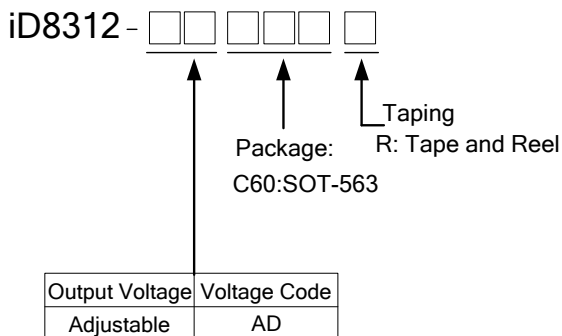


## 3MHz, Output Adjustable, 1A Synchronous Buck Converter

### General Description

The iD8312 is a high-efficiency, DC-to-DC step-down switching regulator, capable of delivering up to 1A of output current. The devices operate from an input voltage range of 2.6V to 7V and provide output voltages from 0.6V to VIN, making the iD8312 ideal for low voltage power conversions. Running at a fixed frequency of 3MHz 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.

### Ordering Information



### Applications

- RF PA
- NB-IOT
- USB ports/Hubs
- Hot Swaps
- Cell phones
- Tablet PC
- Set Top Boxes

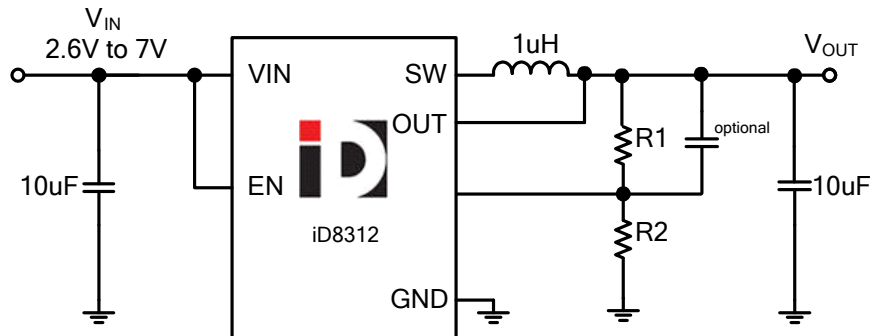
### Features

- Up to 96% Efficiency
- Light Load Operation
- Up to 1A Max Output Current
- Internal Compensation
- 3MHz Switching Frequency
- RoHS Compliant and Halogen Free
- Tiny SOT-563 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)

V <sub>IN</sub> , EN, SW Voltage	-0.3V to 9 V
FB Voltage	-0.3V to 6 V
Power Dissipation, P <sub>D</sub> @ T <sub>A</sub> =25°C	
SOT563	760mW
Thermal Resistance, θ <sub>JA</sub>	
SOT563	130°C/W
Lead Temperature	260°C
Storage Temperature	-55°C to 150°C
Thermal Resistance, θ <sub>JC</sub>	
SOT563	60°C/W
ESD HBM (Human Body Mode)	2KV
ESD MM (Machine Mode)	200V

#### Recommended Operating Conditions

Input Voltage V <sub>IN</sub>	2.6V to 7V
Junction Temperature	-40°C to 125°C
Ambient Operating Temperature	-40°C to 85°C