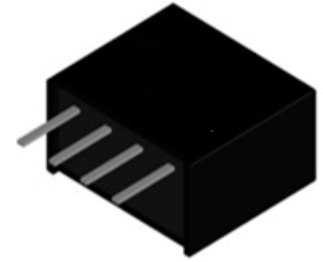


Features

- 1 Watt output power
- 1:1 input voltage range
- 1KVDC~3KVDC isolation
- -40°C to +100°C operating temperature
- SIP4 package
- EMC-EN55022/55024
- 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 @ full load	Efficiency ⁽¹⁾ (Typ.)	Capacitive Load ⁽²⁾ (Max.)
MSM-3.33.3J	3.3 VDC (±10%)	3.3 VDC	303 mA	75%	1000µF
MSM-3.305J		5 VDC	200 mA	79%	1000µF
MSM-3.312J		12 VDC	84 mA	79%	220µF
MSM-3.315J		15 VDC	67 mA	81%	220µF
MSM-053.3J	5 VDC (±10%)	3.3 VDC	303 mA	78%	1000µF
MSM-0505J		5 VDC	200 mA	80%	1000µF
MSM-0512J		12 VDC	84 mA	80%	220µF
MSM-0515J		15 VDC	67 mA	81%	220µF
MSM-123.3J	12 VDC (±10%)	3.3 VDC	303 mA	79%	1000µF
MSM-1205J		5 VDC	200 mA	80%	1000µF
MSM-1212J		12 VDC	84 mA	80%	220µF
MSM-1215J		15 VDC	67 mA	81%	220µF
MSM-153.3J	15 VDC (±10%)	3.3 VDC	303 mA	80%	1000µF
MSM-1505J		5 VDC	200 mA	74%	1000µF
MSM-1512J		12 VDC	84 mA	84%	220µF
MSM-1515J		15 VDC	67 mA	85%	220µF
MSM-243.3J	24 VDC (±10%)	3.3 VDC	303 mA	80%	1000µF
MSM-2405J		5 VDC	200 mA	80%	1000µF
MSM-2412J		12 VDC	84 mA	81%	220µF
MSM-2415J		15 VDC	67 mA	82%	220µF
MSM-2424J		24 VDC	42 mA	79%	100µF

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 2KVDC, add "H3" after P/N for isolation 3KVDC.
4. Add "P" after P/N for short circuit protection.

Part Number

M S M - 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/ 5V Vo=12/15/24V			15	%
	Ripple & noise	@20MHz BW (@Nominal Vin)			100	mVp-p
	Operating frequency	100% load at Nominal Vin			80	KHz
	Environment	Operating temperature		-40		100
Storage temperature			-55		125	°C
Relative humidity			5		95	%RH
Function	Isolation voltage	1 sec., Input to Output	1000			VDC
		Add suffix "H"	2000			VDC
		Add suffix "H3"	3000			VDC
	Isolation resistance		10			GΩ
	Isolation capacitance				120	pF
	Short Circuit Protection	Option		Continuous		
	MTBF	25°C			13.1*10 ⁶	KHours
	Vibration			MIL-STD-202G		
Safety approvals			EN60950/EN60601			
Physical	Case material			UL94V-0 black plastic		
	Potting material			Epoxy (UL94V-0)		
	Dimension			11.50 x 6.00 x 10.00 mm		
	Weight			1.4		g
EMC	EMI	EN55022		Class B		
	ESD	EN61000-4-2, Air±8kV, Contact±6kV		Criteria A		
	Radiated immunity	EN61000-4-3		Criteria A		
	Fast transient	EN61000-4-4, ±1kV		Criteria A		
	Surge	EN61000-4-5, ±0.5kV		Criteria A		
	Conducted immunity	EN61000-4-6		Criteria A		
	Magnetic field immunity	EN61000-4-8		Criteria A		

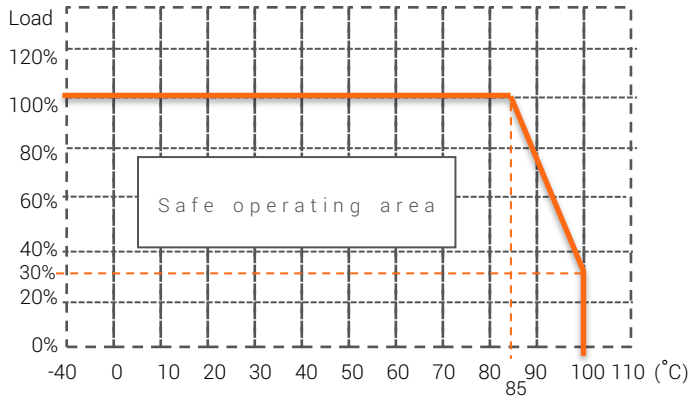
- All specifications valid at nominal input voltage, full load and 25°C unless otherwise stated.
- The product information and specifications are subject to change without prior notice.
- In this datasheet, all test methods are based on our corporate standards.
- All characteristics are for listed models, and non-standard models may perform differently. Please contact our technical support for more detail.
- Please contact our technical support for any specific requirement.
- "EMC filtering suggestion" is as following.

CTC is the professional and one among world's leading manufacturers of DC-DC/ AC-DC converters.

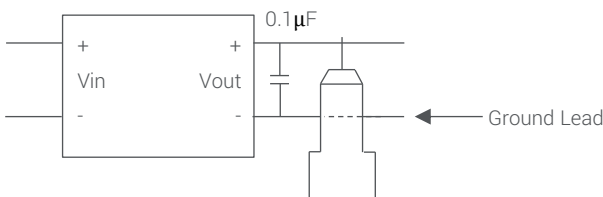
The products were used in Computers, Industrial controls, Medical equipment, Transportation, EV, ECO-power, Aero-space application and communication.

Derating Curve

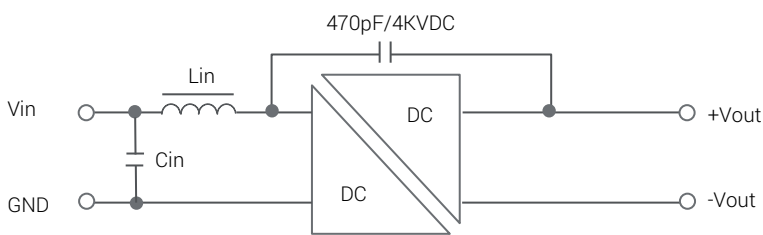
Ambient Temperature with forced air



Ripple & Noise Measure Method



EMI Filtering-Suggestion For Class B



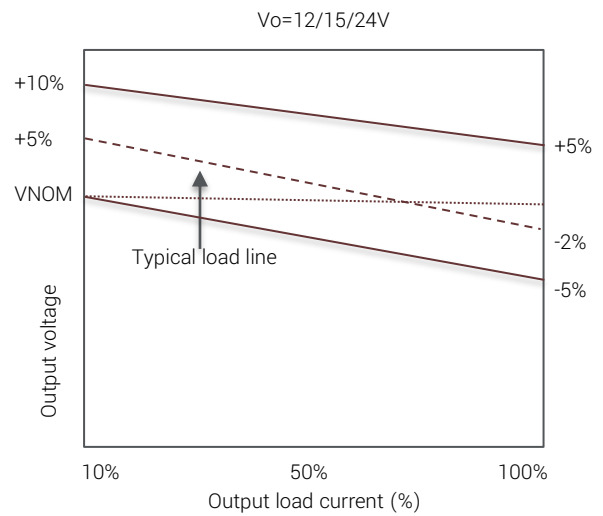
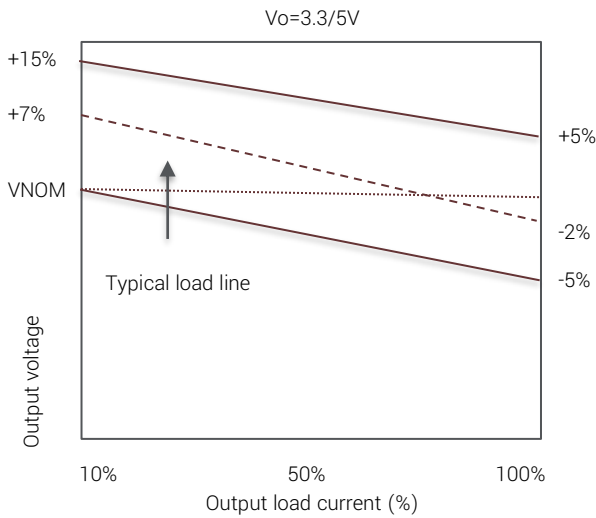
*The external filter for EN55022 Class B.

Part No.	Input voltage	Inductance/Capacitance (Lin/Cin)
MSM-J	3.3 V	3.3μH/22μF
	5 V	4.7μH/10μF
	12 V	22μH/4.7μF
	15 V	22μH/4.7μF
	24 V	47μH/2.2μF

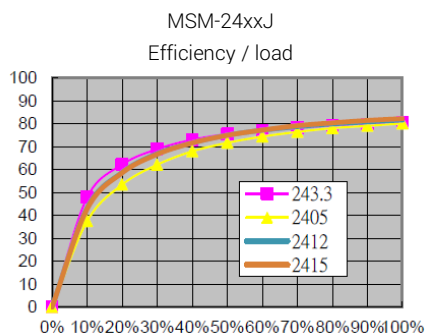
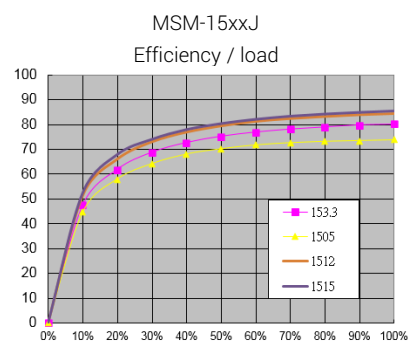
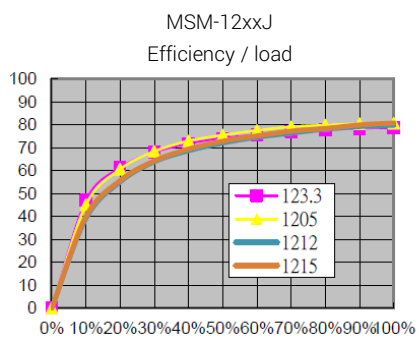
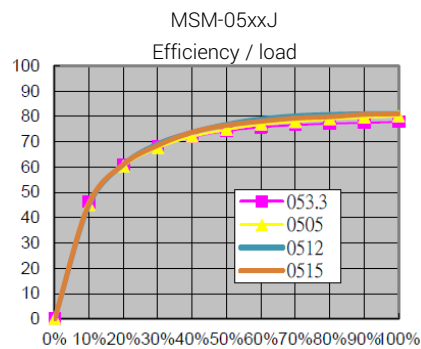
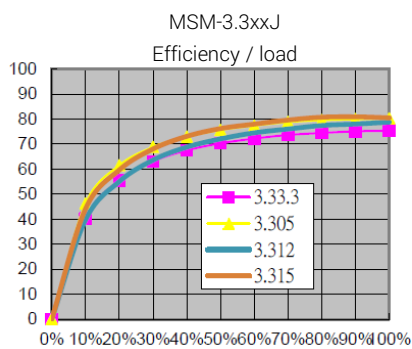
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Tolerance Envelope



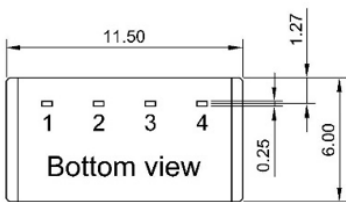
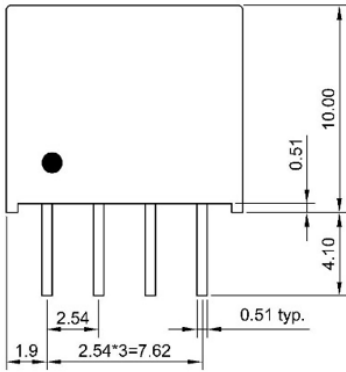
Efficiency Curve



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Mechanical Dimension & Pinning

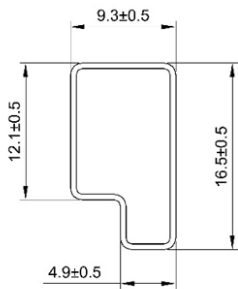


Pin	Single
1	-Vin
2	+Vin
3	-Vout
4	+Vout

Unit: mm

ToL. :±0.25mm

Package



UNIT:mm
1 Tube = 42 pcs
Length:520±2mm

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