcin/Xcout is used as a circuit

7. Precautions

IMPORTANT

Notes on This Product:

- We cannot accept any request for repair.
- When using the oscillator circuit on the M37549T-RLSS, check output waveform of pin Xout and pin Xcout with an oscilloscope.
- When mounting an oscillator circuit on the M37549T-RLSS, make sure not to short-circuit the user system.
- For inquiries about the product or the contents of this manual, contact your local distributor.
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