## Renesns Tool News

## RENESAS TOOL NEWS on June 1, 2005: RSO-M3T-NC30WA_1-050601D

## A Note on Using the C Compiler Packages M3T-NC308WA and M3T-NC30WA <br> --On Using the labs and abs Functions--

Please take note of the following problem in using for the M32C series (M3T-NC308WA); and for the M16C series (M3T-NC30WA) of MCUs:

- On using the labs and abs functions


## 1. Versions Concerned <br> M3T-NC30WA V.1.00 Release $1 \sim$ V.5.30 Release 02 <br> M3T-NC308WA V.1.00 Release $1 \sim$ V.5.40 Release 00

2. Description

Calculating an absolute value using the labs or abs function may result in an incorrect value being obtained.

### 2.1 Conditions

This problem occurs if the following conditions are all satisfied:
(1) The standard header file stdlib.h is included.
(2) The labs or abs function takes an expression as an argument.
2.2 Example
\#include <stdlib.h> /* Condition (1) */
unsigned int $b=10$;
unsigned int $a=8$;
unsigned int result;
void func(void)
result=abs(a-b); /* Condition (2) */
\}

## 3. Workaround

After including stdlib.h, disable the labs macro using preprocessing directive \#undef labs or disable the abs macro using preprocessing directive \#undef.

Example:
\#include <stdlib.h>
\#undef abs
/* Disable abs macro */
unsigned int $b=10$;
unsigned int $a=8$;
unsigned int result;
void func(void)
\{

```
        result=abs( a-b );
```

\}

## 4. Schedule of Fixing the Problem

We plan to fix this problem in the next release of the product.

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