

1.5MHz, 1.5A, High Efficiency PWM Step-Down DC/DC Converter

General Description

The ID8215 is a high-efficiency, DC-to-DC step-down switching regulator, capable of delivering up to 1.5A of output current. The devices operate from an input voltage range of 2.6V to 5.5V and provide output voltages from 0.6V to VIN, making the iD8215 ideal for low voltage power conversions. Running at a fixed frequency of 1.5MHz allows the use of small inductance value and low DCR inductors, thereby achieving higher efficiencies. Other external components, such as ceramic input and output caps, can also be small due to higher switching frequency, while maintaining exceptional low noise output voltages. Built-in EMI reduction circuitry makes this converter ideal power supply for RF applications. Internal soft-start control circuitry reduces inrush current. Short-circuit and thermal-overload protection improves design reliability.

iD8215 is housed in a tiny SOT-23-5 and TDFN-6L package.

Ordering Information

iD8215 -

Package:
 A50: SOT-23-5
 FF6: TDFN- 6L(2X2), Pitch=0.65
 FF7: TDFN- 6L(2X2), Pitch=0.65

Taping
 R: Tape and Reel

Output Voltage	Voltage Code
Adjustable	AD

Applications

- USB ports/Hubs
- Hot Swaps
- Cellphones
- Tablet PC
- Set Top Boxes

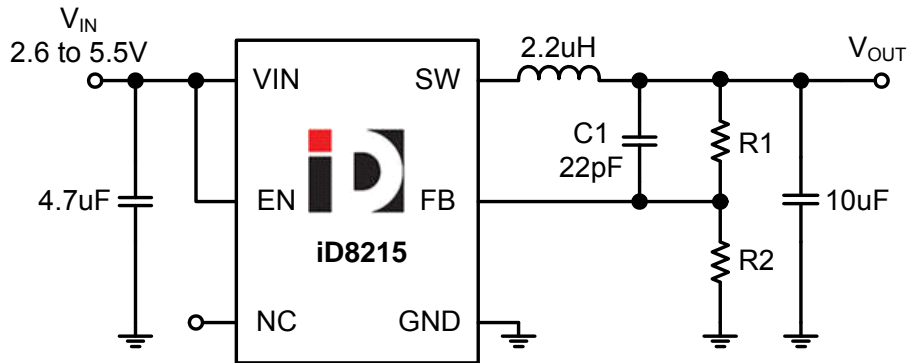
Features

- Up to 1.5A Max Output Current
- 1.5MHz Frequency
- Light Load operation
- Internal Compensation
- Tiny SOT-23-5 and TDFN-6L Package

Marking Information

For marking information, please contact our sales representative directly or through distributor around your location.

Typical Application Circuit (Adjustable Operation)



Absolute Maximum Ratings (Note 1)

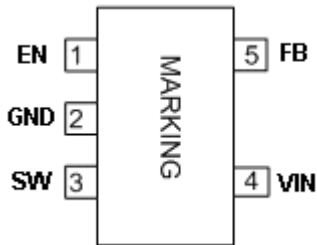
IN, SW, FB, EN Voltage	-0.3V to 6 V
Power Dissipation, P_D @ $T_A=25^\circ\text{C}$	
SOT-23-5	600mW
TDFN-6L	1282mW
Thermal Resistance, θ_{ja}	
SOT-23-5	167°C/W
TDFN-6L	78°C/W
Lead Temperature	260°C
Storage Temperature	-65°C to 150°C
ESD Susceptibility	
HBM (Human Body Mode)	2kV
MM (Machine Mode)	200V

Recommended Operating Conditions

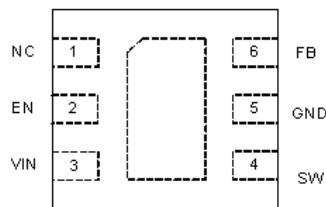
Input Voltage V_{IN}	2.6V to 5.5V
EN Input Voltage	0V to V_{IN}
Junction Temperature	-40°C to 125°C
Ambient Operating Temperature	-40°C to 85°C

Pin Configurations

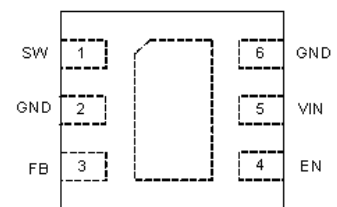
(Top View)



SOT-23-5



TDFN-6L (FF6)



TDFN-6L (FF7)