

◆ Features

- * Full and pure natural harmonic sound effect , maximum at 512 musical notations
- * Built in audio amplifier , do not need transistor on output for sound amplifier
- * Built in 1 LED flash circuit , flash speed follows sound output of melody tempo
- * Built in alone motor driver signal output (MD pin) , not be effect to sound quality during motor is derived
- * 5 kinds different trigger mode by MODE & SL pins :
 - Power on/off control mode
 - One shot non re-trigger mode
 - One shot re-trigger mode
 - On/off switch mode (TG key control sound on or off)
 - Single touch plays all songs mode (one touch TG pin playing all tunes)

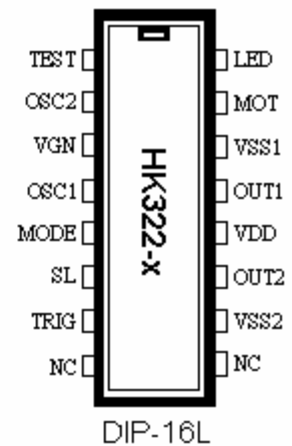
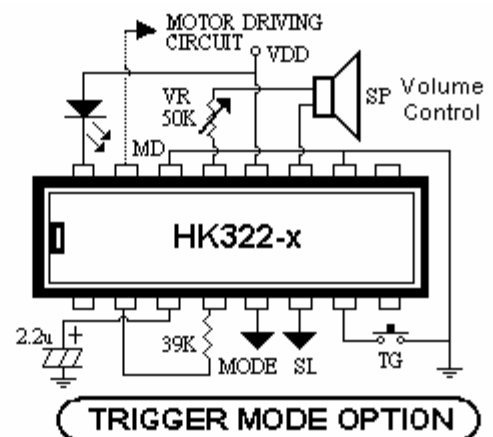
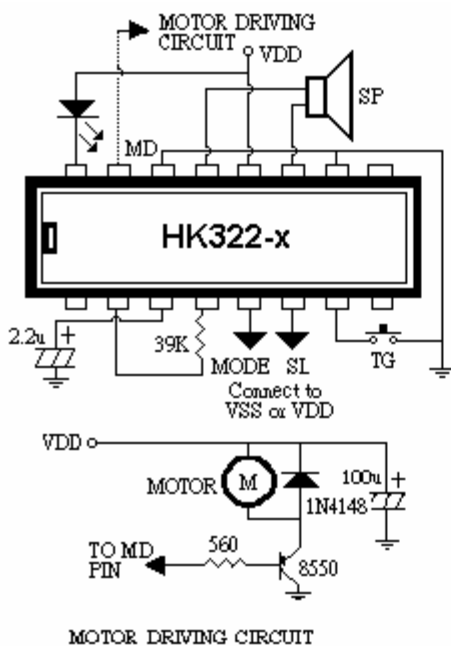
◆ Application

Toys, Clock melody, Key chain, Musical box

◆ Electrical Characteristics

| Characteristics | Sym. | Min. | Typ. | Max. | Unit | Remark |
|-----------------------|------------------|------|------|------|------|------------------------------|
| Operating voltage | V _{DD} | 1.8 | 3.0 | 5.2 | V | |
| Operating current | I _{OP} | ---- | 0.1 | 0.5 | mA | |
| Stand by current | I _{SB} | ---- | 0.4 | 1 | uA | |
| Oscillator frequency | F _{OSC} | ---- | 500 | ---- | KHz | ±30% R _{osc} = 39KΩ |
| Operating temperature | T _{EMP} | 0 | 25 | 60 | °C | |
| Driving current | I _O | ---- | 18 | ---- | mA | @ V _{DS} =1V |

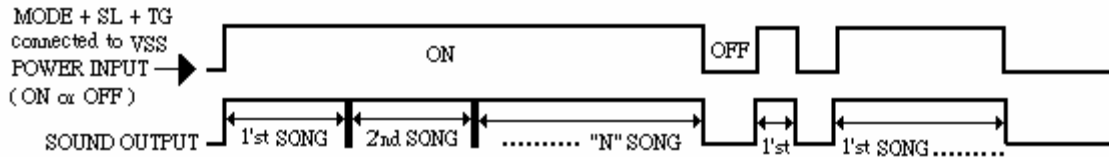
◆ Application circuit



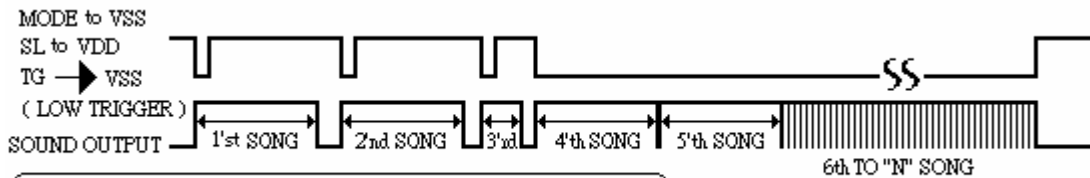
| MODE | SL | Trigger Mode |
|------|-----|--|
| VSS | VSS | POWER ON/OFF (TG = VSS) |
| VSS | VDD | ONE SHOT RE -TRIGGER (by TG pin touch) |
| VDD | VSS | ONE SHOT NON RE-TRIGGER (by TG pin touch) |
| VDD | VDD | ON / OFF SWITCH (by TG pin touch) |
| VSS | VSS | PLAY ALL SONGS (by TG pin touch) |

★ Package Type : DIP-16L

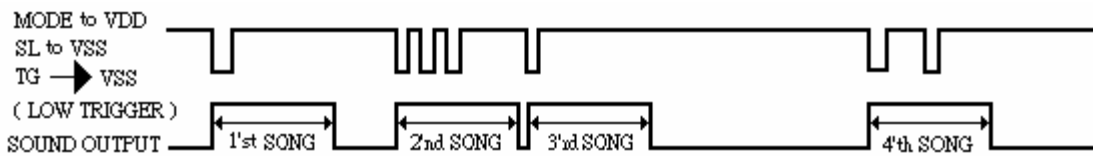
★ Trigger Mode and Timing Chart :



TRIGGER MODE: POWER ON/OFF CONTROL



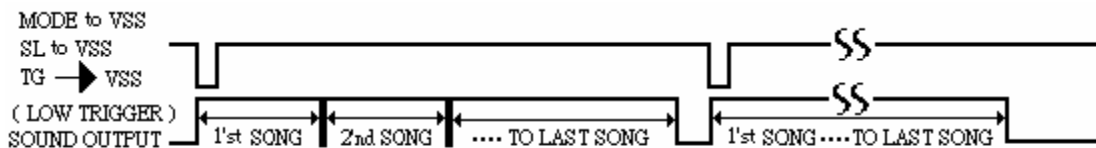
TRIGGER MODE : ONE SHOT RE-TRIGGER



TRIGGER MODE : ONE SHOT NON RE-TRIGGER



TRIGGER MODE : ON/OFF SWITCH



TRIGGER MODE : ONE TOUCH PLAY ALL SONGS

◆ Song list

HK322-1:

1. JINGLE BELLS
2. O CHRISTMAS TREE
3. SILENT NIGHT
4. DECK THE HALLS
5. THE FIRST NOEL
6. JOY TO THE WORLD
7. WE WISH YOU A MERRY CHRISTMAS
8. HARK! THE HERALD ANGELS SING

HK322-2:

1. BRAHM'S LULLABY
2. TWINKLE TWINKLE LITTLE STAR
3. ARE YOU SLEEPING
4. LONDON BRIDGE IS FALLING DOWN
5. THREE BLIND MICE
6. ROCK BYE BABY

HK322-3:

1. EASTER PA RADE
2. PETER COTTON TAIL
3. AMERICAN PATROL

HK322-6:

1. LOVE ME TENDER
2. LET ME CALL YOU SWEETHEART
3. YOU ARE MY SUNSHINE
4. SILVER THREADS AMONG THE GOLD
5. LOVE'S OLD SWEET SONG (BY JAMES LYMAN MOLLOY)
6. I LOVE YOU (BY BEETHOVEN)