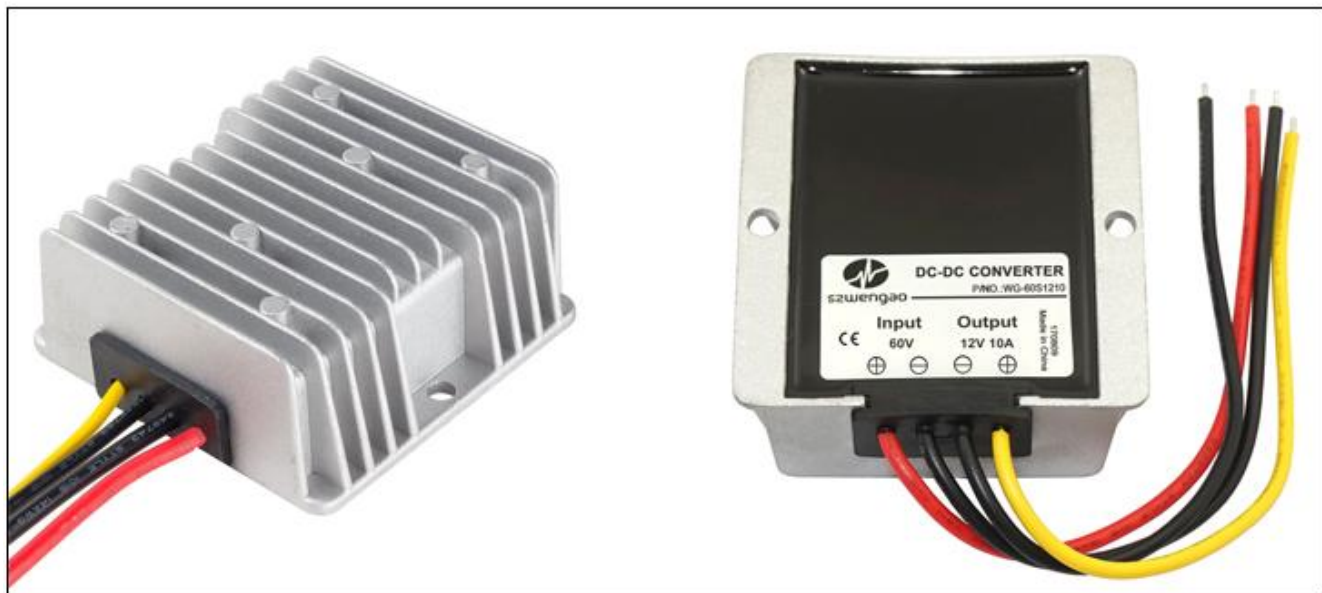


Input voltage	Output voltage	Output current	Output power	Efficiency	Size
51-75V DC	12V DC	10 Amps	120 Watts	94%	74*74*32mm



Features

- Design meeting RoHS / CE
- High efficiency: 94% (@ 60Vin, 25℃)
- Non-isolated between input and output
- Internal capacitor: NCC & NICHICON (high reliability)
- 100% full load burn-in test
- Short circuit, Over load, Over temperature protections
- Waterproof level IP68
- 1 Year warranty

Applications

- Industrial
- Alternative Energy
- Golf Cart & Forklift
- Military
- Electromotor
- Telecommunications
- Boat & Yacht
- Medical and so on.

Model naming method

WG-60S1210



Electrical Specifications

Conditions: TA = 25° C (77° F), Airflow = 1.0 m/s (200 LFM), Vin = 60 V, Vout = 12 V , unless otherwise specified.

Parameter	Min.	Typ.	Max.	Units	Remarks
Absolute maximum ratings					
Operating ambient temperature	-30	-	+50	° C	
Shell ambient temperature	-30	-	80	° C	
Storage temperature	-55	-	100	° C	
Operating humidity	5	-	95	%	Non-condensing
Atmospheric pressure	62	-	106	Kpa	
Altitude	-	-	4000	m	
Cooling way	-	-	-		Natural cooling
Input characteristics					
Input voltage	51	60	75	V	-
Max. input voltage	-	-	78	V	Continuous
Undervoltage shutdown	47	48	49	V	Automatic recovery
Undervoltage recovery	50	51	53	V	Automatic recovery
Max. input current	-	-	4.5	A	Vin = 51V; Vout = 10A
No load current	-	27	40	mA	Vin = 60V
Positive electrode cable	-	16	-	AWG	16.5cm length, Red
Negative electrode cable	-	16	-	AWG	16.5cm length, Black
Enable PIN cable	-	-	-	AWG	None
Fuse	-	7.5	-	A	Built-in
Output characteristics					
Efficiency	-	94.7	-	%	Vin = 60V; Vout = 10A
Output voltage	12.1	12.2	12.5	V	Vin = 60V; Vout = 10A
Regulator accuracy	-	±2	-	%	
Voltage regulation	-	±2	-	%	
Load Regulation	-	±2	-	%	
Overvoltage protection	13.8	14.3	15	V	Hiccup mode
Output current	0	-	10	A	
Overcurrent protection	10.5	12	14	A	
External capacitance	0	1000	2000	μF	
Output ripple and noise	-	50	100	mVp-p	Vin = 51-75 V; Oscilloscope bandwidth: 20 MHz;
Output voltage rise time	-	95	100	mS	
Boot delay time	-	190	200	mS	
Out voltage overshoot	-	-	5	%	
Over temperature protection	-	-	170	° C	Chip junction temperature
Short circuit protection	-	-	-		Long-term (4 hours) short circuit is not damaged, Hiccup mode
Positive electrode cable	-	16	-	AWG	16.5cm length, Yellow
Negative electrode cable	-	16	-	AWG	16.5cm length, Black

Safety and EMC features				
Anti-electric Strength	Input to Output	None	V	Leakage current ≤ 3.5mA, 1min, no breakdown, no arcing
	Input to Shell	≥500	V	
	Output to Shell	≥500	V	
Insulation resistance	Input to Output	None	MΩ	
	Input to Shell			
	Output to Shell			
Other characteristics				
Weight	≤300		g	
Package	White box			
MTBF	≥200,000		H	Vin = 60V; Vout = 10A
Switching frequency	100±30		KHz	

Characteristic Curves

Conditions: $T_A = 25^\circ\text{C}$ (77°F), $V_{in} = 60\text{V}$, $V_{out} = 12\text{V}$, unless otherwise specified.

Figure 1, Efficiency

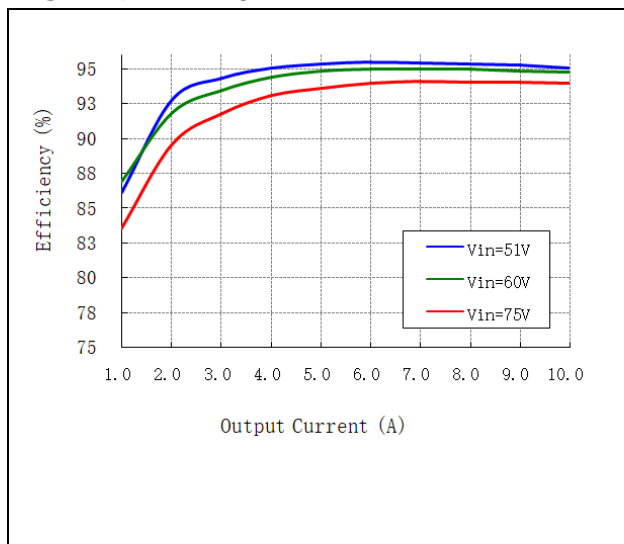


Figure 2, Power dissipation

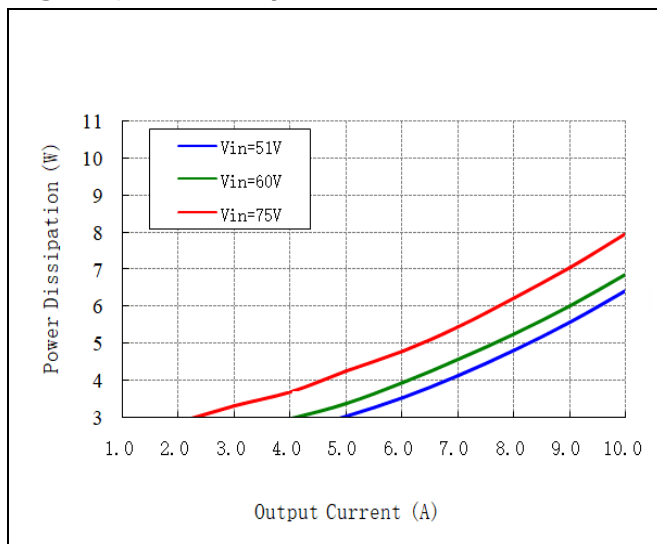
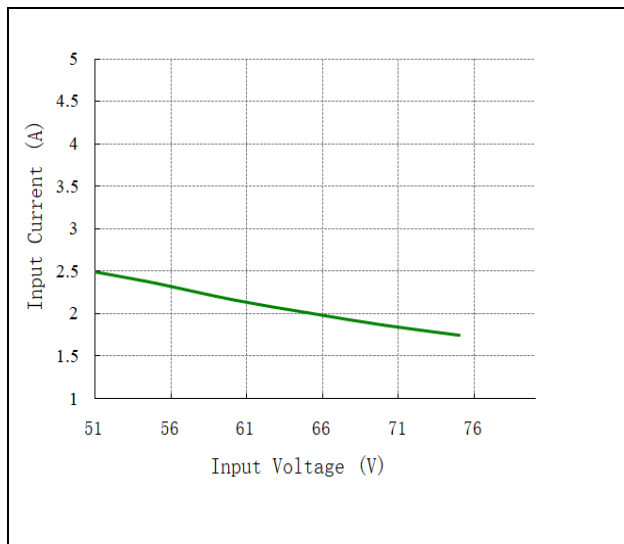


Figure 3, Input V-I



Typical Waveforms

Conditions: TA = 25° C (77° F), Vin = 60 V, unless otherwise specified.

Figure 4, 25% - 50% load dynamic

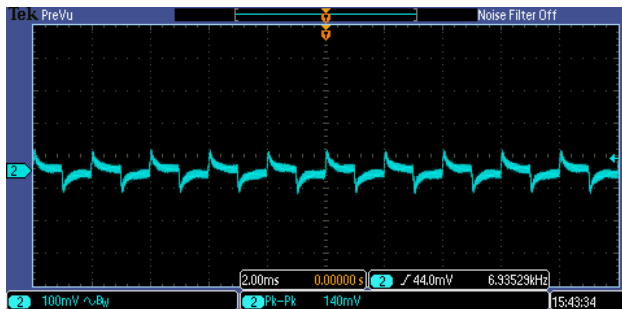


Figure 5, 50% - 75% load dynamic

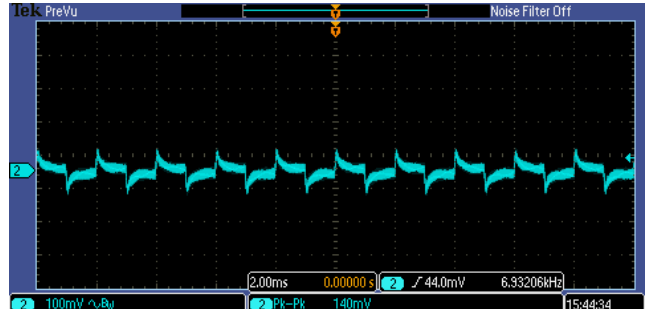


Figure 6, Output voltage established (Aout = 10A)

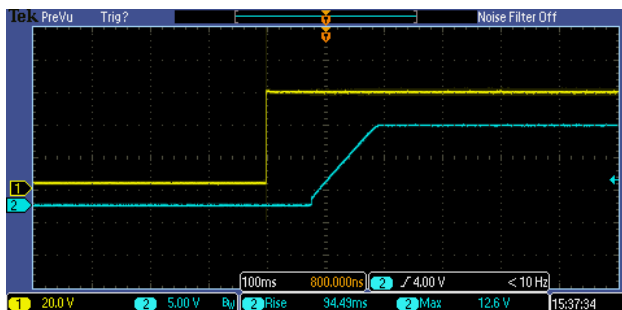
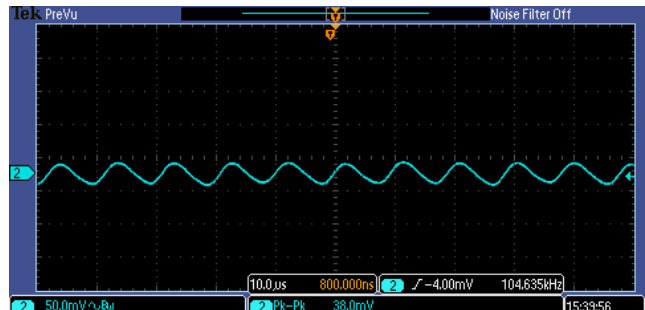
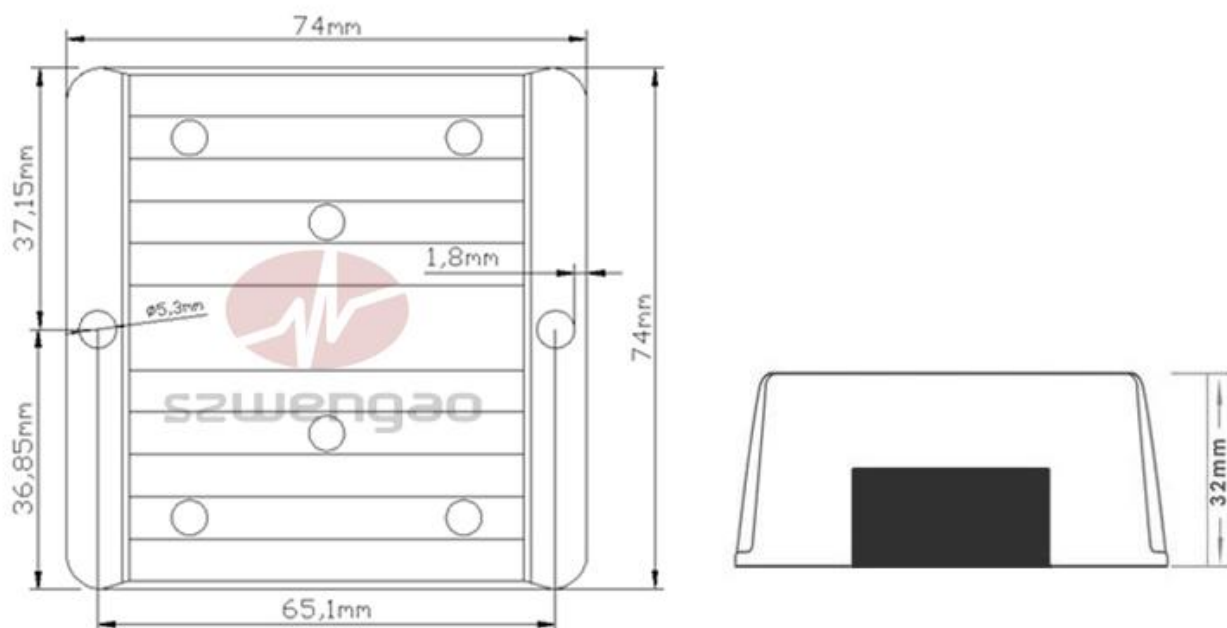


Figure 7, Output ripple & noise (Aout = 10A)



Dimension



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