Step-Down 48V to 12V 5A DC-DC Converters 60W

Z60 series

Features:

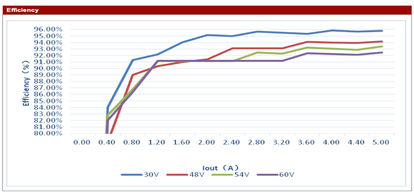
1. 100% full power & stable current output
2. 100% Imported components
3. Wide input voltage from 30-63Vdc
4. 100% waterproof & anti-shock protection, Ultra compact size, light weight 5. Industry grade step-down converter, efficiency up to 94%

6. Waterproof level: IP68
7. According CE(EN61000) / RoHS design
8. Die-cast aluminum shell, epoxy potting, Cooling by free air convection, 9. Protections: Over-current, Over-temperature, and Short-circuit, Auto-recovery when device is back to normal operating
10. Non-Isolated Module
11. 1 year warranty

Z60 series is a compact size high reliability power converter offered by SZWENGAO, It features wide input voltage, low power consumption, high efficiency, high reliability. It can work safely and reliably in -40℃ ~ 80℃. It widely used in industrial, automotive, instruments, telecommunication and civil applications.

Input Specifications					
Item	**Operating Conditions**	**Min.**	**Typ.**	**Max.**	**Unit**
Input voltage range	--	30	48	63	VDC
Input current	--	2.09	1.36	1	A
No-load loss	--	0.62	0.96	1.1	W
Input filter	--	Without capacitances			
Hot plug	--	Unavailable			
Recommended input fuse	--	External connect 5A fuse			

Output Specifications					
Item	**Operating Conditions**	**Min.**	**Typ.**	**Max.**	**Unit**
Output voltage accuracy	Full load test, input volt range	--	±1	±2	%
Line regulation	Full load	--	±0.5	±1	%
Load regulation	10%~100% load	--	±0.5	±1	%
Ripple & Noise*	20 MHz bandwidth	60	70	80	mVp-p
Temperature coefficient	-40℃ ~ +80℃	--	--	±0.03	%/℃
Over temperature protection	Chip (built-in protection)	--	130	--	℃
Short-circuit protection	--	Self-recovery, when device is back to normal operating			
Over current protection	--	8.6A±10% @ 48Vin, 8.65A±10% @ 56Vin, self-recovery			
Transient response deviation	Input 48V, 25-50% load step	--	50	60	mV
Transient recovery time	Input 48V, 25-50% load step	--	0.4	0.5	mS
Thermal impedance	--	--	5	--	℃/W

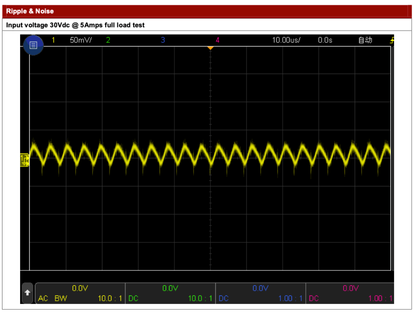


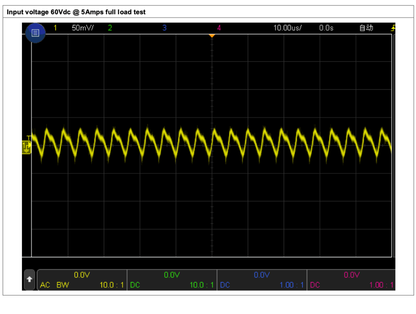
Vin (V)	Iin (A)	Iout (A)	Vout (V)	Pout (W)	Losses (W)	Efficiency (%)
30.89	0.02	0.00	12.33	0.00	0.62	0.00%
30.88	0.19	0.40	12.33	4.93	0.94	84.06%
30.87	0.35	0.80	12.33	9.86	0.94	91.30%
30.87	0.52	1.20	12.33	14.80	1.26	92.17%
30.86	0.68	1.60	12.33	19.73	1.26	94.01%
30.86	0.84	2.00	12.33	24.66	1.26	95.13%
30.85	1.01	2.40	12.33	29.59	1.57	94.97%
30.84	1.17	2.80	12.33	34.52	1.56	95.68%
30.84	1.34	3.20	12.33	39.46	1.87	95.48%
30.83	1.51	3.60	12.33	44.39	2.17	95.35%
30.82	1.67	4.00	12.33	49.32	2.15	95.82%
30.81	1.84	4.40	12.33	54.25	2.44	95.70%
30.80	2.09	5.00	12.33	61.65	2.72	95.77%

Vin (V)	Iin (A)	Iout (A)	Vout (V)	Pout (W)	Losses (W)	Efficiency (%)
48.19	0.02	0.00	12.33	0.00	0.96	0.00%
48.19	0.13	0.40	12.33	4.93	1.33	78.73%
48.18	0.23	0.80	12.33	9.86	1.22	89.01%
48.18	0.34	1.20	12.33	14.80	1.59	90.32%
48.17	0.45	1.60	12.33	19.73	1.95	91.01%
48.17	0.56	2.00	12.33	24.66	2.32	91.42%
48.17	0.66	2.40	12.33	29.59	2.20	93.08%
48.16	0.77	2.80	12.33	34.52	2.56	93.10%
48.16	0.88	3.20	12.33	39.46	2.92	93.10%
48.15	0.98	3.60	12.33	44.39	2.80	94.07%
48.15	1.09	4.00	12.33	49.32	3.16	93.97%
48.14	1.20	4.40	12.33	54.25	3.52	93.91%
48.14	1.36	5.00	12.33	61.65	3.82	94.16%

Vin (V)	Iin (A)	Iout (A)	Vout (V)	Pout (W)	Losses (W)	Efficiency (%)
54.14	0.02	0.00	12.33	0.00	1.08	0.00%
54.14	0.11	0.40	12.33	4.93	1.02	82.82%
54.13	0.21	0.80	12.33	9.86	1.50	86.78%
54.13	0.30	1.20	12.33	14.80	1.44	91.11%
54.13	0.40	1.60	12.33	19.73	1.92	91.11%
54.12	0.50	2.00	12.33	24.66	2.40	91.13%
54.12	0.60	2.40	12.33	29.59	2.88	91.13%
54.12	0.69	2.80	12.33	34.52	2.82	92.45%
54.11	0.79	3.20	12.33	39.46	3.29	92.30%
54.11	0.88	3.60	12.33	44.39	3.23	93.22%
54.1	0.98	4.00	12.33	49.32	3.70	93.03%
54.1	1.08	4.40	12.33	54.25	4.18	92.85%
54.1	1.22	5.00	12.33	61.65	4.35	93.41%

Vin (V)	Iin (A)	Iout (A)	Vout (V)	Pout (W)	Losses (W)	Efficiency (%)
60.13	0.02	0.00	12.33	0.00	1.20	0.00%
60.13	0.10	0.40	12.33	4.93	1.08	82.02%
60.12	0.19	0.80	12.33	9.86	1.56	86.35%
60.12	0.27	1.20	12.33	14.80	1.44	91.15%
60.12	0.36	1.60	12.33	19.73	1.92	91.15%
60.11	0.45	2.00	12.33	24.66	2.39	91.17%
60.11	0.54	2.40	12.33	29.59	2.87	91.17%
60.11	0.63	2.80	12.33	34.52	3.35	91.17%
60.1	0.72	3.20	12.33	39.46	3.82	91.18%
60.1	0.80	3.60	12.33	44.39	3.69	92.32%
60.1	0.89	4.00	12.33	49.32	4.17	92.21%
60.09	0.98	4.40	12.33	54.25	4.64	92.13%
60.08	1.11	5.00	12.33	61.65	5.04	92.44%

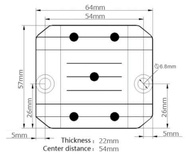




General Specifications					
Item	**Operating Conditions**	**Min.**	**Typ.**	**Max.**	**Unit**
Working temperature	--	-40	--	80	℃
Storage temperature	--	-55	--	125	℃
Storage humidity	--	--	--	95	%RH
Switching frequency	100% load, input voltage range	195	200	205	KHz
Lifetime		--	--	100,000	Hours

Physical Specifications	
Casing material	Die-cast aluminum shell
Input cable (positive "+")	Red ; 18AWG; 16.5cm length
Input cable (negative "-")	Black ; 18AWG; 16.5cm length
Output cable (positive "+")	Yellow ; 18AWG; 16.5cm length
Output cable (negative "-")	Black ; 18AWG; 16.5cm length
Weight	108g
Cooling method	Free convection
Packing	White box

Shell installation diagram



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