Ripple & Noise*	20MHz bandwidth	Other outputs	--	30	75	mVp-p
		24VDC output	---	50	100	
Temperature Coefficient	Full load		--	±0.02	--	%/℃
Short-circuit Protection			Continuous, self-recovery			
Note: * The "parallel cable" method is used for Ripple and Noise test, please refer to DC-DC Converter Application Notes for specific information.						

General Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Isolation	Input-output Electric Strength Test for 1 minute with a leakage current of 1mA max.		1500	--	--	VDC
Insulation Resistance	Input-output resistance at 500VDC		1000	--	--	MΩ
Isolation Capacitance	Input-output capacitance at 100kHz/0.1V		--	20	--	pF
Operating Temperature	Derating when operating temperature≥100℃, (see Fig. 2)		-40	--	105	℃
Storage Temperature			-55	--	125	
Case Temperature Rise	Ta=25℃	3.3VDC output	--	25	--	
		Others	--	15	--	
Storage Humidity	Non-condensing		--	--	95	%RH
Reflow Soldering Temperature			Peak temp.≤245℃, maximum duration time≤60s over 217℃.			
Switching Frequency	Full load, nominal input voltage		--	270	--	kHz
MTBF	MIL-HDBK-217F@25℃		3500	--	--	k hours
Moisture Sensitivity Level (MSL)	IPC/JEDEC J-STD-020D.1		Level 1			
Note: * For actual application, please refer to IPC/JEDEC J-STD-020D.1.						

Mechanical Specifications

Case Material	Black plastic; flame-retardant and heat-resistant (UL94V-0)
Dimensions	13.20 x 11.40 x 7.25 mm
Weight	1.4g(Typ.)
Cooling methods	Free air convection

Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32/EN55032	CLASS B (see Fig. 4 for recommended circuit)
	RE	CISPR32/EN55032	CLASS B (see Fig. 4 for recommended circuit)
Immunity	ESD	IEC/EN61000-4-2	Air ±8kV, Contact ±4kV perf. Criteria B

Typical Characteristic Curves

3.3VDC output　　Others

Fig. 1

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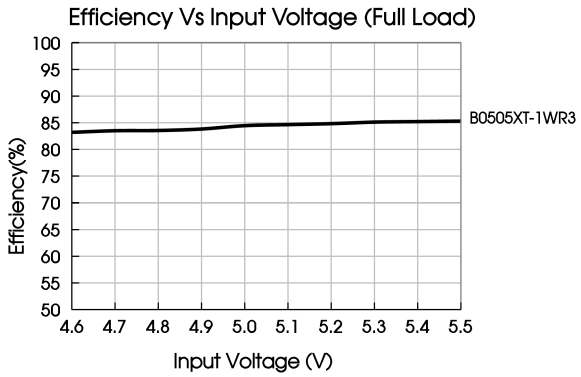

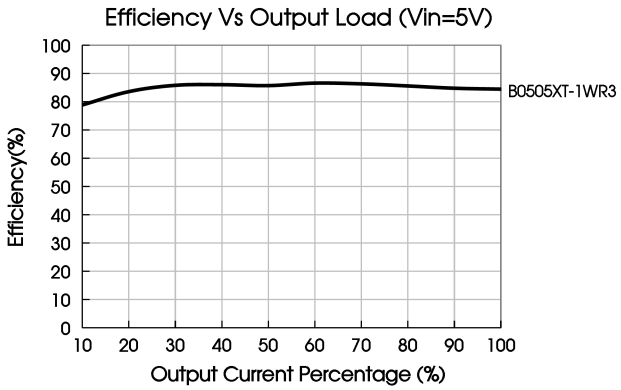

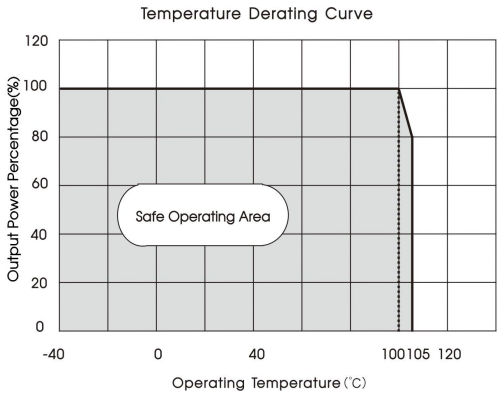

Fig. 2

Design Reference

1. Typical application circuit

Input and/or output ripple can be further reduced, by connecting a filter capacitor from the input and/or output terminals to ground as shown in Fig. 3.

Choosing suitable filter capacitor values is very important for a smooth operation of the modules, particularly to avoid start-up problems caused by capacitor values that are too high. For recommended input and output capacitor values refer to Table 1.

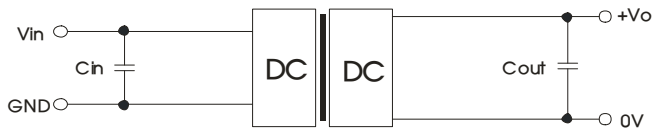

Fig. 3

Recommended capacitive load value table (Table 1)

Vin	Cin	Vo	Cout
5VDC	4.7μF/16V	3.3/5VDC	10μF/16V
		9VDC	4.7μF/16V
		12VDC	2.2μF/25V
		15VDC	1μF/25V
		24VDC	0.47μF/50V

2. EMC (CLASS B) compliance circuit

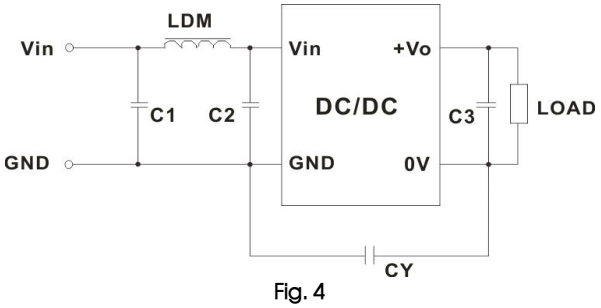

Fig. 4

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EMC recommended circuit value table (Table 2)

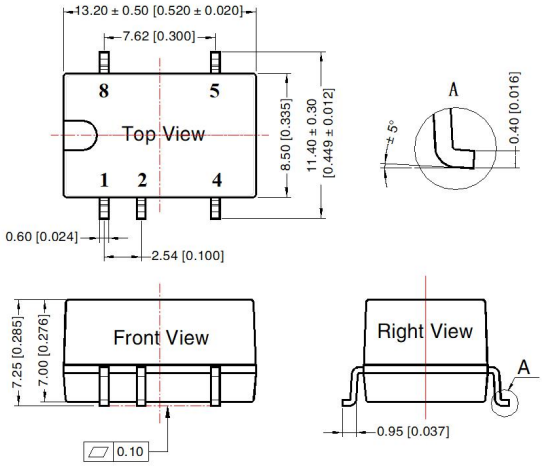
Input voltage 5VDC	Output voltage		3.3/5/9VDC	12/15/24VDC
	Emissions	C1/C2	4.7μF /25V	4.7μF /25V
		CY	--	1nF /2kVDC HEC C1206X102K202T JOHANSON 202R18W102KV4E
		C3	Refer to the Cout in table 1	
		LDM	6.8μH	6.8μH

Note: In the case of actual use, the requirements for EMI are high, it is subject to CY.

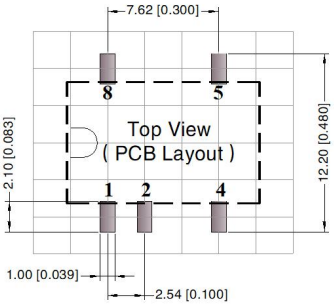
3. For additional information please refer to DC-DC converter application notes on www.mornsun-power.com.

Dimensions and Recommended Layout

THIRD ANGLE PROJECTION



Note:
Unit: mm[inch]
Pin section tolerances: ± 0.10[± 0.004]
General tolerances: ± 0.25[± 0.010]



Note: Grid 2.54*2.54mm

Pin-Out	
Pin	Mark
1	GND
2	Vin
4	0V
5	+Vo
8	NC

NC: Pin to be isolated from circuitry

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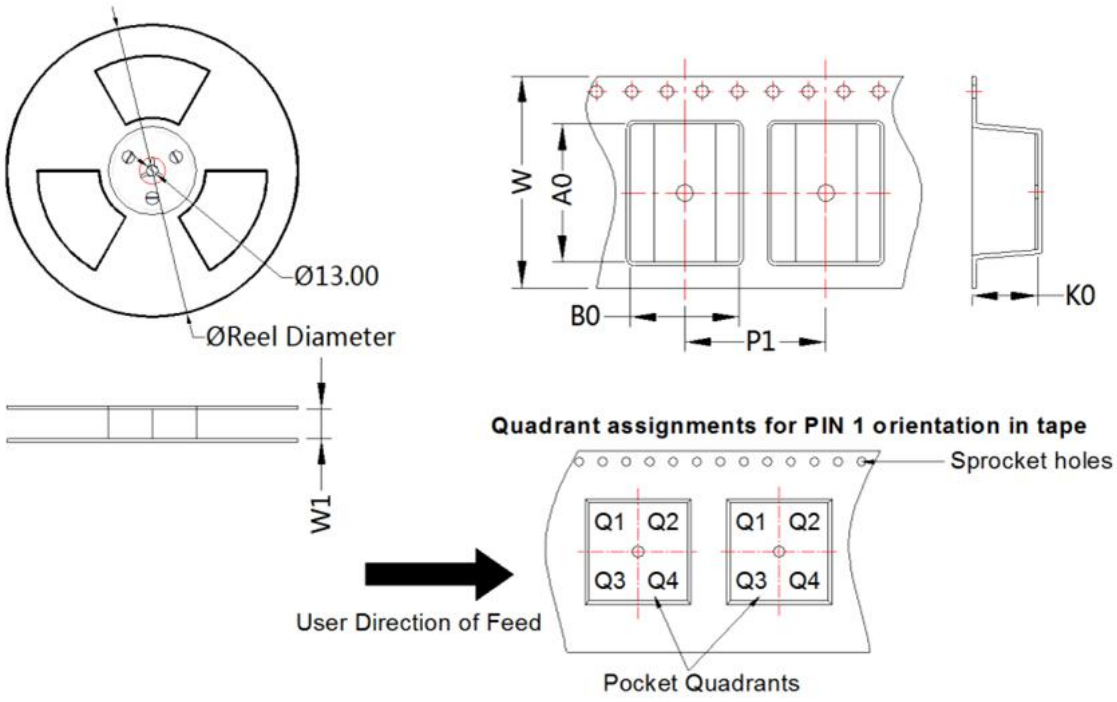
Tape and Reel Info



Device	Package Type	Pin	SPQ	Reel Diameter (mm)	Reel Width W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P1 (mm)	W (mm)	Pin1 Quadrant
B05_XT-1WR3	SMD	5	500	330.0	24.5	13.4	11.7	7.5	16.0	24.0	Q1

Notes:

1. For additional information on Product Packaging please refer to www.mornsun-power.com Tube Packaging bag number: 58210024, Roll Packaging bag number: 58200054;
2. If the product is not operated within the required load range, the product performance cannot be guaranteed to comply with all parameters in the datasheet;
3. The maximum capacitive load offered were tested at input voltage range and full load;
4. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75%RH with nominal input voltage and rated output load;
5. All index testing methods in this datasheet are based on our company corporate standards;
6. We can provide product customization service, please contact our technicians directly for specific information;
7. Products are related to laws and regulations: see "Features" and "EMC";
8. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.

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