Dual 1.5MHz 1.2A Step-Down Converters in SOP8 Package

DESCRIPTION

The ETA3412 is a dual channel high-efficiency, DC-to-DC step-down switching regulator, capable of delivering up to 1.2A of output current for each channel. The devices operate from an input voltage range of 2.6V to 6V and provide output voltages from 0.6V to VIN, making the ETA3412 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.
ETA3412 is housed in a SOP8 package

FEATURES

- Up to 1.2A Max Output Current
- 1.5MHz Frequency
- Light Load operation
- Internal Compensation
- Available in SOP8

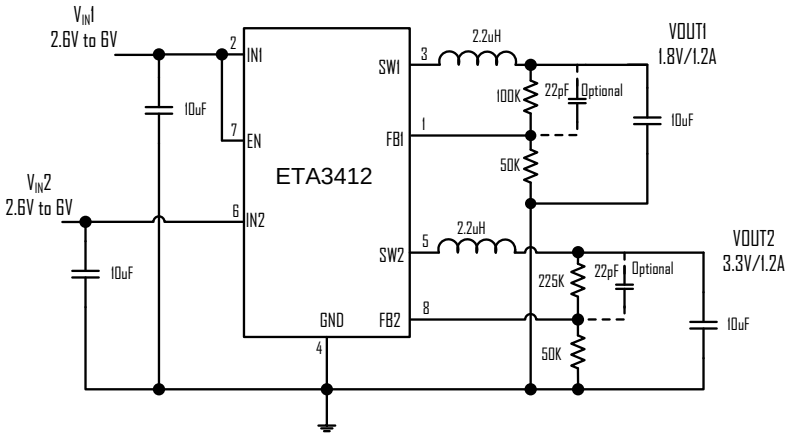
APPLICATIONS

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

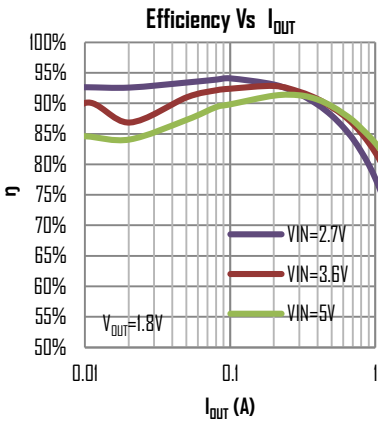
ORDERING INFORMATION

PART	PACKAGE PIN	TOP MARK
ETA3412S8A	SOP8	ETA3412-Product Number YWWPL-Date Code

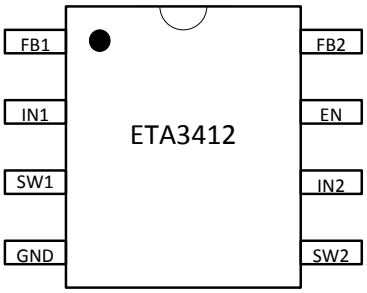
TYPICAL APPLICATION



Dual Step-Down Converter



PIN CONFIGURATION



ABSOLUTEMAXIMUM RATINGS

(Note: Exceeding these limits may damage the device. Exposure to absolute maximum rating conditions for long periods may affect device reliability.)

IN, SW1, SW2, FB1, FB2, EN Voltage.....–0.3V to 7V
SW1, SW2 to ground current .....Internally limited
Maximum Power Dissipation.....400mW
Operating Temperature Range .....–40°C to 85°C
Storage Temperature Range .....–55°C to 150°

ELECTRICAL CHACRACTERISTICS for each channel

(V_{IN} = 3.6V, unless otherwise specified. Typical values are at TA = 25oC.)

PARAMETER	CONDITIONS	MIN	TYP	MAX	UNITS
Input Voltage Range		2.6		6	V
Input UVLO	Rising, Hysteresis=100mV		2.5		V
Input Supply Current	V_{FB} =0.65V		38		μA
Input Shutdown Current				1	μA
FB Feedback Voltage	V_{IN} =2.5 to 5V	0.588	0.6	0.612	V
FB Input Current			0.01		μA
Output Voltage Range		0.6		V_{IN}	V
Load Regulation	V_{OUT} =1.8V, I_{OUT} From 0.2A to 0.4A		0.1		%
Line Regulation	V_{IN} =2.7 to 5.5V		0.04		%/V
Switching Frequency			1.5		MHz
NMOS Switch On Resistance	I_{SW} =200mA		280		mΩ
PMOS Switch On Resistance	I_{SW} =200mA		200		mΩ
PMOS Switch Current Limit		1.5			A
SW Leakage Current	V_{IN}=5.5V,V_{SW}=0 or 5.5V,EN= GND			10	μA
EN Input Current				1	μA
EN Input Low Voltage		0.4			V
EN Input High Voltage				1.5	V

PIN DESCRIPTION

PIN #	NAME	DESCRIPTION
1, 8	FB1, FB2	Feedback Input. Connect an external resistor divider from the output to FB and GND to set the output to a voltage between 0.6V and VIN
2, 6	IN1, IN2	Supply Voltage. Bypass with a 10μF ceramic capacitor to GND
3, 5	SW1, SW2	Inductor Connection. Connect an inductor Between SW and the regulator output.
4	GND	Ground
7	EN	Enable pin for the IC. Drive this pin to high to enable the part, low to disable.