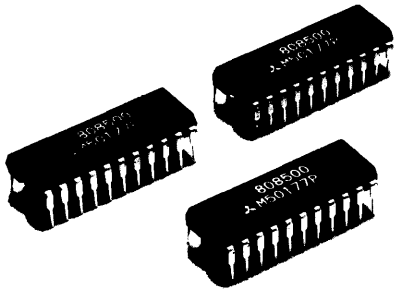
DTMF RECEIVER IC FOR TELEPHONE SET

CALL PROGRESS TONE FILTER AND DTMF RECEIVER HOUSED IN A SINGLE CHIP

M50177P



DESCRIPTION

Recently, the use of home automation system is increasing. These systems incorporate a microcomputer in the system and home or office automation equipment using the DTMF (Dual-Tone-Multi-Frequency) signal through a telephone line from outside. For this, a receiver for the DTMF signal is required.

Mitsubishi's DTMF receiver IC has a built-in filter circuit and and decoder, and when the DTMF signal is input, 4-bit binary code is output, showing which buttons on a pushbutton telephone were pressed. A built-in call progress tone contributes to reducing the number of components and to reducing cost.

FEATURES

- 22-pin DIP format
- Built-in call progress tone filter allows switching between detection frequency bands (340~640Hz/680~1280Hz). The call progress tone frequency has a pulse waveform.
- A crystal oscillator of 3.579545MHz is used.
- The input amplifier has gain adjustment.
- The guard time can be set by externally connected resistors and capacitors.

SPECIFICATIONS

- Supply Voltage:4.75~5.25V
- Power Dissipation 5.3mA (at V_{CC} = 5V) (typ.)
- Minimum DTMF Signal Input Level −30dBm (typ.)
- Operating Temperature −20~+75°C

APPLICATIONS

- Telephone answering machines
- Home automation controllers

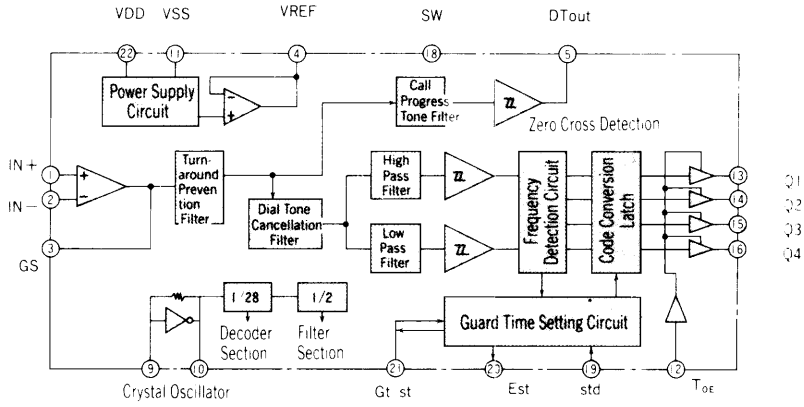


Fig. 1 Block Diagram

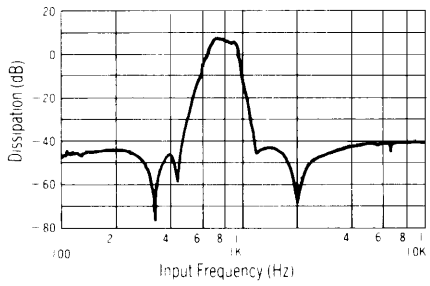


Fig. 2 Low Pass Filter Characteristics

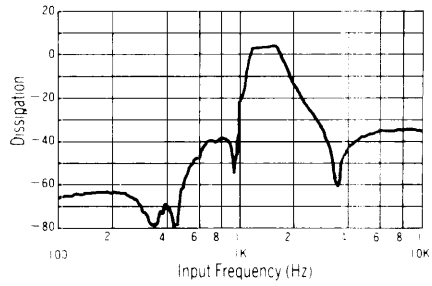


Fig. 3 High Pass Filter

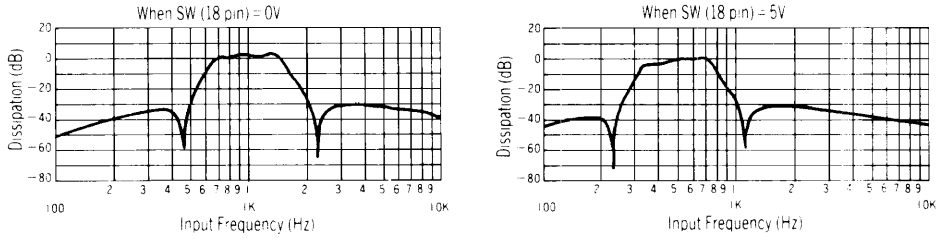


Fig. 4 Call Progress Tone Filter Characteristics

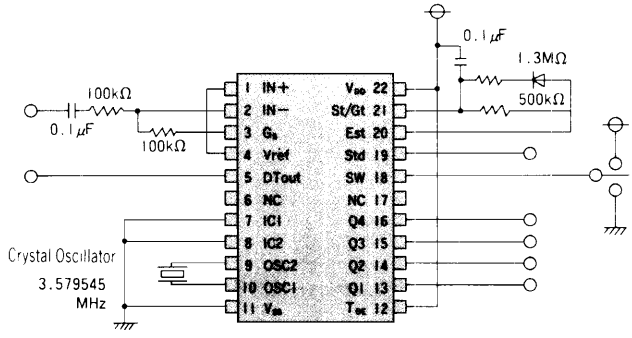


Fig. 5 Application Example