

**FC8779**

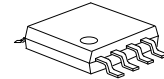
Preliminary

**CMOS IC****SILICON MONOLITHIC  
INTEGRATED CIRCUIT****DESCRIPTION**

Single-Phase Full-Wave Motor Driver for Fan Motor.

**FEATURES**

- \* Soft switched drive
- \* Built-in Lock Protection and Auto Restart Function
- \* FG Output
- \* Include Hall Bias Circuit
- \* Thermal shut-down circuit



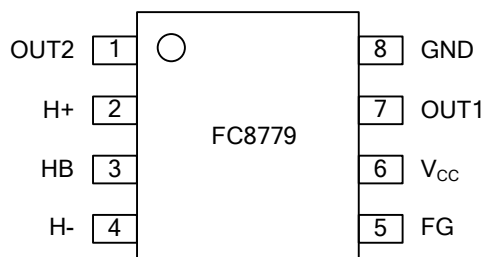
MSOP-8

**ORDERING INFORMATION**

| Ordering Number |               | Package | Packing   |
|-----------------|---------------|---------|-----------|
| Lead Free       | Halogen Free  |         |           |
| FC8779L-SM1-R   | FC8779G-SM1-R | MSOP-8  | Tape Reel |

|                                                                                                                                      |                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <p>FC8779L-SM1-R</p> <ul style="list-style-type: none"><li>(1) Packing Type</li><li>(2) Package Type</li><li>(3) Lead Free</li></ul> | <ul style="list-style-type: none"><li>(1) R: Tape Reel</li><li>(2) SM1: MSOP-8</li><li>(3) L: Lead Free, G: Halogen Free</li></ul> |
|--------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|

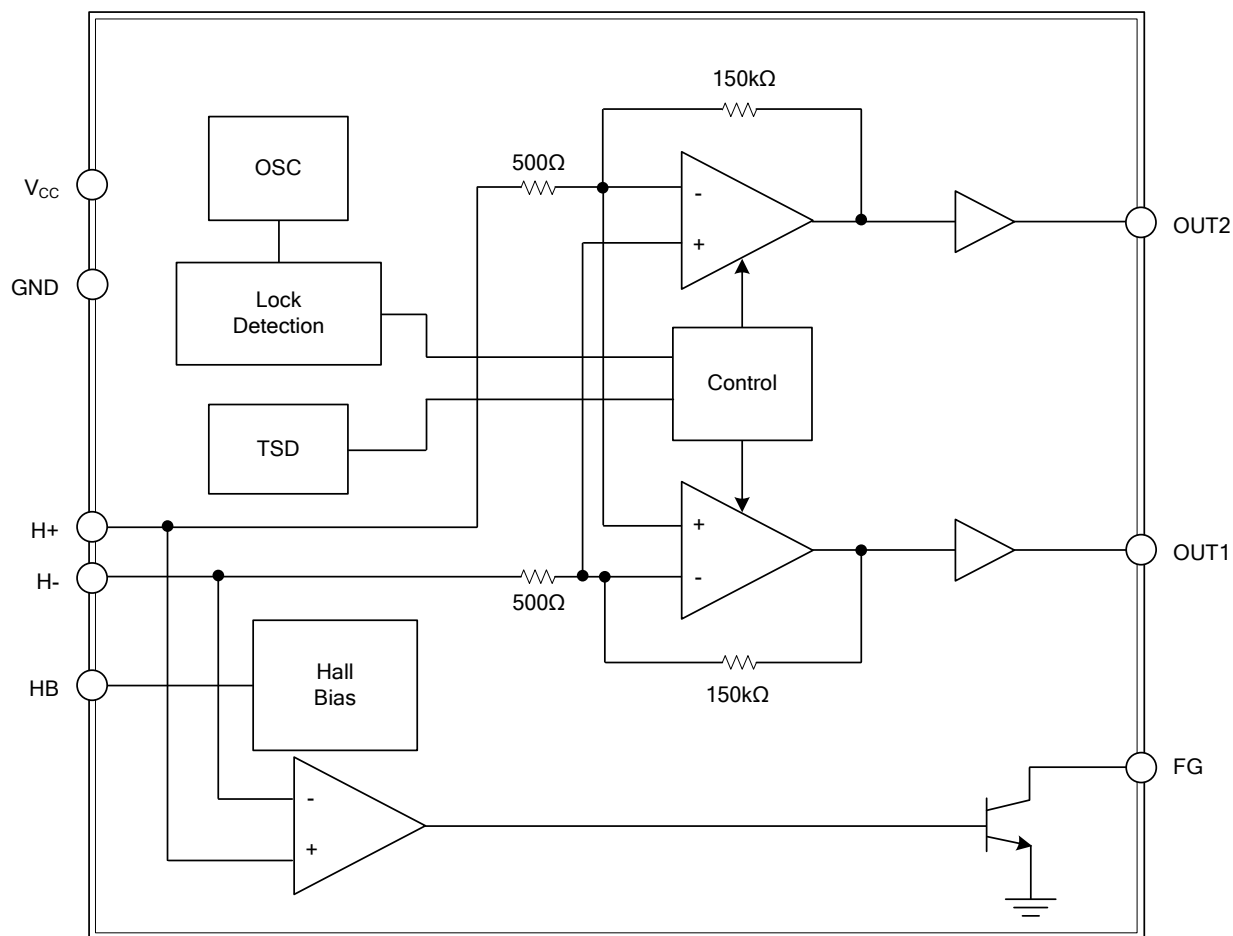
## PIN CONFIGURATION



## PIN DESCRIPTION

| PIN NO | PIN NAME        | DESCRIPTION                 |
|--------|-----------------|-----------------------------|
| 1      | OUT2            | H-bridge output connection. |
| 2      | H+              | Hall Input+                 |
| 3      | HB              | Hall Bias                   |
| 4      | H-              | Hall Input-                 |
| 5      | FG              | FG signal output terminal   |
| 6      | V <sub>CC</sub> | Supply Voltage              |
| 7      | OUT1            | H-bridge output connection. |
| 8      | GND             | Power GND.                  |

## BLOCK DIAGRAM



## ■ ABSOLUTE MAXIMUM RATING

| PARAMETER                  | SYMBOL     | RATINGS  | UNIT |
|----------------------------|------------|----------|------|
| Supply Voltage             | $V_{CC}$   | 7        | V    |
| Power Dissipation (Note 2) | $P_D$      | 585      | mW   |
| Output Current (Note 3)    | $I_{OMAX}$ | 1000     | mA   |
| FG Signal Output           | IFG        | 5        | mA   |
| FG Signal Output Voltage   | VFG        | 7        | V    |
| Operating Temperature      | $T_{OPR}$  | -40~+105 | °C   |
| Storage Temperature        | $T_{STG}$  | -55~+150 | °C   |
| Junction Temperature       | $T_{JMAX}$ | 150      | °C   |

Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.  
 2. To use at temperature above  $T_A=25^{\circ}\text{C}$  reduce  $4.68\text{mW}/^{\circ}\text{C}$  (On  $70.00\text{mm}\times 1.6\text{mm}$  glass epoxy board).  
 3. This value is not to be over  $P_D$ ,  $V_{CC}=4.0\text{V}\sim 6.0\text{V}$  At  $V_{CC}=2.2\text{V}\sim 4.0\text{V}$ , output current tolerance reduces.

## ■ OPERATING CONDITIONS

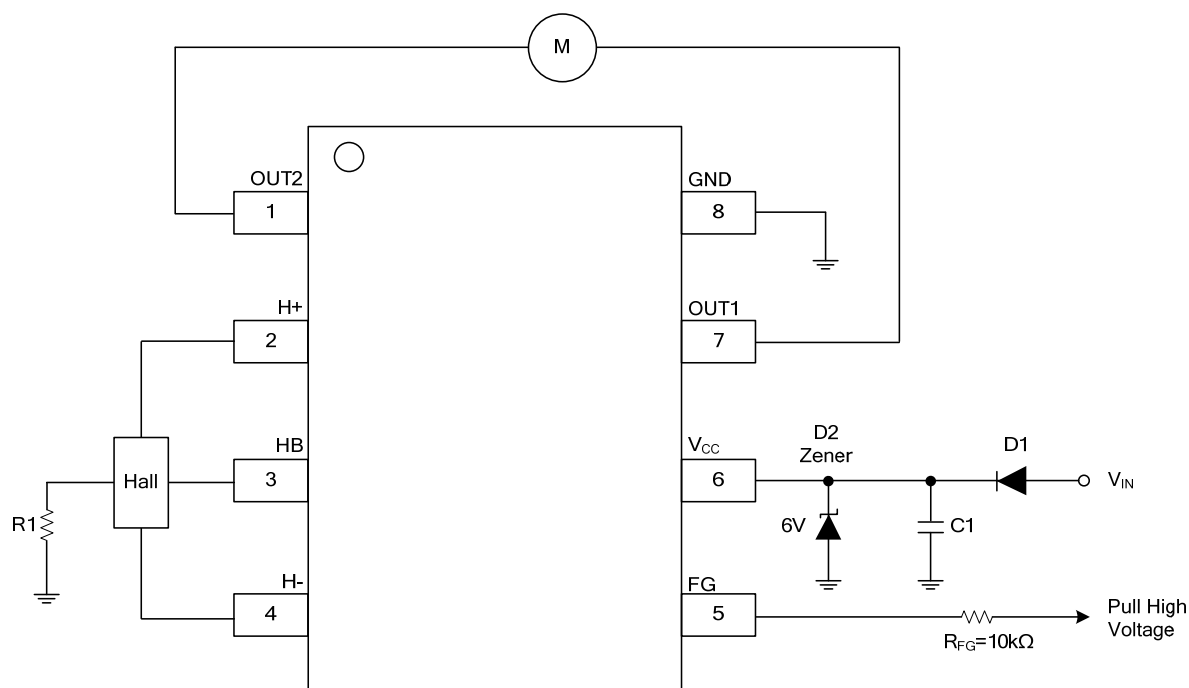
| PARAMETER                      | SYMBOL   | RATINGS              | UNIT |
|--------------------------------|----------|----------------------|------|
| Operating Supply Voltage Range | $V_{CC}$ | 2.2~6.0              | V    |
| Hall Input Voltage Range       | VH       | $0.4\sim V_{CC}-1.1$ | V    |

Notes: 1. This product is not designed for production against radioactive rays.  
 2. This document may be strategic data subject to COCOM regulations.

## ■ ELECTRICAL CHARACTERISTICS (Unless otherwise specified $T_A=25^{\circ}\text{C}$ , $V_{CC}=5\text{V}$ )

| PARAMETER                | SYMBOL   | TEST CONDITIONS                          | MIN     | TYP      | MAX      | UNIT |
|--------------------------|----------|------------------------------------------|---------|----------|----------|------|
| Supply Current           | $I_{CC}$ |                                          |         | 5        | 8        | mA   |
| Input Offset Voltage     | VHOFS    |                                          |         |          | $\pm 6$  | mV   |
| Output Voltage           | $V_O$    | $I_O=250\text{mA}$ upper and lower total |         | 0.32     | 0.49     | V    |
| Input-Output Gain        | GIO      |                                          | 45      | 48       | 51       | dB   |
| FG Low Voltage           | VFGL     | IFG=3mA                                  |         |          | 0.3      | V    |
| Input Hysteresis Voltage | VHYS     |                                          | $\pm 5$ | $\pm 10$ | $\pm 15$ | mV   |
| Lock detection ON Time   | TON      |                                          | 0.35    | 0.50     | 0.65     | sec  |
| Lock Detection OFF Time  | TOFF     |                                          | 3.5     | 5.0      | 6.5      | sec  |
| Hall Bias Voltage        | VHB      | IHB=-5mA                                 | 1.1     | 1.3      | 1.5      | V    |

# ■ TYPICAL APPLICATION CIRCUIT



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