

ASSP for Power Supply Applications 6MHz Synchronous Rectification Buck-Boost DC/DC Converter IC MB39C326

MB39C326 was designed for the RF power amplifier of the mobile device that used 1-cell Li-ion battery. It is high-efficiency and low noise 6 MHz buck-boost DC/DC converter IC. The size of the inductor can be greatly reduced to 2-3MHz existing product by operating by the high frequency of 6MHz. Therefore, it becomes possible to reduce the substrate area of the power supply part by half. The range of the voltage that can be used can be expanded by automatic switching operation of the buck-boost circuit, and a steady power supply to the power amplifier can be supplied.

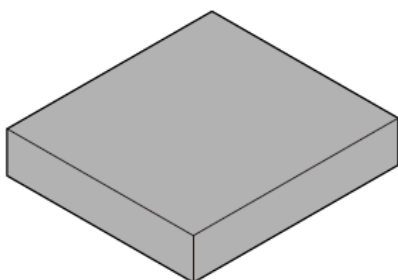
■ DESCRIPTION

- **High efficiency** : Up to 95%
- **Input voltage range** : 2.5 V to 5.5 V
- **Adjustable output voltage range** : 0.4 V to 5.0 V
- **Input current limit value** : 2 A/1A/0.5A
- **Output current** : 1200mA (Buck, output at 3.3V)
: 800mA (Boost, output at 3.3V)
- **6MHz PWM operation allows 0.5 μ H small form inductor**
- **Less than 20 μ s step response for 3G**
- **Automatic Transition between buck mode and boost mode**
- **Selectable output voltage with external resistor**
- **Built-in Over temperature protection circuit**
- **Built-in Under voltage lockout protection circuit**
- **Package** : 20pin, WL-CSP(2.15mm \times 1.94 mm \times 0.625mm)

■ APPLICATIONS

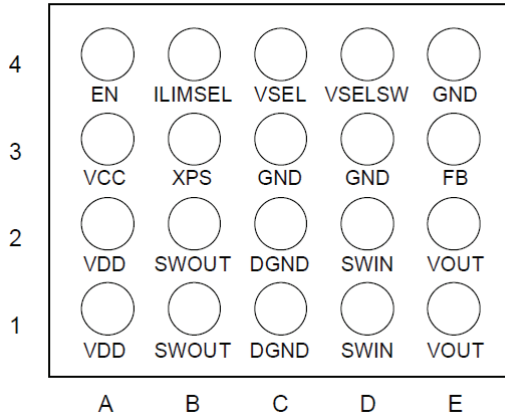
- Products that use 1-cell lithium batteries for the power supply
- RF power amplifier
- Cell-phone
- RF-PC card, PDA

■ **PACKAGE** : 20-pin plastic WL-CSP



■ PIN ASSIGNMENTS

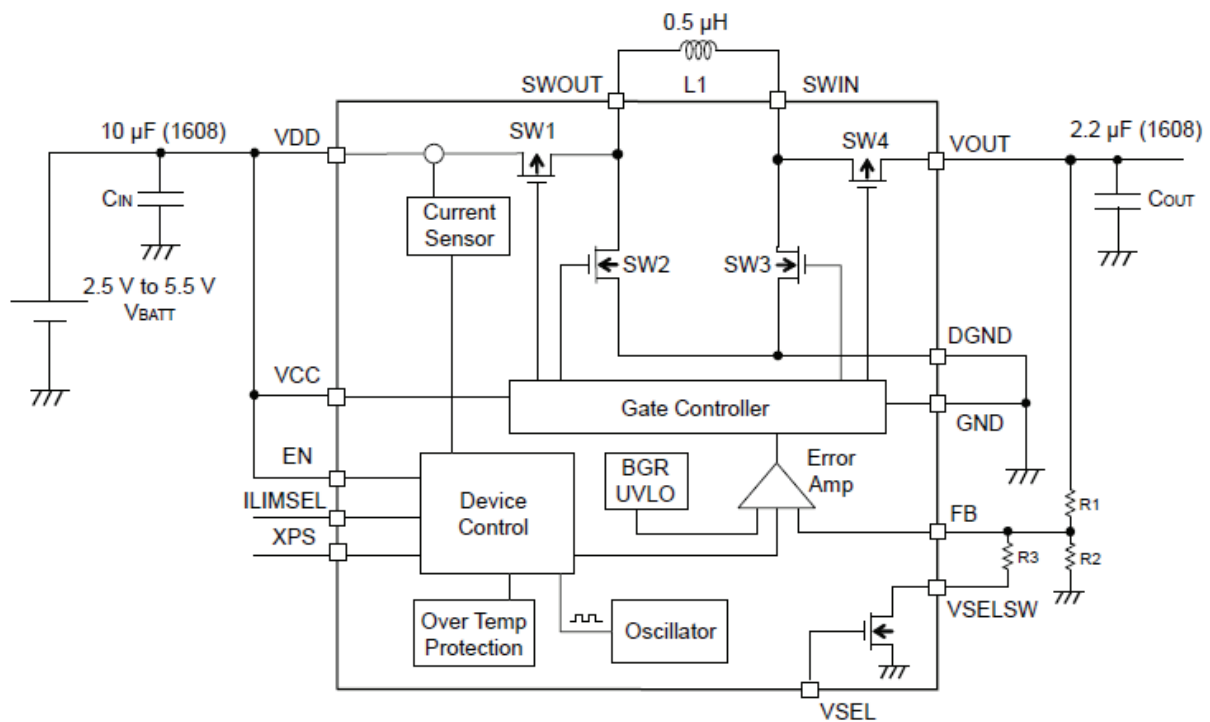
TOP VIEW



■ PIN DISCRIPTIONS

Pin No.	Pin Name	I/O	Description
A4	EN	I	IC Enable input pin (H: Enable, L: Shutdown)
E3	FB	I	Voltage feedback pin
C3,D3,E4	GND		Control / Logic ground pins
B4	ILIMSEL	I	Current limit mode pin
B1,B2	SWOUT	I	Connection pins for Inductor
D1,D2	SWIN	I	Connection pins for Inductor
C1,C2	DGND		Power ground pins
C4	VSEL	I	Output voltage select pin (H:Using R3 L:No using R3)
D4	VSEL SW		Connection pin for output voltage setting resistor R3
A1,A2	VDD	I	Electric power input pin for DCDC converter output voltage
A3	VCC	I	Electric power input pin for IC control block
B3	XPS	I	Power save mode pin (H: Normal mode, L: Power save mode)
E1,E2	VOUT	O	Buck-boost converter output pins

■ BLOCK DIAGRAM



■ ORDERING INFORMATION

Part number	Package	Remarks
MB39C326PW	20-pin plastic WL-CSP (WLP-20P-M01) 0.4 mm-ball-pitch 2.15×1.94 mm	-