

TPS63020 is a high-efficiency small buck-boost power supply module. The input voltage range from 1.8V to 5.5V, the output current can be as high as 3A, and the efficiency is as high as 96%. It can automatically switch between buck and boost modes. The quiescent current is less than 50uA and fixed operating frequency is 2.4. Mhz, can be used for all two-cell and three-cell alkaline batteries, single-cell lithium battery powered devices, ultra-small portable and medium PCs, digital media players, DSCs and cameras.

Product parameters:

Input voltage: 1.8V-5V (recommended input above 2V)

Output voltage: 2.5V 3.3V 4.2V 5V

Formula di uscita: $R3 = R1 (V_{out}/V_{FB}-1)$ valore tipico $V_{FB} = 500mV$ (2.5V: $r1 = 82K$, $R3 = 330K$; 3.3V: $R1 = 180K$, $r3 = 1M$; 4.2V: $R1 = 3K$, $R3 = 22K$; 5V: $R1 = 110K$, $R3 = 1M$)

Output current: within 3A

Conversion efficiency: 96% (the smaller the inlet and outlet pressure difference, the higher the efficiency)

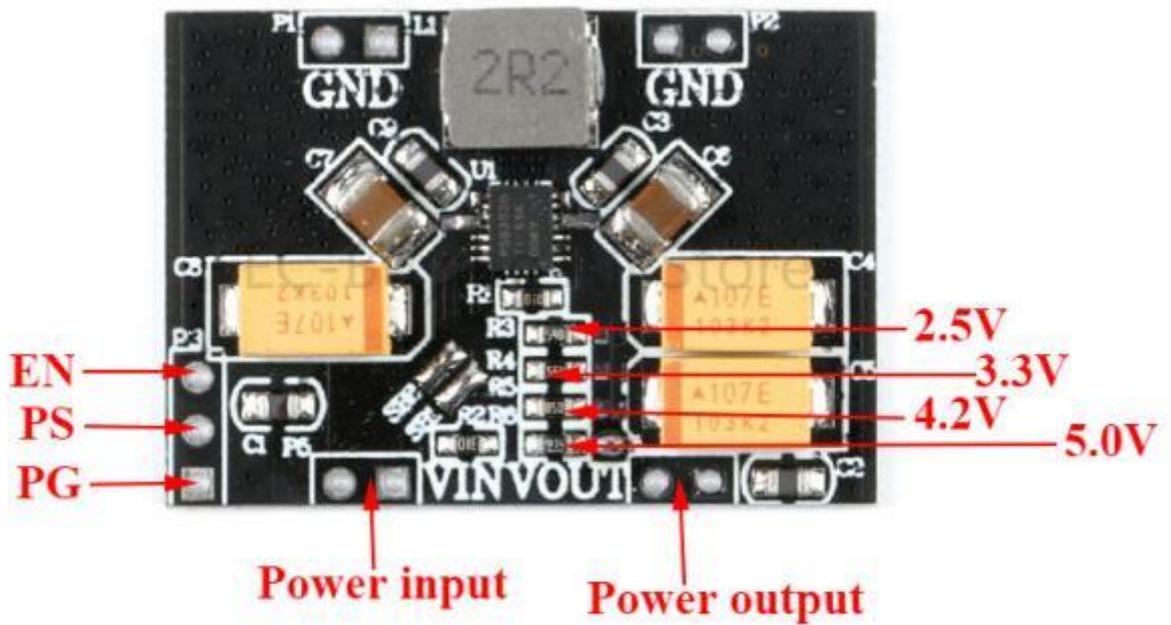
Static power consumption: 6mA, 50uA (power saving mode)

Switching frequency: 2.4mhz

Output ripple: 10mV (no load) 10mV (buck with 0.5A) 30mV (boost with 0.5A)

Pin Functions

PIN		I/O	DESCRIPTION
NAME	NO.		
EN	12	I	Enable input (1 enabled, 0 disabled), must not be left open
FB	3	I	Voltage feedback of adjustable versions, must be connected to VOUT on fixed output voltage versions
GND	2	-	Control / logic ground
L1	8, 9	I	Connection for inductor
L2	6, 7	I	Connection for inductor
PG	14	O	Output power good (1 good, 0 failure; open-drain), can be left open
PGND		-	Power ground
PS/SYNC	13	I	Enable / disable power save mode (1 disabled, 0 enabled, clock signal for synchronization), must not be left open
VIN	10, 11	I	Supply voltage for power stage
VINA	1	I	Supply voltage for control stage
VOUT	4, 5	O	Buck-boost converter output
Exposed Thermal Pad		-	The exposed thermal pad is connected to PGND.



PS: the point-saving mode (1 is handicapped, 0 is enabled, and the module is disabled by default). If you want to use this function, you need to disconnect SB1, and then enter the level

EN: Enable input (1 is enabled, 0 is disabled, And the module is enabled by default). To use this function, disconnect SB2, and then enter the level

PG: indication of output status (0 defect, 1 normal)