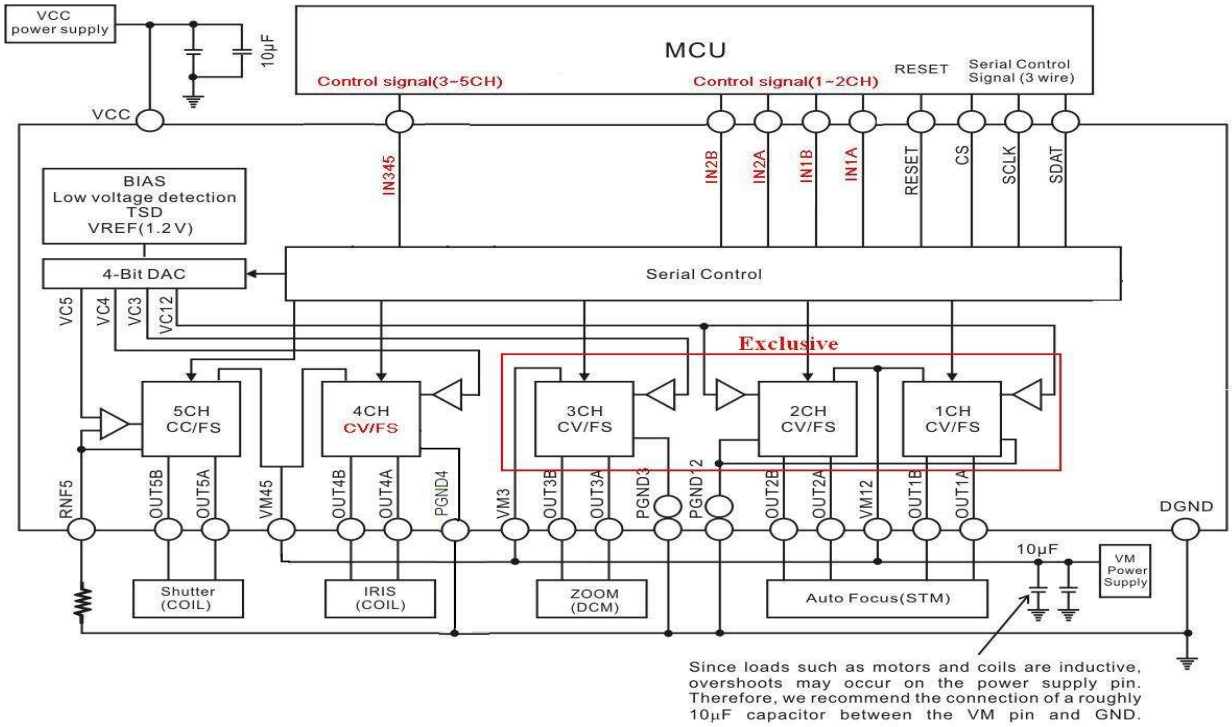
FEATURES

- An ultra-fine CMOS process has been adopted for low power consumption in a design with no charge-pump.
- A small 24-pin QFN package (4*4mm) has been adopted.
- All bridges can be driven simultaneously.
- Constant-Voltage control H-bridges Drive; Accuracy±5%(at CV DAC=4.0V)
- Constant-Current H-bridges Drive; Accuracy±5%(at CC DAC=200mV)
- A constant voltage value and a constant current value are set as arbitrary values by serial setup (4-bit).
- External resistance is unnecessary in order to change by Built-in DAC.
- Built-in thermal shutdown circuit.(shut: 150℃/return: 120℃/Hysteresis: 30℃)
- Built-in UVLO shutdown circuit.(shut: 1.8V/return: 2.0V/Hysterisis: 0.2V)
- H-Bridge Drive Type/ON Resistance
  - CH1~3: CV/FS Ron=1.45Ω(TYP) at VM=5V, I=100mA (600mA MAX)
  - CH4: CV/FS Ron=1.45Ω(TYP) at VM=5V, I=100mA (600mA MAX)
  - CH5: CC/FS Ron=1.45Ω(TYP) at VM=5V, I=100mA (600mA MAX)
- DAC
  - 4-bit composition
  - 1~4CH Constant-Voltage: 1.8~4.8V, 0.2V/bit
  - 5CH Constant-Current: 150~300mV, 10mV/bit
- Recommend Operating Condition
  - Power-supply voltage range: VCC: 2.7~3.6V, VM: 2.7~ 5.5V
  - Rated power-supply voltage: VCC: 3.3V, VM: 5.0V

APPLICATION

- DSC

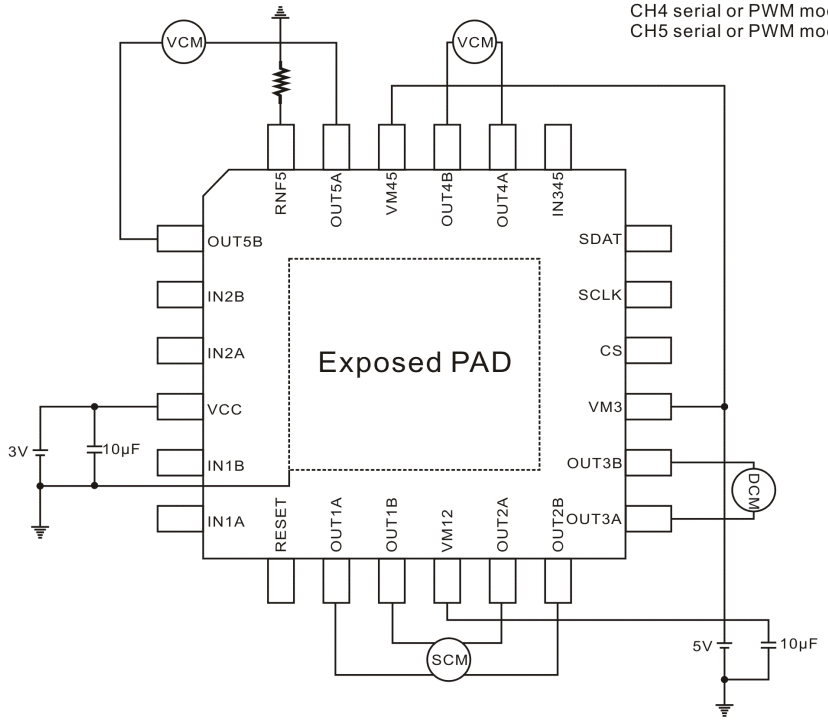
BLOCK DIAGRAM



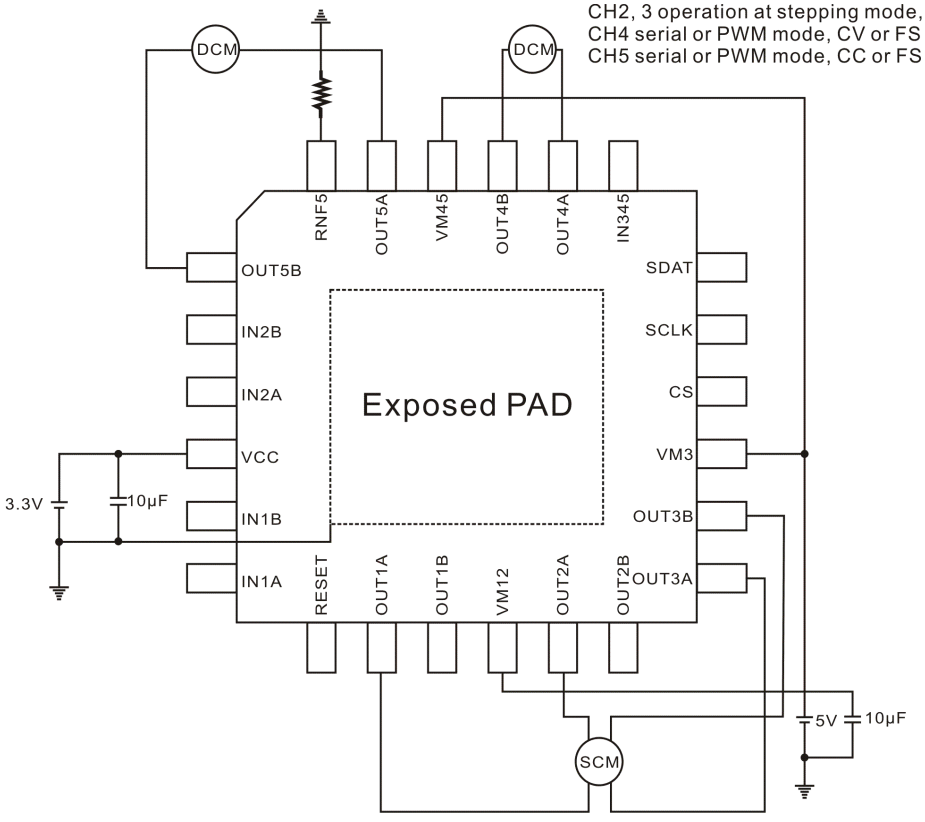
Notes:
1. FS=Full-Swing
2. CV=Constant-Voltage
3. CC=Constant-Current

APPLICATION CIRCUIT

CH12 operation at stepping or micro-stepping mode, CV or FS mode
CH3 serial PWM mode, CV or FS mode, control for DCM
CH4 serial or PWM mode, CV or FS mode, control for VCM
CH5 serial or PWM mode, CC or FS mode, control for VCM



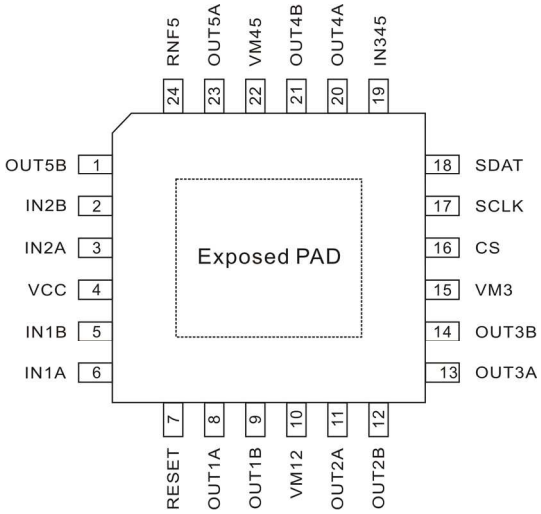
CH2, 3 operation at stepping mode, CV or FS mode
CH4 serial or PWM mode, CV or FS mode, control for DCM
CH5 serial or PWM mode, CC or FS mode, control for DCM



ORDER INFORMATION

Valid Part Number	Package Type	Top Code
PT5119-QF	24 Pins, QFN	PT5119

PIN CONFIGURATION



PIN DESCRIPTION

Pin Name	I/O	Description	Pin No.
OUT5B	O	CH5 output B	1
IN2B	I	2CH Parallel input signal	2
IN2A	I	2CH Parallel input signal	3
VCC	Power Supply	Small signal power supply	4
IN1B	I	1CH Parallel input signal	5
IN1A	I	1CH Parallel input signal	6
RESET	I	Logic reset	7
OUT1A	O	CH1 output A	8
OUT1B	O	CH1 output B	9
VM12	Power Supply	CH1/2 Power supply	10
OUT2A	O	CH2 output A	11
OUT2B	O	CH2 output B	12
OUT3A	O	CH3 output A	13
OUT3B	O	CH3 output B	14
VM3	Power Supply	CH3 Power supply	15
CS	I	Serial data latch control	16
SCLK	I	Serial clock input	17
SDAT	I	Serial data input	18
IN345	I	CH345 Parallel input signal	19
OUT4A	O	CH4 output A	20
OUT4B	O	CH4 output B	21
VM45	Power Supply	CH4/5 Power supply	22
OUT5A	O	CH5 output A	23
RNF5	I/O	CH5 current sense input	24
Thermal PAD	GND	CH1/2, CH3 and CH4 Power GND	Bottom
Thermal PAD	GND	Small signal power GND	Bottom