

TOSHIBA

SP-900-001

TIMER8

--Generating Interrupts at Regular Intervals Using 8-bit Timer--

Rev 1.1
Dec. 2005

1. Target MCU

This sample program is created targeting at the TLCS-900/H series.
When using an MCU other than the TLCS-900/H series, refer to the data sheet for that MCU.

2. Overview

This sample program generates interrupts at regular intervals using an 8-bit timer.

3. Description

8-bit interval timers 0 to 7 can each operate as an independent 8-bit interval timer. A timer must be stopped before its function and count are set.

The following describes timer 0 (INTT0) as an example.

Example: Generating timer 0 interrupts at intervals of 80 μ s when $f_c = 25$ MHz

- Stop timer 0 and clear its contents to 0. Set 8-bit interval timer mode and select input clock $\phi T1$ (320 ns when $f_c = 25$ MHz).
- Write $80 \mu\text{s}/\phi T1 = 250$ (0xfa) to the timer register via a register.
- Enable INTT0 and set its interrupt level to 5 (or any appropriate level between 1 and 6).
- Start timer 0.

4. Passing Data

The counter value for activating timer 0 is the input parameter.
This sample program uses register A to set a counter value.

Input: Timer register value (A = 0xfa)

5. Interrupts

- INTT0: 80- μ s cycle (example)

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