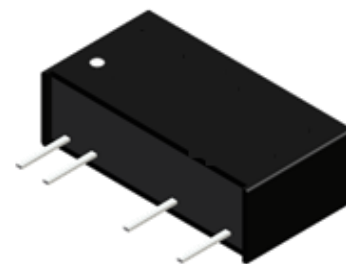


Features

- 1 Watts output power
- 1:1 input voltage range
- 5.2KVdc isolation for 1minute
- -40°C to +90°C Operating Temperature
- SIP7 Package
- EN 60950/EN60601
- EMC-EN55022/55024
- RoHS compliant

Application

- Input voltage range from 5V to 24V
- Industry control application
- Power distribution with isolated voltage solution
- No minimum load requires



Selection Guide

Part number	Input voltage	Output voltage	Output current @ full load	Efficiency ⁽¹⁾ (typ.)	Capacitive load ⁽²⁾ (max.)
P-053.3J	5 VDC (±10%)	3.3 VDC	303 mA	73%	470µF
P-0505J		5 VDC	200 mA	75%	470µF
P-0509J		9 VDC	111 mA	80%	220µF
P-0512J		12 VDC	84 mA	81%	100µF
P-0515J		15 VDC	66 mA	81%	100µF
P-053.3DJ		±3.3 VDC	±151 mA	73%	±150µF
P-0505DJ		±5 VDC	±100 mA	77%	±150µF
P-0509DJ		±9 VDC	±56 mA	80%	±100µF
P-0512DJ		±12 VDC	±43 mA	81%	±47µF
P-0515DJ		±15 VDC	±33 mA	80%	±47µF
P-123.3J	12 VDC (±10%)	3.3 VDC	303 mA	75%	470µF
P-1205J		5 VDC	200 mA	77%	470µF
P-1209J		9 VDC	111 mA	78%	220µF
P-1212J		12 VDC	84 mA	78%	100µF
P-1215J		15 VDC	66 mA	79%	100µF
P-123.3DJ		±3.3 VDC	±151 mA	75%	±150µF
P-1205DJ		±5 VDC	±100 mA	75%	±150µF
P-1209DJ		±9 VDC	±56 mA	78%	±100µF
P-1212DJ		±12 VDC	±43 mA	79%	±47µF
P-1215DJ		±15 VDC	±33 mA	80%	±47µF
P-243.3J	24 VDC (±10%)	3.3 VDC	303 mA	75%	470µF
P-2405J		5 VDC	200 mA	75%	470µF
P-2409J		9 VDC	111 mA	81%	220µF
P-2412J		12 VDC	84 mA	81%	100µF
P-2415J		15 VDC	66 mA	75%	100µF
P-243.3DJ		±3.3 VDC	±151 mA	75%	±150µF
P-2405DJ		±5 VDC	±100 mA	79%	±150µF
P-2409DJ		±9 VDC	±56 mA	80%	±100µF
P-2412DJ		±12 VDC	±43 mA	78%	±47µF
P-2415DJ		±15 VDC	±33 mA	81%	±47µF

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, the efficiency tolerance is ±3%.
3. Add "P" after P/N for short circuit protection.

Part Number

P - 05 05 D P J

Input voltage Output Voltage Dual outputs Short circuit protection

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

Specifications

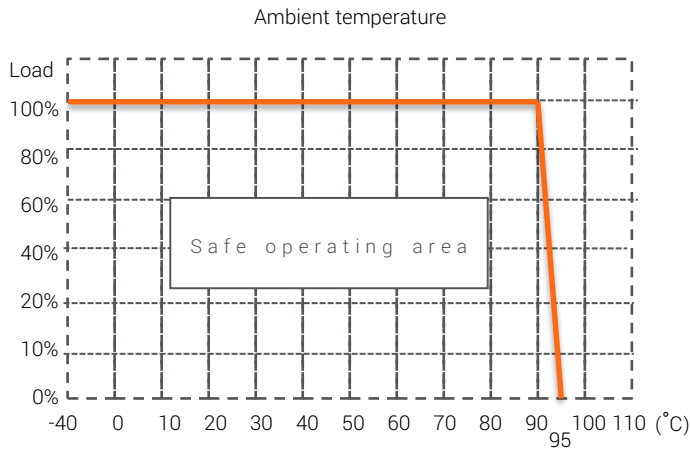
	Parameter	Conditions	Min.	Typ.	Max.	Unit
Input	Input filter			Internal capacitors		
	Input voltage range		-10		+10	%
Output	Voltage accuracy		-5		+5	%
	Minimum load		0			%
	Line regulation	LL to HL at 100% load		1.2% typ.@1% of Vin		
	Load regulation	Vo=3.3 / 5VDC		6.0	15.0	%
	(10% to 100% Load)	Vo=9 - 15 VDC		4.0	10.0	%
	Ripple & noise	@20MHZ BW (@Nominal Vin)			200	mVp-p
	Operating frequency	100% Load at Nominal Vin		20	60	KHz
Environment	Operating temperature	With derating	-40		95	°C
	Storage temperature		-55		125	°C
	Max. case temperature				105	°C
	Relative humidity		5		95	%RH
Function	Isolation voltage	1 min., Input to output	5.2			KVDC
	Isolation resistance		15			GΩ
	Isolation capacitance				10	pF
	Short Circuit Protection	Option		Continuous		
	MTBF	25°C			20.9*10 ⁶	Hours
	Vibration			MIL-STD-202G		
	Safety approvals			EN60950		
Physical	Case material		UL94V-0 black plastic			
	Potting material		Epoxy (UL94V-0)			
	Dimension		19.50(L) x 9.80(W) x 12.50(H) mm			
	Weight			4.3		g
EMC	EMI	EN55032		Class B		
	ESD	EN61000-4-2,		Criteria A		
	Fast transient	EN61000-4-4, ±1kV		Criteria A		
	Surge	EN61000-4-5, ±0.5kV		Criteria A		

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

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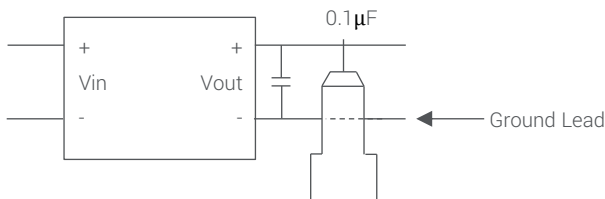
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Derating Curve



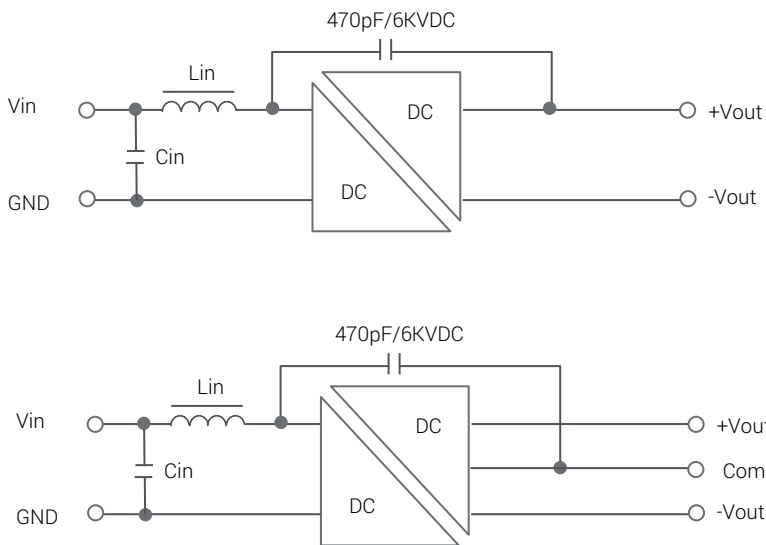
The derating curve was measured at nominal V_{in} in chamber with forced air convection.

Ripple & Noise Measure Method



Measured with 20MHz bandwidth and 0.1µF ceramic capacitor

EMI filtering-suggestion for Class B



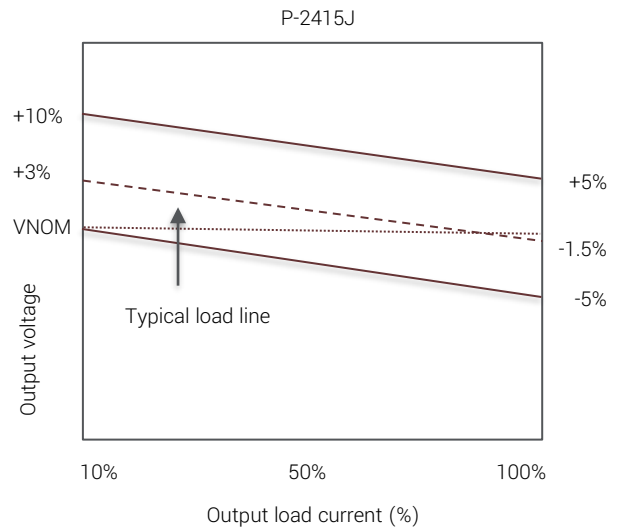
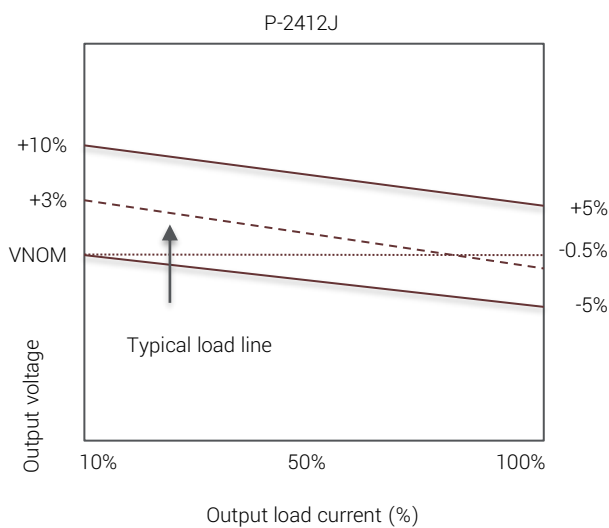
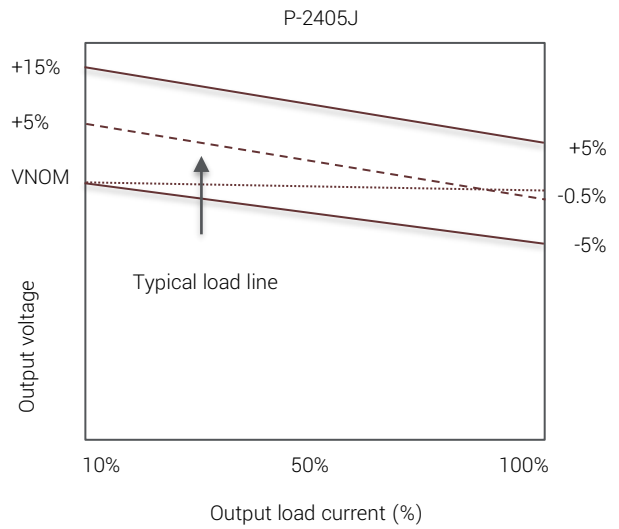
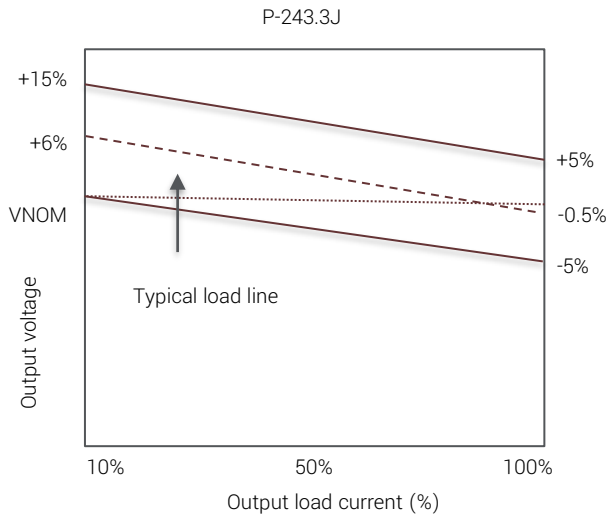
The external filter for EN55022 class B.

Part No.	Input voltage	Inductance/Capacitance (Lin/Cin)
P-J (Single)	5 V	10µH/10µF
	12 V	22µH/2.2µF
	24 V	22µH/2.2µF
P-DJ (Dual)	5 V	10µH/10µF
	12 V	22µH/2.2µF
	24 V	22µH/2.2µF

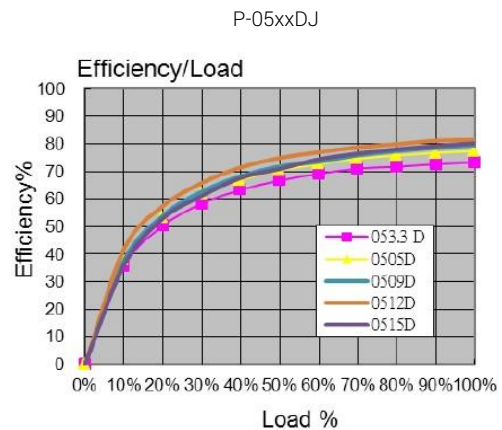
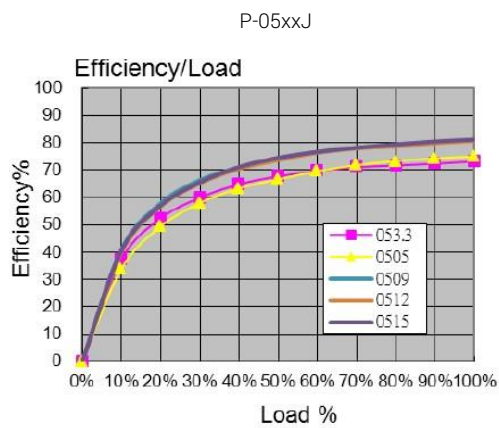
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Tolerance Envelope

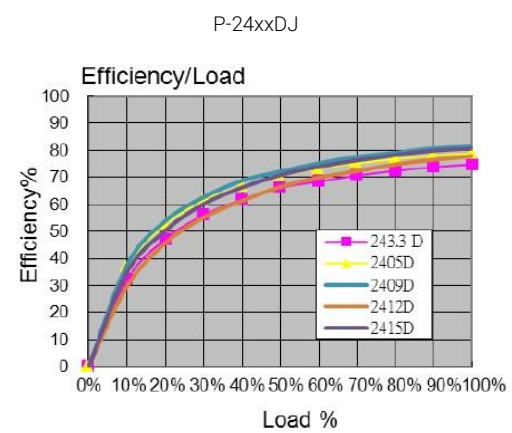
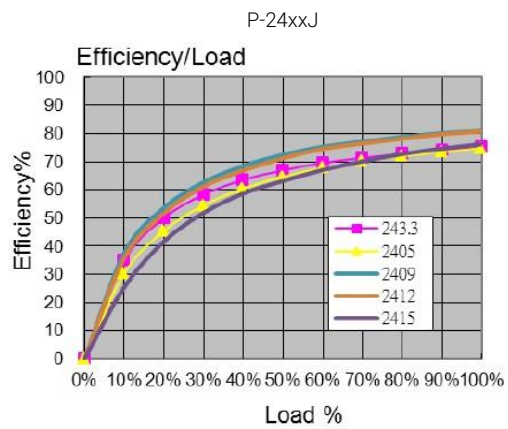
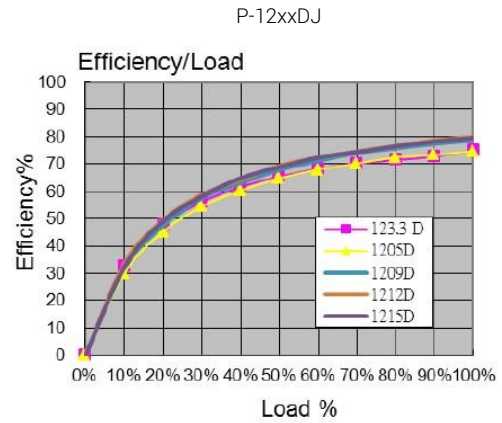
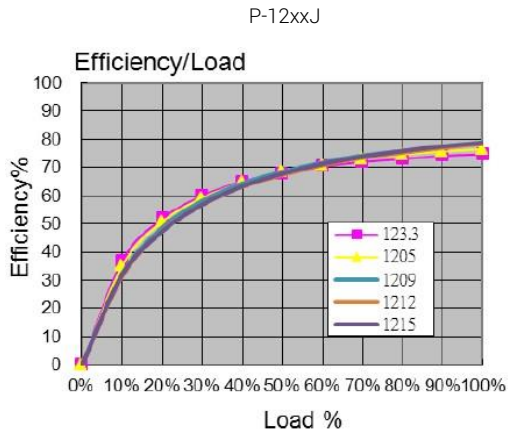


Efficiency curve

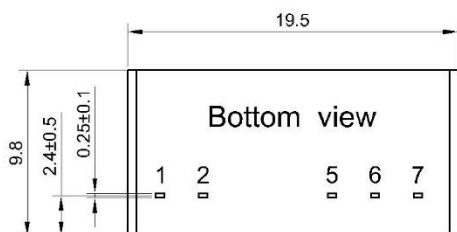
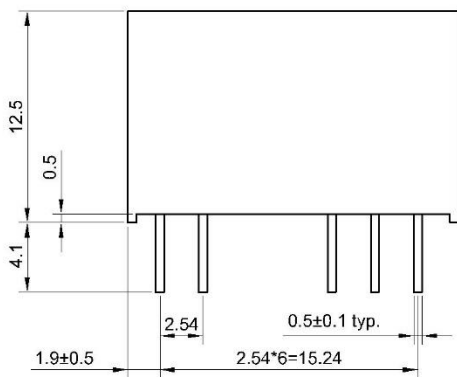


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Mechanical Dimension & Pinning



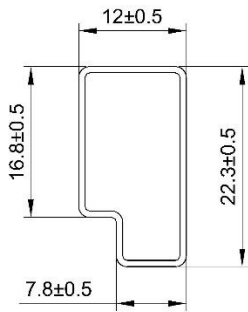
Unit : mm
Tolerance : ±0.25mm

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

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Package



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