

# SVM7860C Series

## Melody IC



- 2 Sound Sources
- One Melody
- 127 Words Melody ROM

### DESCRIPTION

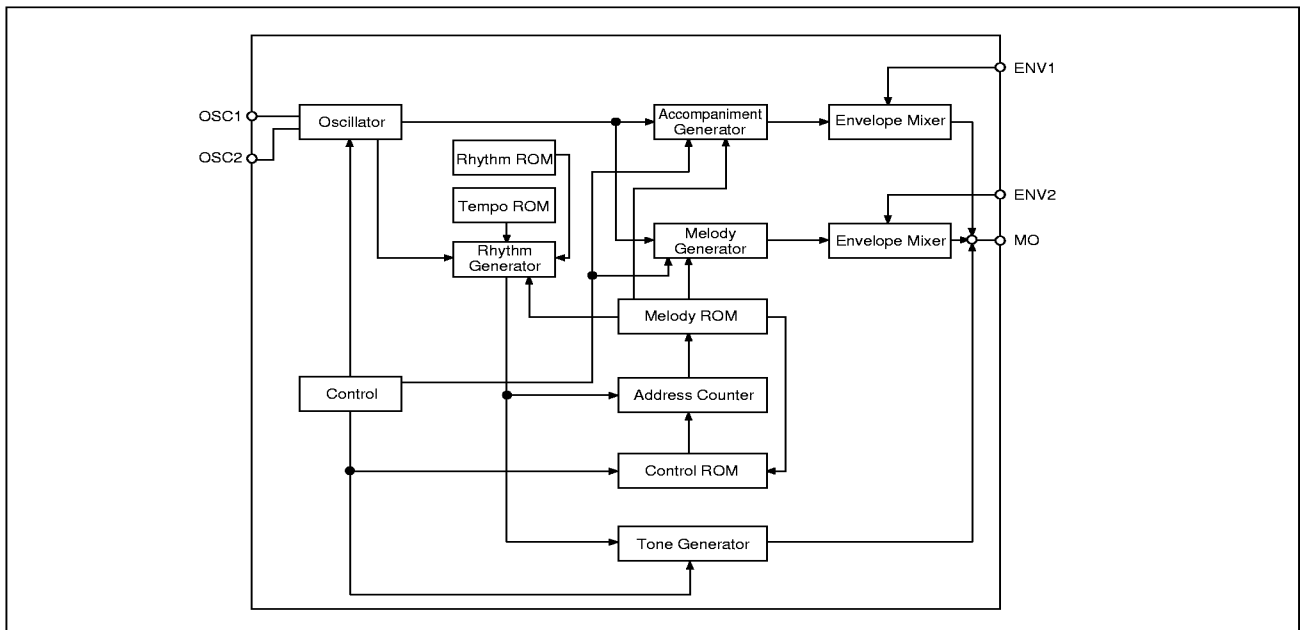
The SVM7860C Series CMOS IC produce melodies or alarm tones from a preprogrammed ROM.

The ROM has a capacity of 127 words and can store 1 melody from two sound sources with an envelope.

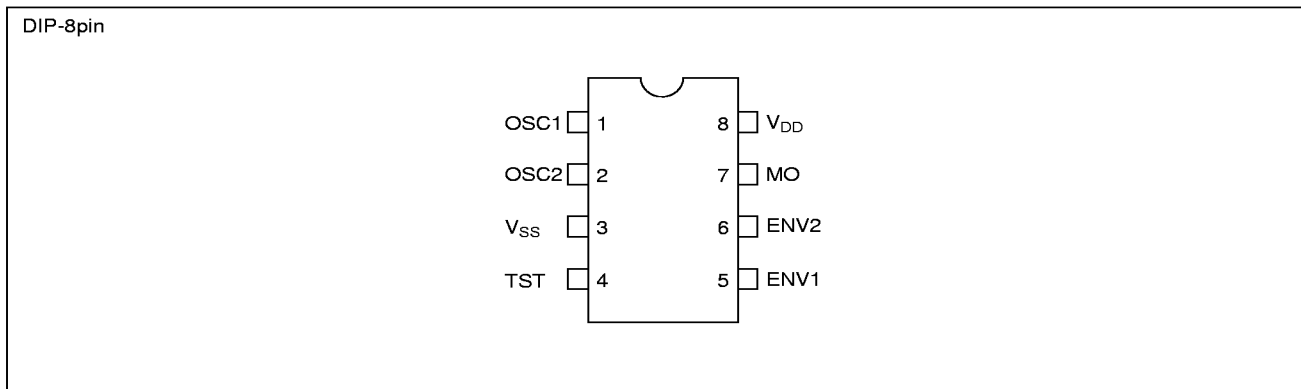
### FEATURES

- Melody ROM capacity ..... 127 words
- Melody ..... 1
- Two sound sources with an envelope (CR envelope)
- DC triggered (power on/off) performance start mode
- Level hold performance
- 1.5/5.0V operating voltage (mask selected)
- Package ..... DIP-8pin (plastic)

### BLOCK DIAGRAM



■ PIN CONFIGURATION



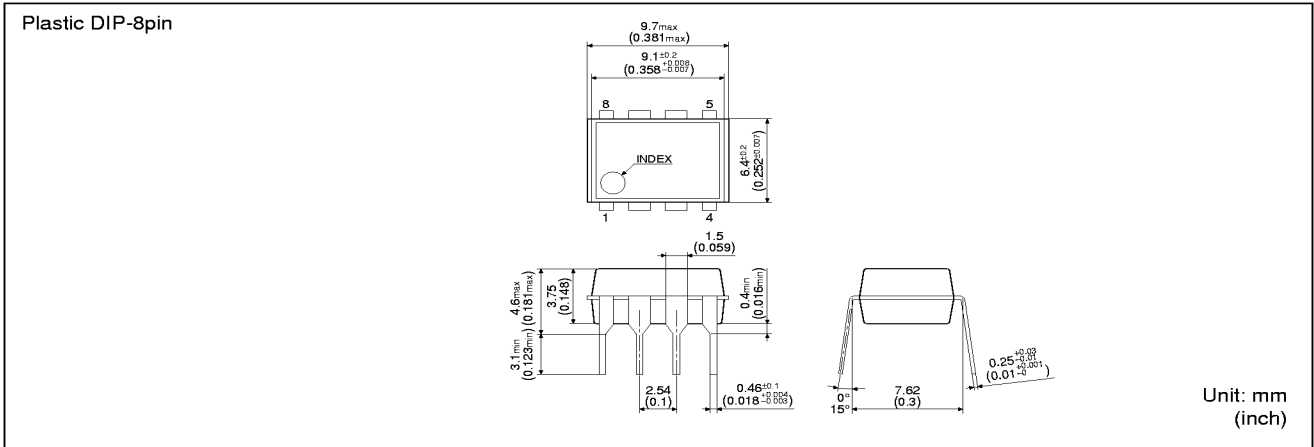
■ PIN DESCRIPTION

Pin name	Pin No.	Pull-down resistor	Function
OSC1	1	-	A resistor is connected between both terminals to form a ring oscillator, or external reference signals are applied to OSC1.
OSC2	2	-	
V <sub>SS</sub>	3	-	Power supply terminal (0V)
TST	4	Provided	LSI test input
ENV1	5	-	Connects resistor and capacitor to add envelope to main melody.
ENV2	6	-	Connects resistor and capacitor to add envelope to accompaniment.
MO	7	-	Output terminal for acoustic signals.
V <sub>DD</sub>	8	-	Power supply terminal (+)

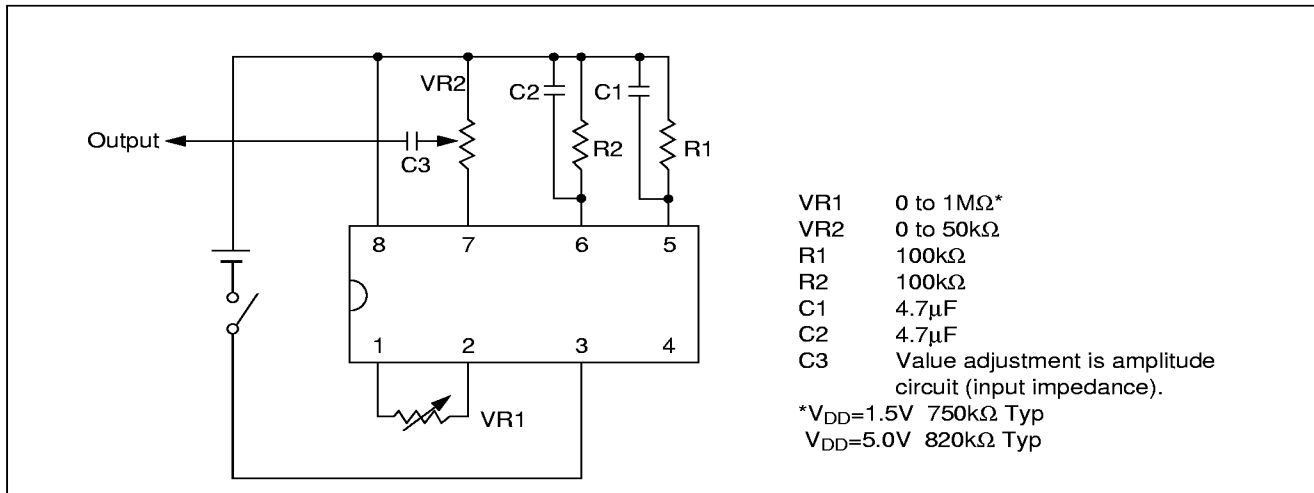
■ LINE UP

Model	Source oscillation
SVM7860C	CR oscillation
SVM7861C	External reference signal

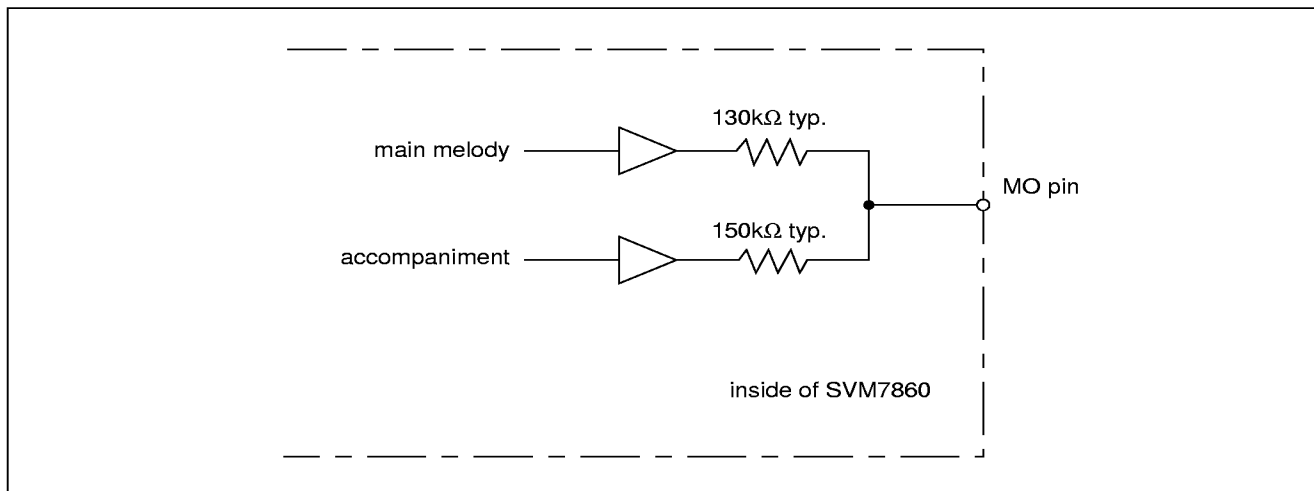
■ PACKAGE DIMENSIONS



■ BASIC EXTERNAL CONNECTION



■ MO OUTPUT PIN EQUIVALENT CIRCUIT



■ ABSOLUTE MAXIMUM RATINGS

(V<sub>SS</sub> =0V)

Rating	Symbol	Value	Unit
Supply voltage	V <sub>DD</sub>	-0.3 to 7.0	V
Input voltage	V <sub>I</sub>	-0.3 to V <sub>DD</sub> +0.3	V
Output voltage	V <sub>O</sub>	-0.3 to V <sub>DD</sub> +0.3	V
Operating temperature	T <sub>opr</sub>	-20 to 85 (V <sub>DD</sub> ≥1.5V)	°C
Storage temperature	T <sub>stg</sub>	-65 to 150	°C
Soldering temperature and time	T <sub>sol</sub>	260°C, 10s (at lead)	-

■ ELECTRICAL CHARACTERISTICS

●V<sub>DD</sub>=1.5V

(V<sub>SS</sub> =0V, Ta =25°C)

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply voltage	V <sub>DD</sub>		1.2	1.5	2.0	V
High level input voltage	V <sub>IH</sub>	TST	V <sub>DD</sub> -0.3	-	V <sub>DD</sub>	V
Low level input voltage	V <sub>IL</sub>	TST	V <sub>SS</sub>	-	V <sub>SS</sub> +0.3	V
High level input current	I <sub>IH</sub>	OSC1	-	-	0.05	μA
Low level input current	I <sub>IL</sub>	OSC1	-	-	0.05	μA
Input amplitude	A <sub>I</sub>	V <sub>DD</sub> ≥1.5V,OSC1 input	$\left  \frac{V_{DD}}{2} \right  \pm 0.4$		-	V
Operating supply current	I <sub>DD0</sub>		-	50	100	μA

●V<sub>DD</sub>=5.0V

(V<sub>SS</sub> =0V, Ta =25°C)

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply voltage	V <sub>DD</sub>		1.2	5.0	5.5	V
High level input voltage	V <sub>IH</sub>	TST	V <sub>DD</sub> -0.3	-	V <sub>DD</sub>	V
Low level input voltage	V <sub>IL</sub>	TST	V <sub>SS</sub>	-	V <sub>SS</sub> +0.3	V
High level input current	I <sub>IH</sub>	OSC1	-	-	0.1	μA
Low level input current	I <sub>IL</sub>	OSC1	-	-	0.1	μA
Input amplitude	A <sub>I</sub>	V <sub>DD</sub> ≥1.5V,OSC1 input	$\left  \frac{V_{DD}}{2} \right  \pm 0.4$		-	V
Operating supply current	I <sub>DD0</sub>		-	1	2	mA

Note Don't touch the oscillation circuit with your hand while playing musical tunes.  
The oscillation resistor (VR1) should be covered with resin or others.  
The power supply off, when anything unusual should happen.

■ OSCILLATION CHARACTERISTICS(CR OSCILLATION)

●V<sub>DD</sub>=1.5V

(V<sub>SS</sub> =0V, Ta =25°C)

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Oscillation frequency	f <sub>OSC</sub>	V <sub>DD</sub> =1.5V,VR=750kΩ	-	32.768	-	kHz
Oscillation self-excited voltage	V <sub>STA</sub>	VR=750kΩ	1.2	-	-	V
Oscillation stop voltage	V <sub>STP</sub>	VR=750kΩ	-	-	1.2	V

●V<sub>DD</sub>=5.0V

(V<sub>SS</sub> =0V, Ta =25°C)

Characteristic	Symbol	Condition	Min.	Typ.	Max.	Unit
Oscillation frequency	f <sub>OSC</sub>	V <sub>DD</sub> =5.0V,VR <sub>1</sub> =820kΩ	-	32.768	-	kHz
Oscillation self-excited voltage	V <sub>STA</sub>	VR <sub>1</sub> =820kΩ	1.2	-	-	V
Oscillation stop voltage	V <sub>STP</sub>	VR <sub>1</sub> =820kΩ	-	-	1.2	V