

## ML2215

### Speech Synthesiser with 3.0MBit ROM & Melody Circuit

#### GENERAL DESCRIPTION

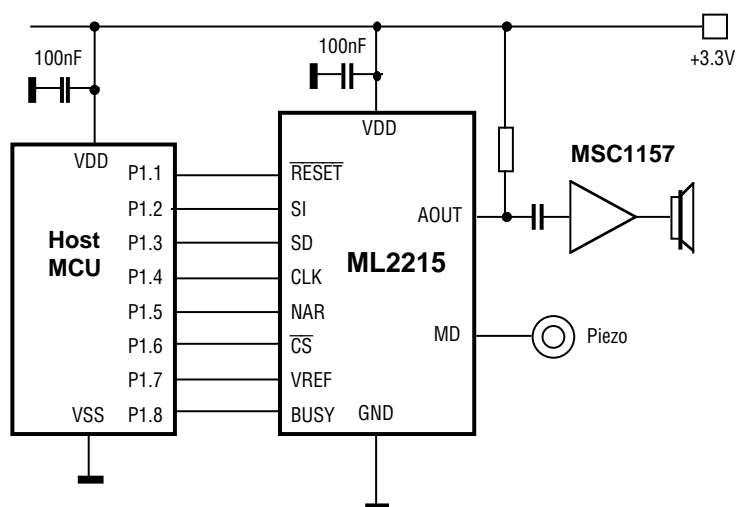
The ML2215 combines a Mask-ROM speech synthesiser with a melody circuit and comes with a simple serial interface to an microcontroller. It has an analog outputs for an amplifier (speech playback) and a built-in driver for a piezo-electric speaker (melody playback). ML2215 is primarily designed for application in portable cellular phones.

ML2215 will come in a very small, 10.0 x 5.0mm sized 20-pin SSOP package (0.95mm pitch) housing 3MBit mask ROM for speech and melody data. Selectable algorithms include 4-Bit OkiADPCM and linear and non-linear 8-Bit OkiPCM (the latter achieves quality equivalent to 10-Bit linear PCM). In ADPCM mode and 4kHz sampling provided (from 4 to 16kHz selectable), the device outputs 90 seconds speech plus melodies. For both, 247 channels can be defined. ML2215 comes in an ultra-small package, operates over a wide supply range from +2.2 ~ 5.5V and satisfies the industrial temperature range.

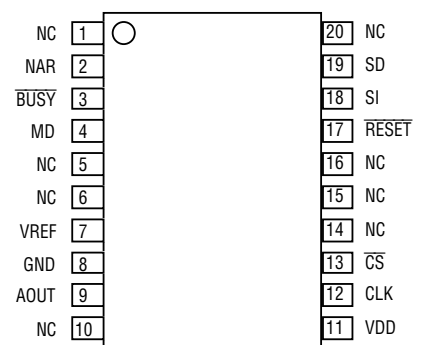
#### FEATURES

- Internal 3.0MBit ROM
- 4-Bit OkiADPCM algorithm
- 8-Bit linear OkiPCM, 8-Bit Oki non-linear PCM
- Sampling frequencies:  
4.0, 5.3, 6.4, 8.0, 10.7, 12.8, 16.0kHz
- Playback time :  
180 sec @ 4KHz, 120 sec @ 6.4kHz
- 12-bit D to A converter built-in
- Single tone output Melody circuit  
- musical scale: 31, note & rest: 63, tempo: 30  
- built-in piezo speaker driver
- Low-pass filter built-in
- Speech and melody phrases: 247
- Master clock: 4.096, 8.192, or 16.384MHz  
(by means of mask option)
- Power supply voltage: +2.2 ~ 5.5V
- Operating temperature -40 to +85°C
- 20-pin SSOP (SSOP20-P-250-0.95-K),  
10.0(W) x 5.0(L)mm
- Product name ML2215MB
- Typical application is for cellular phones

#### TYPICAL APPLICATION DIAGRAM



#### PIN ASSIGNMENT



## PACKAGE DIMENSIONS

### 20-pin SSOP

Unit in millimeters, unless otherwise specified.

