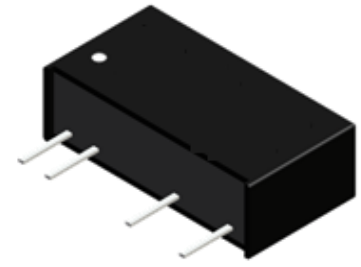


Features

- 1 Watt output power
- 1:1 input voltage range
- 3KVDC / 4KVDC isolation
- -40°C to +100°C operating temperature
- SIP7 package
- RoHS compliant

Application

- Input voltage range from 3.3V to 24V
- Industry control application
- Tele-communication application



Selection Guide

Part number	Input voltage	Output voltage	Output current	Efficiency ⁽¹⁾ (typ.)	Capacitive load ⁽²⁾ (max.)
MSV-3.33.3J	3.3 VDC (±10%)	3.3 VDC	303 mA	75%	1000uF
MSV-3.305J		5 VDC	200 mA	79%	1000uF
MSV-3.312J		12 VDC	84 mA	79%	220uF
MSV-3.315J		15 VDC	67 mA	80%	220uF
MSV-3.33.3DJ		±3.3 VDC	±152 mA	77%	330uF
MSV-3.305DJ		±5 VDC	±100 mA	74%	330uF
MSV-3.312DJ		±12 VDC	±42 mA	79%	100uF
MSV-3.315DJ		±15 VDC	±34 mA	80%	100uF
MSV-053.3J	5 VDC (±10%)	3.3 VDC	303 mA	78%	1000uF
MSV-0505J		5 VDC	200 mA	79%	1000uF
MSV-0512J		12 VDC	84 mA	79%	220uF
MSV-0515J		15 VDC	67 mA	81%	220uF
MSV-053.3DJ		±3.3 VDC	±152 mA	74%	330uF
MSV-0505DJ		±5 VDC	±100 mA	74%	330uF
MSV-0509DJ		±9 VDC	±56 mA	77.5%	220uF
MSV-0512DJ		±12 VDC	±42 mA	80%	100uF
MSV-0515DJ	±15 VDC	±34 mA	80%	100uF	
MSV-123.3J	12 VDC (±10%)	3.3 VDC	303 mA	78%	1000uF
MSV-1205J		5 VDC	200 mA	74%	1000uF
MSV-1212J		12 VDC	84 mA	80%	220uF
MSV-1215J		15 VDC	67 mA	78%	220uF
MSV-123.3DJ		±3.3 VDC	±152 mA	80%	330uF
MSV-1205DJ		±5 VDC	±100 mA	76%	330uF
MSV-1212DJ		±12 VDC	±42 mA	80%	100uF
MSV-1215DJ		±15 VDC	±34 mA	80%	100uF
MSV-243.3J	24 VDC (±10%)	3.3 VDC	303 mA	78%	1000uF
MSV-2405J		5 VDC	200 mA	74%	1000uF
MSV-2412J		12 VDC	84 mA	80%	220uF
MSV-2415J		15 VDC	67 mA	82%	220uF
MSV-243.3DJ		±3.3 VDC	±152 mA	80%	330uF
MSV-2405DJ		±5 VDC	±100 mA	75%	330uF
MSV-2412DJ		±12 VDC	±42 mA	80%	100uF

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The products were used in Computers, Industrial controls, Medical equipment, Transportation, EV, ECO-power, Aero-space application and communication.

Part number	Input voltage	Output voltage	Output current	Efficiency ⁽¹⁾ (typ.)	Capacitive load ⁽²⁾ (max.)
MSV-2415DJ		±15 VDC	±34 mA	80%	100uF

1. The efficiency is test by nominal input and max. full load at 25°C.
2. The capacitive load is test by minimum input and constant resistive load.
3. Add "H" after P/N for isolation 4KVDC.
4. Add "P" after P/N for short circuit protection.

Part Number

M S V - 05 05 J

 ↓ ↓
 Input voltage Output voltage

Specifications

	Parameter	Conditions	Min.	Typ.	Max.	Unit
Input	Input filter			Internal capacitors		
	Input voltage range		-10		+10	%
Output	Voltage accuracy		-5		+5	%
	Minimum load				0	%
	Line regulation	LL to HL at 100% load		1.2% typ.@1% of Vin		
	Load regulation (10% to 100% Load)	Vo=3.3 / 5VDC Vo=9-15 VDC			15 10	% %
	Ripple & noise	@20MHZ BW (@Nominal Vin)			100	mVp-p
	Operating frequency	100% Load at Nominal Vin			80	KHz
Environment	Operating temperature	With derating	-40		100	°C
	Storage temperature		-55		125	°C
	Max. case temperature				110	°C
	Relative Humidity		5		95	%RH
Function	Isolation voltage	1 sec., Input to output Add suffix "H"	3 4			KVDC KVDC
	Isolation resistance		15			GΩ
	Isolation capacitance				120	pF
	Short Circuit Protection	Option		Continuous		
	MTBF	25°C			17.1*10 ⁶	Hours
	Vibration			MIL-STD-202G		
	Safety Approvals			EN60950		
					EN60950	
Physical	Case material			UL94V-0 black plastic		
	Potting material			Epoxy (UL94V-0)		
	Dimension	Standard Add suffix "H"		19.60x6.00x10.20 mm 19.65x7.05x10.20 mm		
	Weight	Standard Add suffix "H"		2.6 2.8		g g
EMC	EMI	EN55032		Class A/B		
	ESD	EN61000-4-2, Air±8kV; Contact±6kV		Criteria A		
	Fast transient	EN61000-4-4, ±0.5kV		Criteria A		

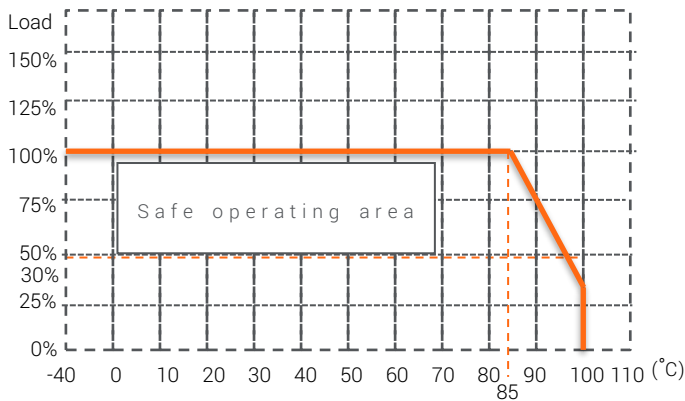
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Parameter	Conditions	Min.	Typ.	Max.	Unit
Surge	EN61000-4-5, ±0.5kV			Criteria A	

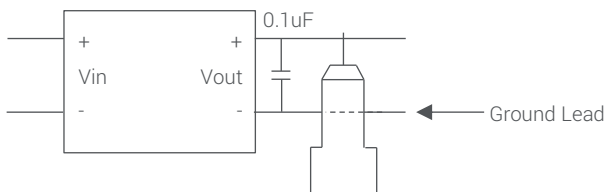
1. All specifications valid at nominal input voltage, full load and 25°C unless otherwise stated.
2. Test by nominal input and constant resistive load, the efficiency tolerance is ±3%.
3. The product information and specifications are subject to change without prior notice.
4. In this datasheet, all test methods are based on our corporate standards.
5. All characteristics are for listed models, and non-standard models may perform differently. Please contact our technical support for more detail.
6. Please contact our technical support for any specific requirement.

Derating Curve



Ambient temperature with natural convection

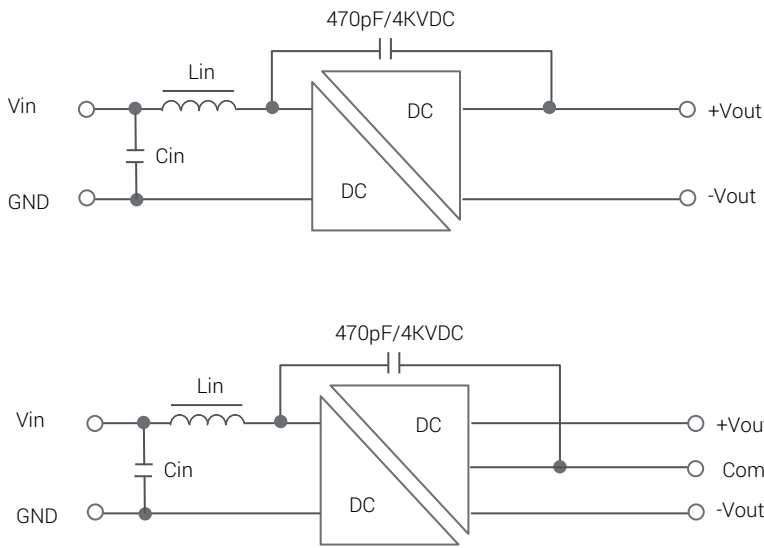
Ripple & Noise Measure Method



EMI filtering-suggestion for EN55032 Class B

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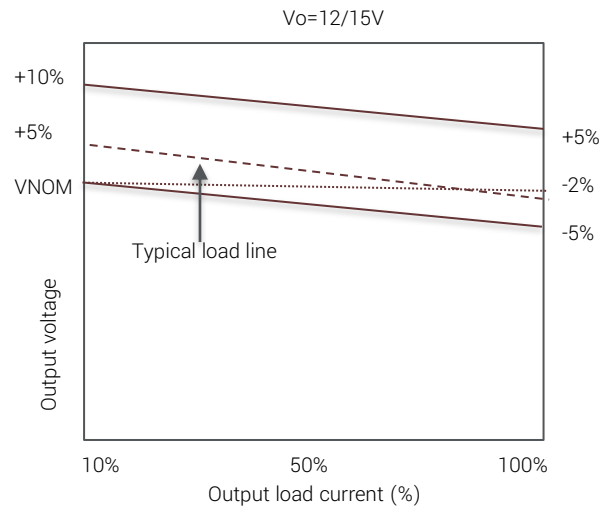
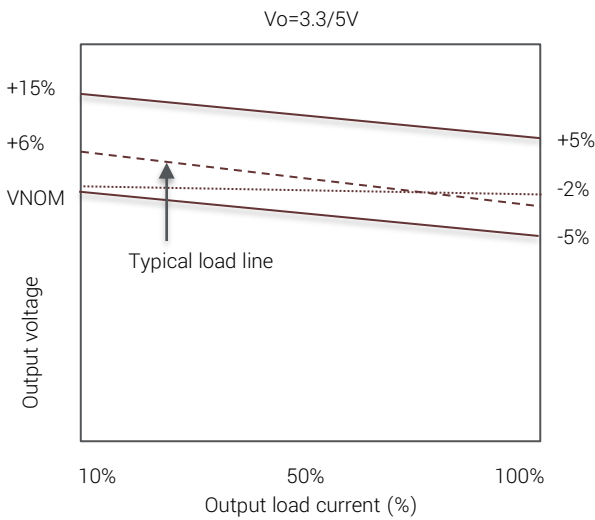
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Product range	Input voltage	Inductance/Capacitance (Lin/Cin)
MSV-J	5 V	4.7μH/10μF
	12 V	22μH/4.7μF
	24 V	47μH/2.2μF
MSV-DJ	5 V	4.7μH/10μF
	12 V	22μH/4.7μF
	24 V	47μH/2.2μF

*The external filter for meet EN55022 class B.

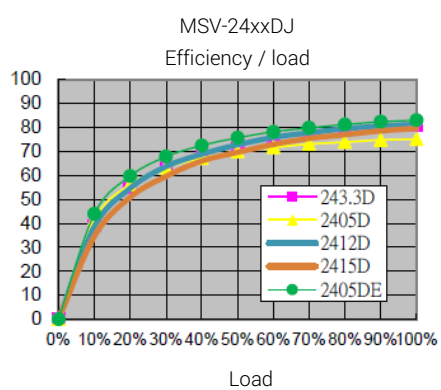
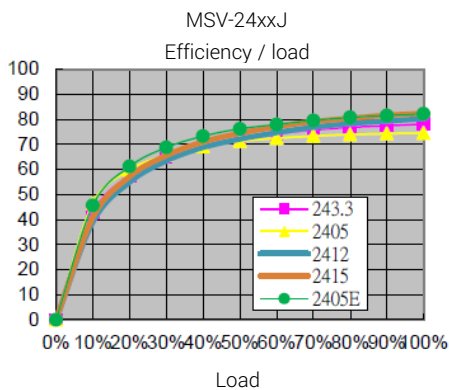
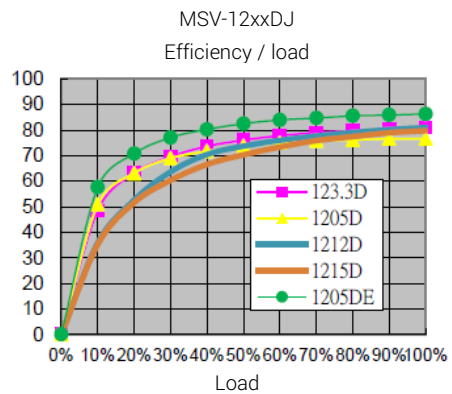
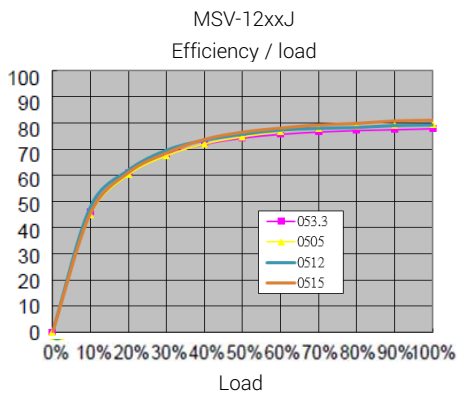
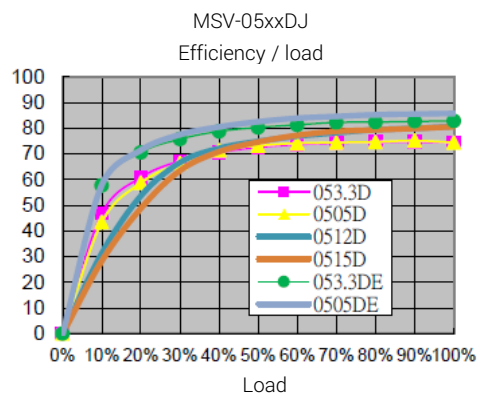
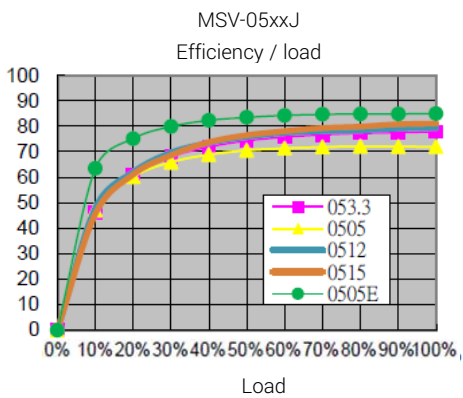
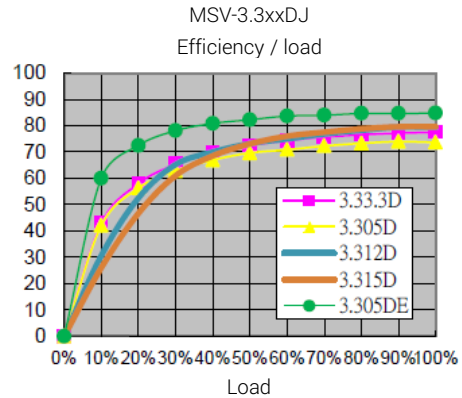
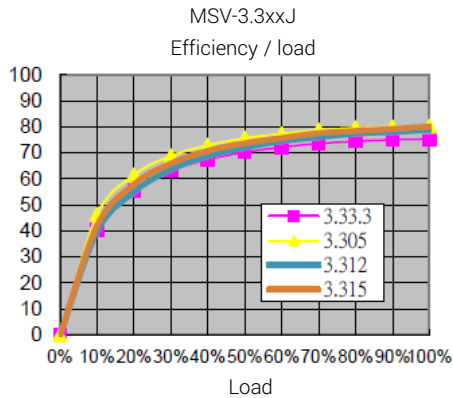
Tolerance Envelope



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Efficiency curve

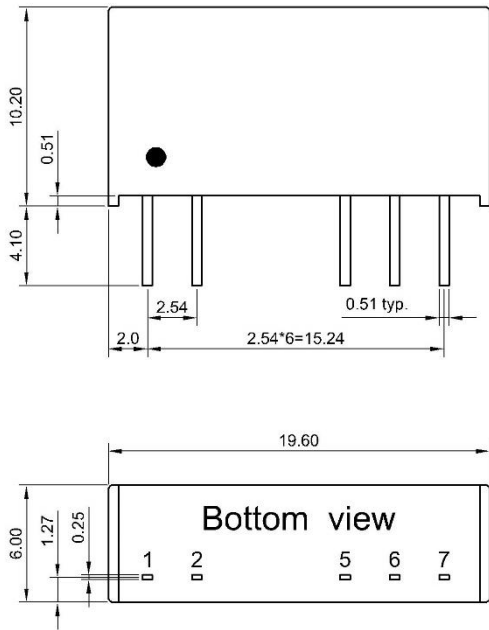


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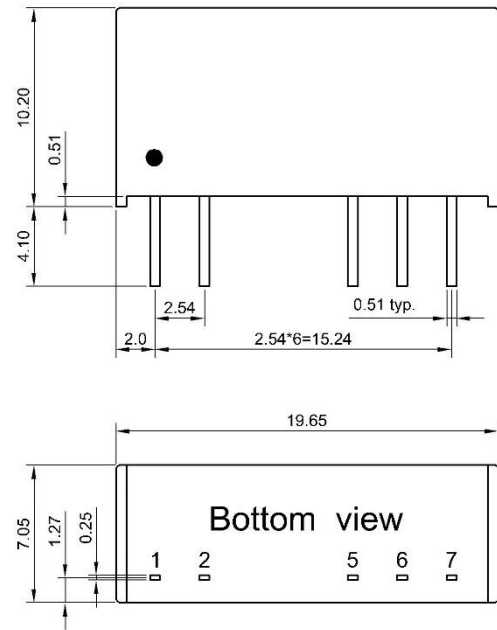
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Mechanical Dimension & Pinning

● **Standard**



● **Suffix "H"**

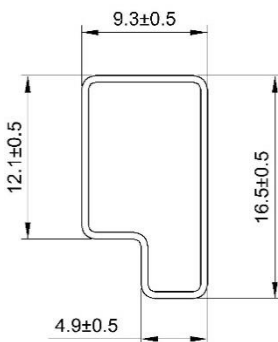


Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
5	-Vout	-Vout
6	No pin	Com.
7	+Vout	+Vout

Unit: mm

TOL: ±0.25mm

Package



UNIT:mm
1 Tube = 25 pcs
Length:520±2mm

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