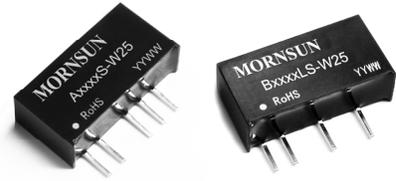


A_S-W25 & B_LS-W25 Series

0.25W, FIXED INPUT, ISOLATED & UNREGULATED DUAL/SINGLE OUTPUT DC-DC CONVERTER



Patent Protection RoHS

FEATURES

- I Small Footprint
- I 1KVDC Isolation
- I SIP Package
- I Temperature Range: -40°C to +85°C
- I Low Temperature rise
- I No External Component Required
- I Industry Standard Pinout

APPLICATIONS

The A_S-W25 & B_LS-W25 Series are designed for application where isolated output is required from a distributed power system.

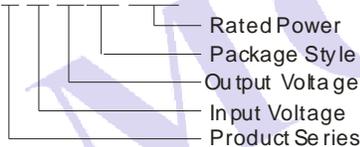
These products apply to where:

- 1) Input voltage variation $\leq \pm 10\%$;
- 2) 1KVDC input and output isolation;
- 3) Regulated and low ripple noise is not required.

Such as: digital circuits, low frequency analog circuits, and IGBT power device driving circuits.

PART NUMBER SYSTEM

B0505LS-W25



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SELECTION GUIDE

Part Number	Input		Output		Efficiency (% , Typ)
	Voltage (VDC)		Voltage (VDC)	Current (mA) Max	
	Nominal	Nominal			
*B0303LS-W25	3.3	3.0-3.6	3.3	75.8	62
A0505S- W25	5	4.5-5.5	± 5	± 25	62
*A0509S- W25			± 9	± 13.8	64
A0512S- W25			± 12	± 10.4	66
*A0515S- W25			± 15	± 8.3	65
B0505LS- W25			5	50	64
*B0509 LS- W25			9	27.8	65
B0512 LS- W25			12	20.8	67
B0515 LS- W25			15	16.7	65
B0524LS-W25			24	10.4	67
*A1205S- W25			12	10.8-13.2	± 5
*A1209S- W25	± 9	± 13.8			63
*A1212S- W25	± 12	± 10.4			64
*A1215S- W25	± 15	± 8.3			65
*B1203 LS- W25	3.3	75.8			62
B1205 LS- W25	5	50			65
*B1209 LS- W25	9	27.8			66
B1212 LS- W25	12	20.8			67
*B1215 LS- W25	15	16.7			66
A2405S- W25	24	21.6-26.4			± 5
*A2409S- W25			± 9	± 13.8	64
*A2412S- W25			± 12	± 10.4	65
*A2415S- W25			± 15	± 8.3	65
B2405 LS- W25			5	50	63
*B2409 LS- W25			9	27.8	63
*B2412 LS- W25			12	20.8	65
*B2415 LS- W25			15	16.7	65
*B2424LS- W25			24	10.4	64

*Designing.

COMMON SPECIFICATIONS

Item	Test conditions	Min	Typ	Max	Unit
Storage humidity				95	%
Operating Temperature		-40		85	°C
Storage Temperature		-55		125	
Temp. rise at full load			15	25	
Lead temperature	1.5mm from case for 10 seconds			300	
Short circuit protection*				1	s
Cooling		Free air convection			
Case material		Plastic (UL94-V0)			
MTBF		3500			K hours
Weight			2.1		g

*Supply voltage must be discontinued at the end of short circuit duration.

ISOLATION SPECIFICATIONS

Item	Test conditions	Min	Typ	Max	Unit
Isolation voltage	Tested for 1 minute and 1 mA max	1000			VDC
Isolation resistance	Test at 500VDC	1000			MΩ

OUTPUT SPECIFICATIONS

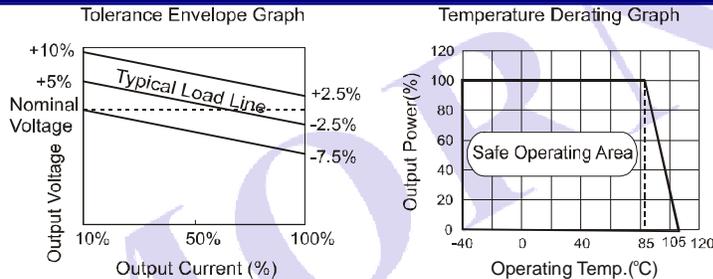
Item	Test conditions	Min	Typ	Max	Unit
Output power				0.25	W
Line regulation	For Vin change of ±1%	(3.3V input)		±1.5	
		(Others input)		±1.2	
Load regulation	10% to 100% load	(3.3V output)	12	20	%
		(5V output)	10.5	15	
		(9V output)	8.3	15	
		(12V output)	6.8	15	
		(15V output)	6.3	15	
		(24V output)	5.0	15	
Output voltage accuracy		See tolerance envelope graph			
Temperature drift	100% full load			0.03	%/°C
Ripple & Noise*	20MHz Bandwidth		50	75	mVp-p
Switching frequency	Full load, nominal input		100		KHz

*Test ripple and noise by "parallel cable" method. See detailed operation instructions at Testing of Power Converter section, application notes.

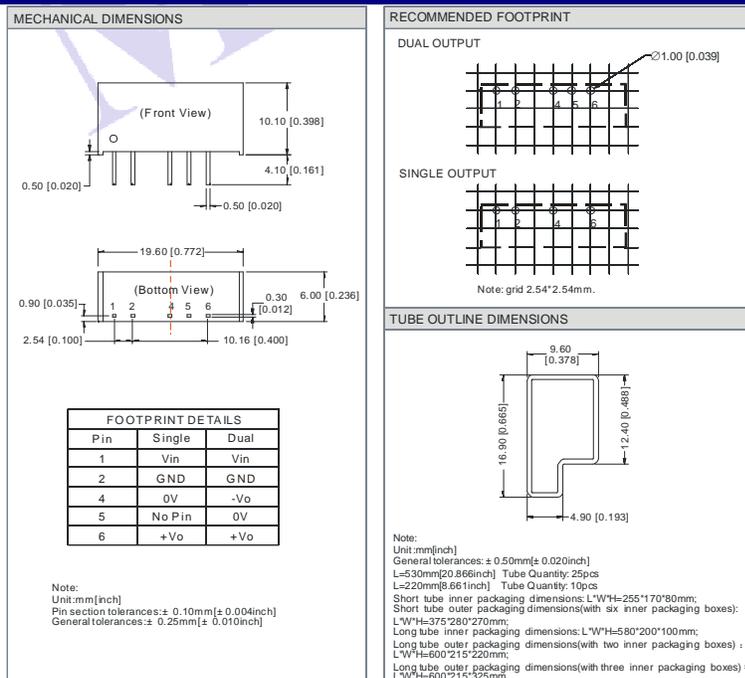
Note:

- Operation under minimum load will not damage the converter; However, they may not meet all specification listed, and that will reduce the life of product.
- All specifications measured at $T_A=25^\circ\text{C}$, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
- See below recommended circuits for more details.
- Dual output models unbalanced load: ±5%.

TYPICAL CHARACTERISTICS



OUTLINE DIMENSIONS & PIN CONNECTIONS



APPLICATION NOTE

Requirement on output load

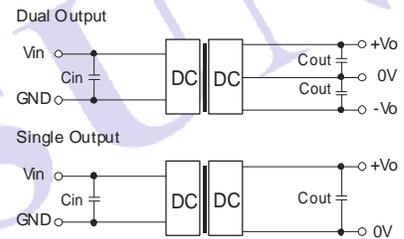
To ensure this module can operate efficiently and reliably, During operation, the minimum output load **could not be less than 10% of the full load**. If the actual output power is very small, please connect a resistor with proper resistance at the output end in parallel to increase the load.

Overload Protection

Under normal operating conditions, the output circuit of these products has no protection against overload. The simplest method is to connect a self-recovery fuse in series at the input end or add a circuit breaker to the circuit.

Recommended circuit

If you want to further decrease the input/output ripple, an capacitor filtering network may be connected to the input and output ends of the DC/DC converter, see (Figure 1).

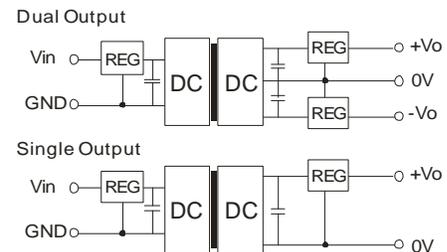


(Figure 1)

It should also be noted that the capacitance of filter capacitor must be proper. If the capacitance is too big, a startup problem might arise.

Output Voltage Regulation and Over-voltage Protection Circuit

The simplest device for output voltage regulation, over-voltage and over-current protection is a linear regulator and an capacitor filtering network with overheat protection that is connected to the input or output end in series (Figure 2), linear regulator based on the actual voltage and current required.



(Figure 2)

Cannot use in parallel and hot swap