

## DESCRIPTION

PT6302 is a dot matrix VFD Driver/Controller IC utilizing CMOS Technology specially designed to display characters, numerals, and symbols. PT6302 provides 35 dot matrix plus 2 additional segment drivers and 16 grid drivers. 248 types of character data (CGROM), 8 types of character data (CGRAM), 16 display digits x 2 bits symbol data, 16 display digits x 8 bits register for character data display and 2 general output bits for static operation are provided. Pin assignments and application circuit are optimized for easy PCB layout and cost saving advantages.

## FEATURES

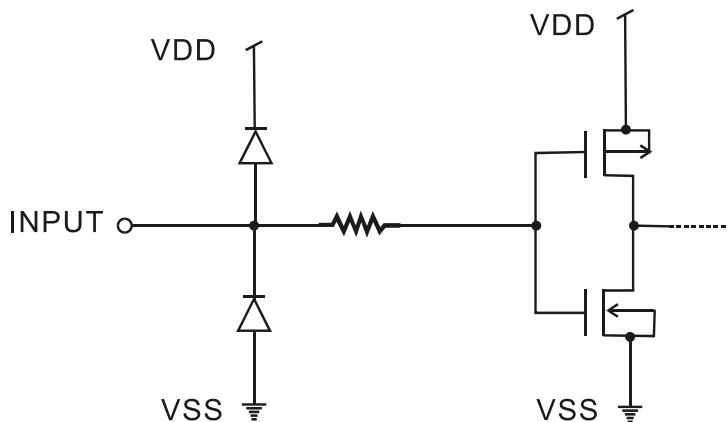
- CMOS Technology
- Logic Power Supply:  $VDD = 3.3\text{ V} \pm 10\%$  or  $5.0\text{ V} \pm 10\%$
- VFD Drive Power Supply:  $VEE = -20\text{V to } -30\text{V}$
- Built-in Oscillation Circuit (External RC)
- One-Byte Instruction Execution (not including Data Write to RAM)
- Microcontroller Interface
- Display Contents:
  - Character Generator ROM (CGROM): 5x7 Dots (248 Character Data Types)
  - Character Generator RAM (CGRAM): 5x7 Dots (8 Character Data Types)
  - Additional Data RAM (ADRAM): 16 Display Digits x 2 Bits (Symbol Data)
  - Data Control RAM (DCRAM): 16 Display Digits x 8 Bits (Character Data Display Register)
  - General Output Port: 2 Bits (Static Operation)
- Display Control Function:
  - Display Digits : 9 to 16 Digits
  - Display Duty (Contrast Adjustment) : 8 stages
  - All Display Lights : ON/OFF Mode

## APPLICATIONS

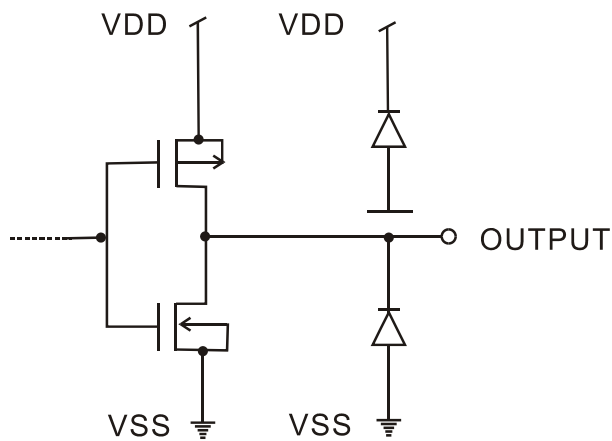
- Microcontroller Peripheral Device
- Audio/Video Equipment

## INPUT & OUTPUT CONFIGURATION

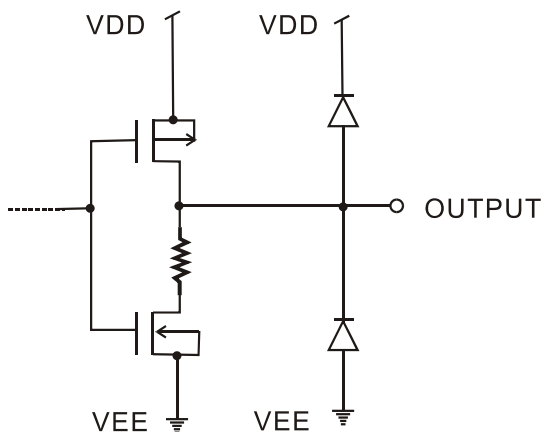
- Logic Input Pins



- Logic Output Pins

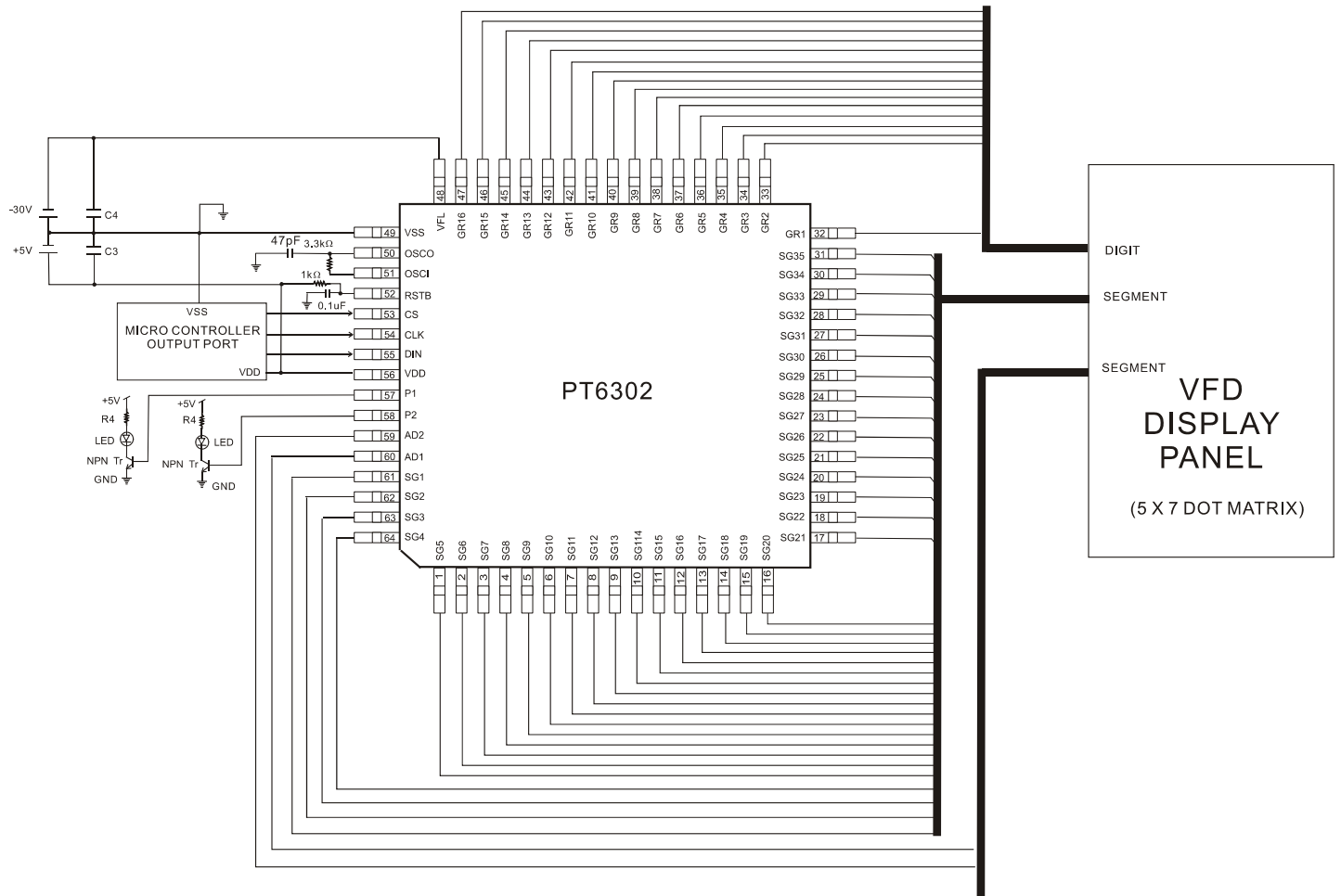


- Driver Output Pins



**VFD Driver/Controller IC with Character RAM** **PT6302**

**APPLICATION CIRCUIT**



## ORDERING INFORMATION

| Order Part Number | Package Type | Top Code     |
|-------------------|--------------|--------------|
| PT6302LQ-001      | 64-pin LQFP  | PT6302LQ-001 |
| PT6302-R-001      | 64-pin SSOP  | PT6302-R-001 |
| PT6302LQ-002      | 64-pin LQFP  | PT6302LQ-002 |
| PT6302-R-002      | 64-pin SSOP  | PT6302-R-002 |
| PT6302-R-003      | 64-pin, SSOP | PT6302-R-003 |
| PT6302LQ-003      | 64-pin, LQFP | PT6302LQ-003 |
| PT6302-003-H      | CIG          | -            |
| PT6302-R-004      | 64-pin, SSOP | PT6302-R-004 |
| PT6302LQ-004      | 64-pin, LQFP | PT6302LQ-004 |
| PT6302-R-005      | 64-pin, SSOP | PT6302-R-005 |
| PT6302LQ-005      | 64-pin, LQFP | PT6302LQ-005 |
| PT6302-R-006      | 64-pin, SSOP | PT6302-R-006 |
| PT6302LQ-006      | 64-pin, LQFP | PT6302LQ-006 |
| PT6302-007-H      | CIG          | -            |
| PT6302LQ-001 (L)  | 64-pin LQFP  | PT6302LQ-001 |
| PT6302-R-001(L)   | 64-pin SSOP  | PT6302-R-001 |
| PT6302LQ-002 (L)  | 64-pin LQFP  | PT6302LQ-002 |
| PT6302-R-002 (L)  | 64-pin SSOP  | PT6302-R-002 |
| PT6302-R-003 (L)  | 64-pin, SSOP | PT6302-R-003 |
| PT6302LQ-003 (L)  | 64-pin, LQFP | PT6302LQ-003 |
| PT6302-R-004 (L)  | 64-pin, SSOP | PT6302-R-004 |
| PT6302LQ-004 (L)  | 64-pin, LQFP | PT6302LQ-004 |
| PT6302-R-005 (L)  | 64-pin, SSOP | PT6302-R-005 |
| PT6302LQ-005 (L)  | 64-pin, LQFP | PT6302LQ-005 |
| PT6302-R-006 (L)  | 64-pin, SSOP | PT6302-R-006 |
| PT6302LQ-006 (L)  | 64-pin, LQFP | PT6302LQ-006 |

**Notes:**

- (L) = Lead Free
- The Lead Free mark is put in front of the date code.