TOSHIBA **TMP47C407A** 

## CMOS 4-BIT MICROCONTROLLER

## **TMP47C407AN** TMP47C407AF

The 47C407A is a high performance 4-bit single chip microcomputer based on the TLCS-47 CMOS series with a DTMF generator and a large-capacity RAM for repertory dialing applications, and which is suitable for utilization in telephones.

PART No.	ROM	RAM	PACKAGE	OTP version
TMP47C407AN	4096 × 8-bit	768 × 4-bit	SDIP42-P-600-1.78	TMP47P407AN
TMP47C407AF			QFP44-P-1414-0.80D	TMP47P407AF

## **FEATURES**

◆4-bit single chip microcomputer

♦Instruction execution time :  $2.1\mu s$  (at 3.84MHz)

◆Low voltage operation: 2.7V min.

♦90 basic instructions

◆Table look-up instructions

◆Subroutine nesting : 15 levels max.

◆5 interrupt sources (External: 2, Internal: 4)

All sources have independent latches each, and multiple interrupt control is available.

◆I/O port (35 pins)

Input 2ports 5pins 3pins Output 1port I/O 7ports 27pins

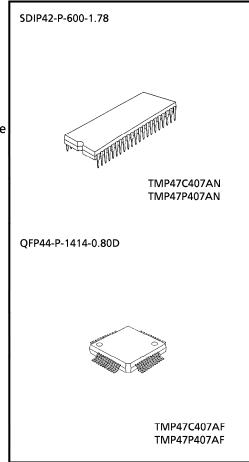
- ◆Interval Timer
- ◆Two 12-bit Timer/Counters

Timer, event counter, and pulse width measurment mode

◆Serial Interface with 4-bit buffer

External/internal clock, leading/trailing edge shift mode

- ◆DTMF (Dual Tone Multi Frequency) Output
  - DTMF output with one instruction
  - Single tone output function
- ◆RAM for repertory dial: 768 × 4 bit max.
- ◆BEEP output function
- ◆Hold function
  - Battery/Capacitor back-up
  - Hold function controlled by port K0.
- ◆Real Time Emulator: BM47215B



For a discussion of how the reliability of microcontrollers can be predicted, please refer to Section 1.3 of the chapter entitled Quality and Reliability Assurance/Handling Precautions.

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