

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

### General Description

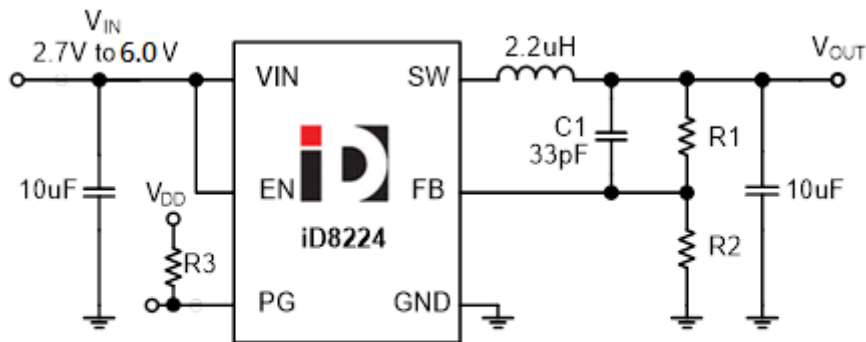
The ID8224 is a high-efficiency, DC-to-DC step-down switching regulator, capable of delivering up to 1.5A of output current. The devices operate from an input voltage range of 2.7V to 6.0V making the iD8224 ideal for low voltage power conversions. Running at a fixed frequency of 1.5MHz allows the use of small inductance value and low DCR inductor, 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.

iD8224 is housed in a tiny SOT-23-5, TSOT23-5, SOT-23-6 and TDFN-6L package.

### Ordering Information

iD8224 -

### Typical Application Circuit (Adjustable Operation)



#### Absolute Maximum Ratings (Note 1)

|                                                   |                |
|---------------------------------------------------|----------------|
| VIN Voltage                                       | -0.3V to 6 V   |
| SW, FB, EN, PG Voltage                            | -0.3V to 6 V   |
| Power Dissipation, $P_D$ @ $T_A=25^\circ\text{C}$ |                |
| (T)SOT-23-5                                       | 600mW          |
| SOT-23-6                                          | 600mW          |
| TDFN-6L                                           | 1282mW         |
| WDFN-6L                                           | 570mW          |
| Thermal Resistance, $\theta_{JA}$                 |                |
| (T)SOT-23-5                                       | 167°C/W        |
| SOT-23-6                                          | 167°C/W        |
| TDFN-6L                                           | 78°C/W         |
| WDFN-6L                                           | 175°C/W        |
| Lead Temperature                                  | 260°C          |
| Storage Temperature                               | -65°C to 150°C |
| Thermal Resistance, $\theta_{JC}$                 |                |
| (T)SOT-23-5                                       | 130°C/W        |
| SOT-23-6                                          | 110°C/W        |
| TDFN-6L                                           | 20°C/W         |
| WDFN-6L                                           | 50°C/W         |

#### Recommended Operating Conditions

|                               |                |
|-------------------------------|----------------|
| Input Voltage $V_{IN}$        | 2.7V to 6.0V   |
| EN Input Voltage              | 0V to $V_{IN}$ |
| Junction Temperature          | -40°C to 125°C |
| Ambient Operating Temperature | -40°C to 85°C  |