



## 1668

## CMOS IC

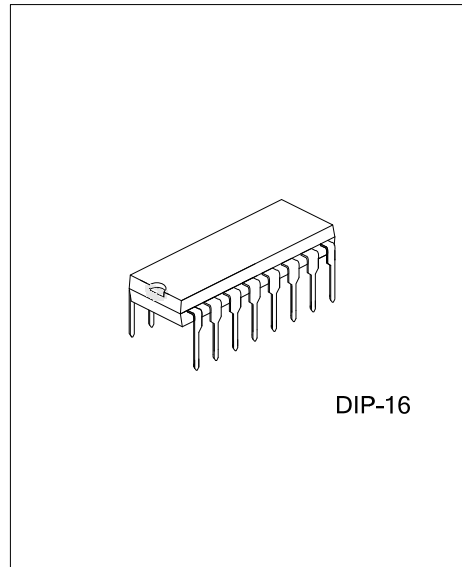
### DUAL TONE MELODY XMAS LIGHT CONTROL

#### FEATURES

- \* 5 SCR outputs
- \* 2 Mode sequence trigger key
- \* Mode 0: 7 function Vol pin control volume
- \* Mode 1: 8 function Auto Volume control
- \*OPT "Floation" Mode 0  
"VSS" Mode 1

#### APPLICATION

- \* Xmas light control etc

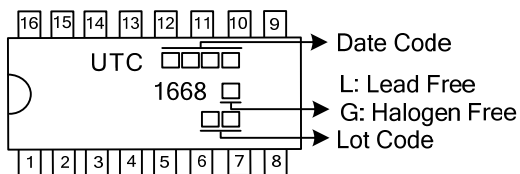


#### ORDERING INFORMATION

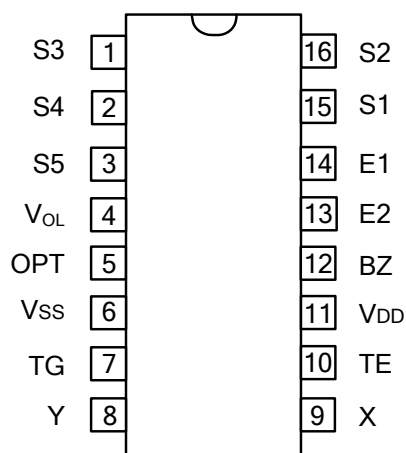
| Ordering Number |              | Package | Packing |
|-----------------|--------------|---------|---------|
| Lead Free       | Halogen Free |         |         |
| 1668L-D16-T     | 1668G-D16-T  | DIP-16  | Tube    |

|  |   |
|--|---|
| <p>1668G-D16-T</p> <ul style="list-style-type: none"> <li>(1) Packing Type</li> <li>(2) Package Type</li> <li>(3) Green Package</li> </ul> | <ul style="list-style-type: none"> <li>(1) T: Tube</li> <li>(2) D16: DIP-16</li> <li>(3) G: Halogen Free and Lead Free, L: Lead Free</li> </ul> |
|--|---|

#### MARKING



## ■ PIN CONFIGURATION



## ■ PIN DESCRIPTIONS

| Pin No | Symbol          | Pin No | Function                        |
|--------|-----------------|--------|---------------------------------|
| 1      | S3              |        | LED3 output.                    |
| 2      | S4              |        | LED4 output.                    |
| 3      | S5              |        | LED5 output.                    |
| 4      | V <sub>OL</sub> |        | Volume control active in mode0. |
| 5      | OPT             |        | Mode option.                    |
| 6      | V <sub>SS</sub> |        | Ground.                         |
| 7      | TG              |        | Music switching.                |
| 8      | Y               |        | OSC resistor out.               |
| 9      | X               |        | OSC resistor in.                |
| 10     | TE              |        | For test                        |
| 11     | V <sub>DD</sub> |        | Power                           |
| 12     | BZ              |        | Music output.                   |
| 13     | E2              |        | Tone quality processing.        |
| 14     | E1              |        | Tone quality processing.        |
| 15     | S1              |        | LED1 output.                    |
| 16     | S2              |        | LED2 output.                    |

■ ELECTRICAL CHARACTERISTICS ( $V_{DD}=4.3V$ , unless otherwise specified)

| PARAMETER             | SYMBOL    | TEST CONDITIONS              | MIN. | TYP | MAX | UNIT |
|-----------------------|-----------|------------------------------|------|-----|-----|------|
| Operating Voltage     | $V_{DD}$  |                              |      | 4.3 | 5   | V    |
| Operating Current     | $I_{OP}$  | No load                      |      |     | 2   | mA   |
| BZ Driving Current    | $I_{OH}$  | $V_{DS}=1V$                  |      | 0.2 |     | mA   |
| Oscillator Frequency  | $F_{OSC}$ | External 30%, $R_{OSC}=270K$ |      | 100 |     | KHz  |
| Operating Temperature | $T_{OPR}$ |                              | 0    | 25  | 60  | °C   |

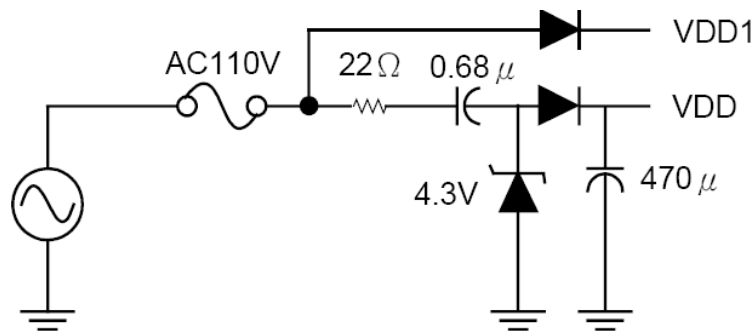
■ MODE FORMAT

| MODE | MODE 0          | MODE 1                           |        |
|------|-----------------|----------------------------------|--------|
|      | LIGHT           | LIGHT                            | VOLUME |
| M1   | Inphase         | Inphase                          | Max.   |
| M2   | Mode Sequential | 2 Mode Sequential                | Middle |
| M3   | Lamp Flash      | 1 Lamp Flash                     | Min.   |
| M4   | Lamp Chasing    | Rotary                           | Max.   |
| M5   | M1 M4 Rotary    | Inphase + 2 Lamp Chasing         | Middle |
| M6   | M1 M4 Rotary    | 2 Mode Sequential + 1 Lamp Flash | Min.   |
| M7   | Steady on       | Rotary                           | Mute   |
| M8   |                 | Steady on                        |        |

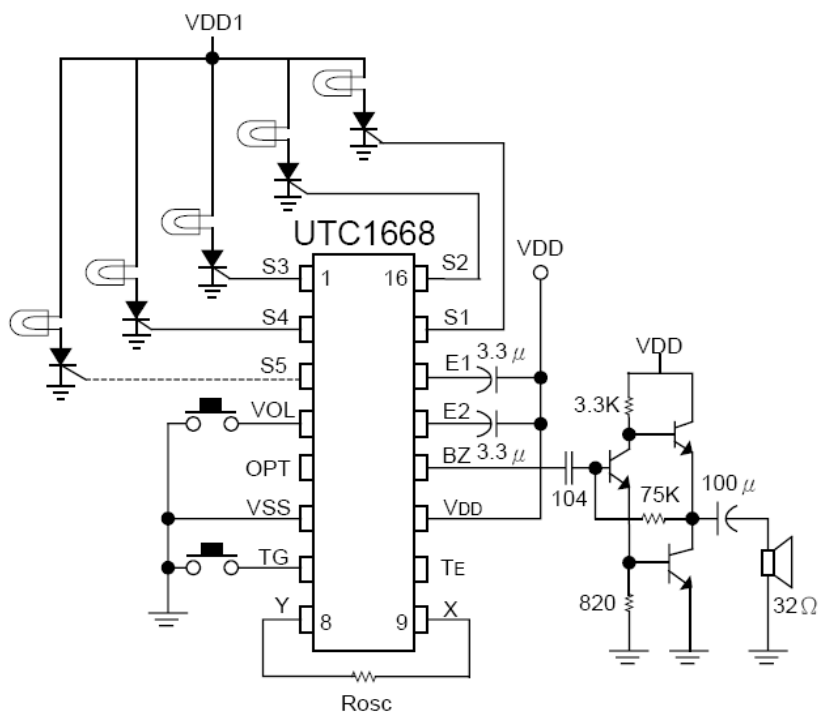
■ SONG LIST

| No. | SONG NAME                       | No. | SONG NAME                         |
|-----|---------------------------------|-----|-----------------------------------|
| 1   | Angels we have heard on high    | 14  | Santa Claus coming to down        |
| 2   | Silent night                    | 15  | O Christmas tree                  |
| 3   | Away in a manger                | 16  | Rudolph,the red-nosed reindeer    |
| 4   | We three king of orient are     | 17  | What child is this                |
| 5   | Jingle balls                    | 18  | I saw three ships                 |
| 6   | We wish you a merry Christmas   | 19  | O litter town of Bethlehem        |
| 7   | The twelve days of Christmas    | 20  | God rest you merry,gentlemen hark |
| 8   | Up on the housetop              | 21  | Deck the halls                    |
| 9   | Jolly old saint nickel          | 22  | The heardl angels sing            |
| 10  | Good king wencelas              | 23  | The snow lay on the ground        |
| 11  | O come ,all ye faithful         | 24  | Bring a torch                     |
| 12  | Joy to the world                | 25  | The first noel                    |
| 13  | It came upon the midnight clear |     |                                   |

■ APPLICATION CIRCUIT



■ APPLICATION DIAGRAM



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