

## Product Overview

### LV88551: Motor Driver, Single-Phase, PWM, Full-Wave, BLDC

For complete documentation, see the data sheet.

The LV88551JA/R is the pre-driver for a single-phase BLDC motor, which has the closed loop controller for motor rotation speed. This is available to control a motor with low vibration and the low noise. In addition, lead-angle adjustment is possible by external pins. Lead-angle value and lead-angle slant can be adjusted independently. Thus, the device can be driven by high efficiency and low noise with various motors. Motor speed setting curve is adjustable for many variety using external resistor only. As a method of the rotary speed control of the motor, direct-PWM pulse input.

#### Features

- Single-phase full wave drive pre-driver include closed loop speed control
- Speed control function by PWM duty input (25 Hz to 100 kHz)
- Soft start-up function and PWM soft switching phase transition
- Soft PWM duty cycle transitions
- Built-in current limit circuit and thermal protection circuit
- Built-in locked rotor protection and auto recovery circuit
- FG signal output
- Dynamic lead angle adjustment with respect to rotational speed
- Lead-angle control parameters can be configured.

#### Benefits

- high accuracy for motor speed control
- wide operation range
- low noise and silent drive
- low noise and silent drive
- safety
- safety
- easy to motor control
- high efficiency
- high efficiency

#### Applications

- Motor Drive Unit

#### End Products

- Refrigerator
- Games
- Computing Equipment

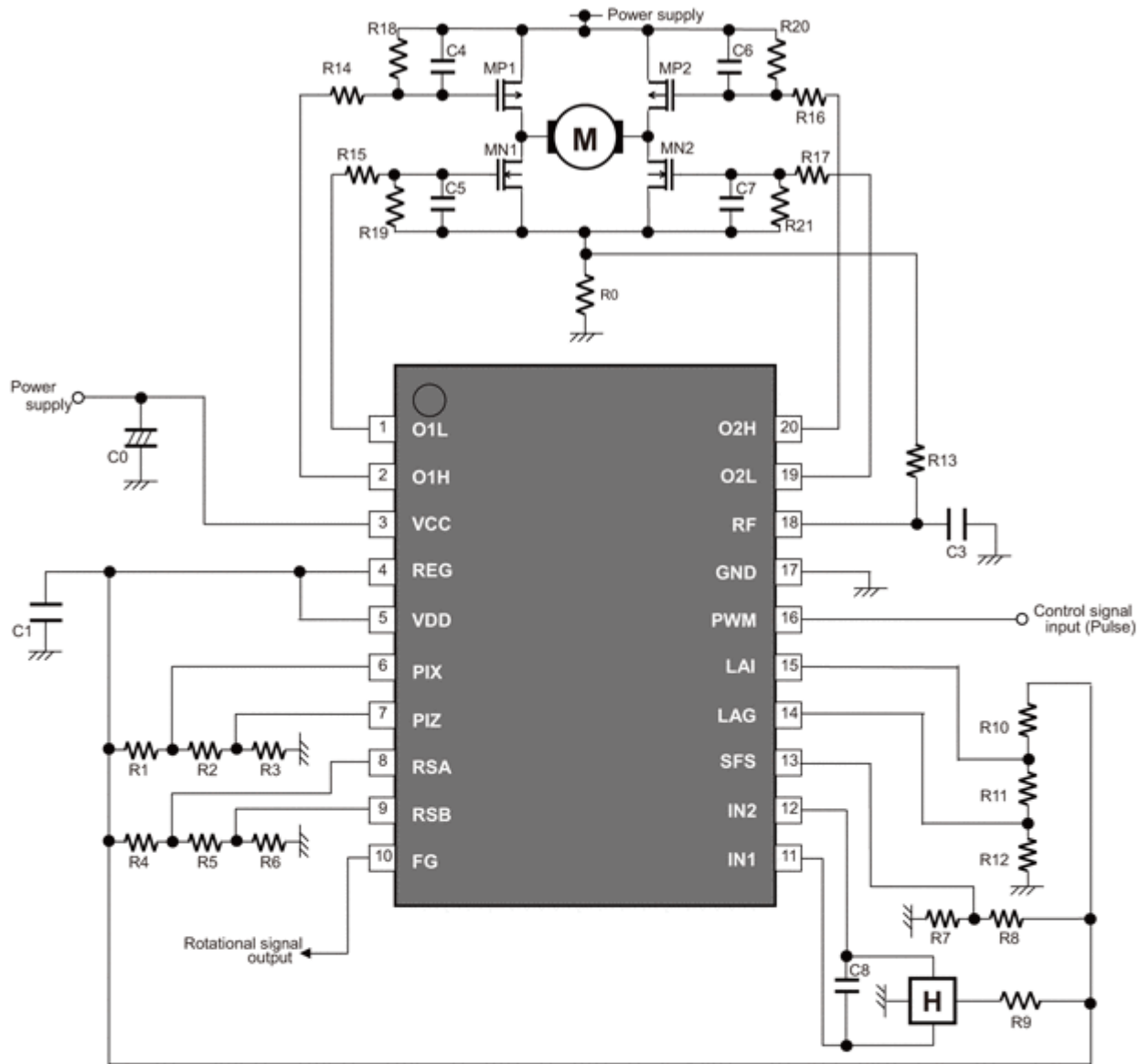
### Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Phase	V <sub>M</sub> Min (V)	V <sub>M</sub> Max (V)	V <sub>CC</sub> Min (V)	V <sub>CC</sub> Max (V)	I <sub>O</sub> Max (A)	I <sub>O</sub> Peak Max (A)	Control Type	Package Type
LV88551JA-AH	0.9866	Pb-free Halide free non AEC-Q and PPAP	Active	1			3.9	20	0.05	0.15	PWM	SSOP-20J
LV88551RTXG	1.008	Pb-free Halide free non AEC-Q and PPAP	Active	1			3.9	20	0.05	0.15	PWM	VCT-20

# Application Diagram

## APPLICATION CIRCUIT DIAGRAM

Single-phase BLDC Motor Drive with LV88551JA



### EXAMPLE COMPONENT VALUE

Device	Value	Device	Value
MP1+MN1	FW4604	R14	100 Ω
MP2+MN2	FW4604	R15	100 Ω
		R16	100 Ω
R0	0.051 Ω // 0.051 Ω	R17	100 Ω
R1	0 to 50 kΩ	R18	(*)
R2	0 to 50 kΩ	R19	(*)
R3	0 to 50 kΩ	R20	(*)
R4	0 to 50 kΩ	R21	(*)
R5	0 to 50 kΩ	C0	4.7 μF - 10 μF
R6	0 to 50 kΩ	C1	0.1 μF - 1 μF
R7	0 to 50 kΩ	C3	(**)
R8	0 to 50 kΩ	C4	0 to 1500 pF
R9	2.2 kΩ	C5	0 to 1500 pF
R10	0 to 50 kΩ	C6	0 to 1500 pF
R11	0 to 50 kΩ	C7	0 to 1500 pF
R12	0 to 50 kΩ	C8	0 to 0.1 μF
R13	0 Ω		

(\*) It depends on the user's circuit, MP1, MP2, MN1 and MN2.

(\*\*) It depends on the user's environment.

Please refer to a Datasheet for the instructions.

For more information please contact your local sales support at [www.onsemi.com](http://www.onsemi.com).

Created on: 9/28/2020