

TB62003P/F/FW, TB62004P/F/FW
TB62006P/F/FW, TB62007P/F/FW
TB62008P/F/FW, TB62009P/F/FW

8CH DMOS TRANSISTOR ARRAY WITH GATE

TB62003P, TB62003F, TB62003FW
INVERTER & DMOS DRIVER

TB62004P, TB62004F, TB62004FW
THROUGH & DMOS DRIVER

TB62006P, TB62006F, TB62006FW
NAND & DMOS DRIVER

TB62007P, TB62007F, TB62007FW
AND & DMOS DRIVER

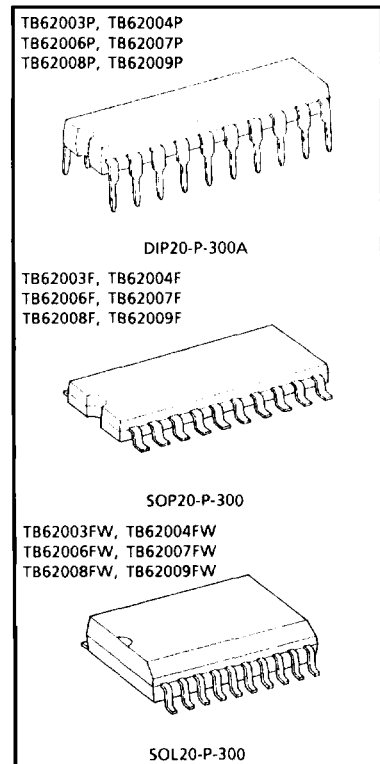
TB62008P, TB62008F, TB62008FW
NOR & DMOS DRIVER

TB62009P, TB62009F, TB62009FW
OR & DMOS DRIVER

The TB62003 Series are high-voltage, high-current arrays
comprised of eight N-ch DMOS pairs.

FEATURES

- Package : Type-P DIP-20pin
 Type-F SOP-20pin (200mil)
 Type-FW SOL-20pin (300mil)
- Output rating : 35V (Min.) / 200mA (Max.)
- Low power

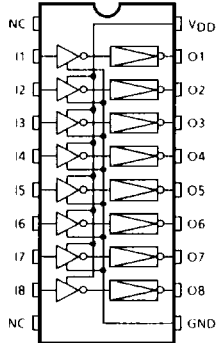


Weight DIP20-P-300A : 2.25g (Typ.)
SOP20-P-300 : 0.25g (Typ.)
SOL20-P-300 : 0.48g (Typ.)

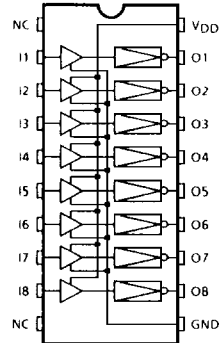
**TB62003P/F/FW, TB62004P/F/FW
 TB62006P/F/FW, TB62007P/F/FW
 TB62008P/F/FW, TB62009P/F/FW**

PIN CONNECTION (TOP VIEW)

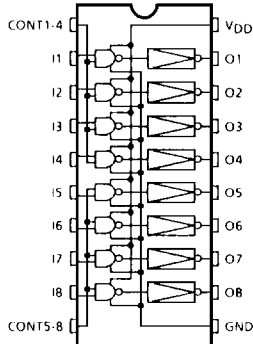
TB62003P / F / FW



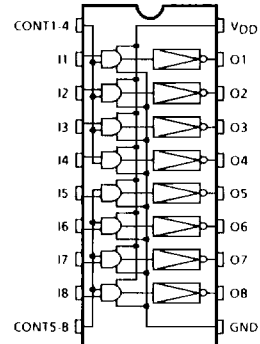
TB62004P / F / FW



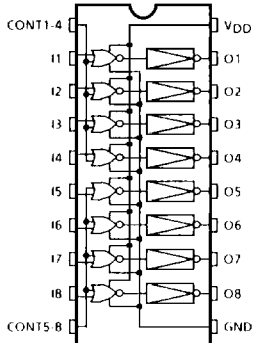
TB62006P / F / FW



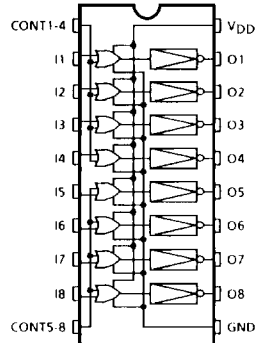
TB62007P / F / FW



TB62008P / F / FW



TB62009P / F / FW



**TB62003P/F/FW, TB62004P/F/FW
 TB62006P/F/FW, TB62007P/F/FW
 TB62008P/F/FW, TB62009P/F/FW**

**TRUTH TABLE
 TB62006P/F/FW**

| INPUT | | | | OUTPUT | |
|-------|------|---------|---------|---------|---------|
| I1~4 | I5~8 | CONT1~4 | CONT5~8 | O3~4 | O5~8 |
| H | X | H | X | OFF | NOT FIX |
| H | X | L | X | ON | NOT FIX |
| L | X | H | X | ON | NOT FIX |
| L | X | L | X | ON | NOT FIX |
| X | H | X | H | NOT FIX | OFF |
| X | H | X | L | NOT FIX | ON |
| X | L | X | H | NOT FIX | ON |
| X | L | X | L | NOT FIX | ON |

X : Don't Care

TB62007P/F/FW

| INPUT | | | | OUTPUT | |
|-------|------|---------|---------|---------|---------|
| I1~4 | I5~8 | CONT1~4 | CONT5~8 | O3~4 | O5~8 |
| H | X | H | X | ON | NOT FIX |
| H | X | L | X | OFF | NOT FIX |
| L | X | H | X | OFF | NOT FIX |
| L | X | L | X | OFF | NOT FIX |
| X | H | X | H | NOT FIX | ON |
| X | H | X | L | NOT FIX | OFF |
| X | L | X | H | NOT FIX | OFF |
| X | L | X | L | NOT FIX | OFF |

X : Don't Care

**TB62003P/F/FW, TB62004P/F/FW
TB62006P/F/FW, TB62007P/F/FW
TB62008P/F/FW, TB62009P/F/FW**

TB62008P/F/FW

| INPUT | | | | OUTPUT | |
|-------|------|---------|---------|---------|---------|
| I1~4 | I5~8 | CONT1~4 | CONT5~8 | O3~4 | O5~8 |
| H | X | H | X | OFF | NOT FIX |
| H | X | L | X | OFF | NOT FIX |
| L | X | H | X | OFF | NOT FIX |
| L | X | L | X | ON | NOT FIX |
| X | H | X | H | NOT FIX | OFF |
| X | H | X | L | NOT FIX | OFF |
| X | L | X | H | NOT FIX | OFF |
| X | L | X | L | NOT FIX | ON |

X : Don't Care

TB62009P/F/FW

| INPUT | | | | OUTPUT | |
|-------|------|---------|---------|---------|---------|
| I1~4 | I5~8 | CONT1~4 | CONT5~8 | O3~4 | O5~8 |
| H | X | H | X | ON | NOT FIX |
| H | X | L | X | ON | NOT FIX |
| L | X | H | X | ON | NOT FIX |
| L | X | L | X | OFF | NOT FIX |
| X | H | X | H | NOT FIX | ON |
| X | H | X | L | NOT FIX | ON |
| X | L | X | H | NOT FIX | ON |
| X | L | X | L | NOT FIX | OFF |

X : Don't Care

TB62003P/F/FW, TB62004P/F/FW
 TB62006P/F/FW, TB62007P/F/FW
 TB62008P/F/FW, TB62009P/F/FW

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------|------------------|------------------------------|---------|
| Supply Voltage | V _{DD} | 7 | V |
| DC Output Voltage | V _{DS} | -0.5~35 | V |
| DC Output Current | I _{DS} | 200 | mA / ch |
| DC Input Voltage | V _{IN} | -0.4 + V _{DD} + 0.4 | V |
| DC Input Current | I _{IN} | ±5 | mA |
| Input Diode Current | I _{ID} | ±5 | mA |
| Output Diode Current | I _{OK} | 5 | mA |
| Power Dissipation | P | 1.47 | W |
| | F | 0.96 (Note 1) | |
| | FW | 1.00 (Note 2) | |
| Operating Temperature | T _{opr} | -40~85 | °C |
| Storage Temperature | T _{stg} | -55~150 | °C |

(Note 1) On Glass Epoxy PCB (50 × 50 × 1.6mm Cu 40%)

(Note 2) Delated above 25°C in the proportion of 7.7mW/°C (F Type), 8.0mW/°C (FW Type).

RECOMMENDED OPERATING CONDITION (Ta = -40~85°C)

| CHARACTERISTIC | SYMBOL | CONDITION | MIN. | TYP. | MAX. | UNIT | |
|----------------------|-----------------|-----------|----------------------------------|------|-----------------|------|---------|
| Supply Voltage Range | V _{DD} | — | 4.5 | — | 5.5 | V | |
| DC Output Voltage | V _{DS} | — | — | — | 30 | V | |
| DC Output Current | I _{DS} | Duty 80% | 8ch On V _{DD} = 5.0V | — | — | 170 | mA / ch |
| | | | | | | 90 | |
| | | | | | | 140 | |
| | | Duty 100% | | | | 150 | |
| | | | | | | 80 | |
| | | | | | | 120 | |
| DC Input Voltage | V _{IN} | — | GND | — | V _{DD} | V | |

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ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$, $V_{DD} = 5.0\text{V}$)

| CHARACTERISTIC | SYMBOL | TEST CIR-CUIT | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|------------------------------|-------------|---------------|-----------------------------------------------|------|------|----------------|---------------|
| Output Leakage Current | I_{OZ} | — | $V_{DS} = 35\text{V}$ | — | — | 50 | μA |
| Low-Level Output Voltage | V_{DS} | — | $I_{DS} = 150\text{mA}$ | — | 0.70 | 0.8 | V |
| | | — | $I_{DS} = 200\text{mA}$ | — | 0.94 | 1.2 | |
| Output Resistance | R_{ON} | — | $I_{DS} = 200\text{mA}$ | — | 4.7 | 6.0 | Ω |
| DC Input Current | I_{IN} | — | $V_{IN} = \text{GND}, V_{IN} = V_{DD}$ | — | — | ± 1.0 | μA |
| High-Level Input Voltage | $V_{IN(H)}$ | — | — | 3.5 | — | $V_{DD} + 0.4$ | V |
| | $V_{IN(L)}$ | — | — | -0.4 | — | 1.5 | |
| Operating Supply Current | I_{DDopr} | — | 8ch On, Output open $f_{IN} = 1\text{MHz}$ | — | 2 | — | μA |
| Output Diode Forward Voltage | V_{FK} | — | $I_{OK} = 5\text{mA}$ | — | 0.6 | — | V |
| Turn-On Delay | t_{ON} | — | $I_{OUT} = 170\text{mA}$ | — | 300 | — | ns |
| Turn-Off Delay | t_{OFF} | — | — | — | 300 | — | |
| Supply Current | I_{DD} | — | — | — | — | 10 | μA |
| Input Capacitance | C_{IN} | — | — | — | 15 | — | pF |

