

# POWERLINE - DC/DC-Converter

E-Series, 3 Watt, DIP24, Regulated & Wide Input Range (Single & Dual Output)

# RECOM

## Features

- 3 Watts in DIP-24 Package
- Include 3.3VDC Output
- 4.5-6V, 9-18V, 18-36 and 36-75V Input
- No Derating to 71°C
- Typical Efficiency up to 80%
- Regulated Outputs
- Wide Input Voltage Range
- Over Current Protection, Continuous
- Pi Input Filter
- Low Profile, 10.2 mm Height
- MTBF 1.09 x 10<sup>6</sup> Hours
- 2 Year Warranty
- Standard and SMT-Pinning
- Non-Conductive Black Plastic
- International Safety Standard Approvals
- UL 1950 Component Recognised



## Selection Guide 5V, 12V, 24V, and 48V Input Types

Part Number	Input Range	Output Voltage	Output Current	Efficiency (%)
RP03-0533SE	4.5-6.0 VDC	3.3 VDC	600 mA	61
RP03-0505SE	4.5-6.0 VDC	5 VDC	600 mA	70
RP03-0512SE	4.5-6.0 VDC	12 VDC	250 mA	75
RP03-0515SE	4.5-6.0 VDC	15 VDC	200 mA	75
RP03-0505DE/DS	4.5-6.0 VDC	±5 VDC	±300 mA	70
RP03-0512DE/DS	4.5-6.0 VDC	±12 VDC	±125 mA	75
RP03-0515DE/DS	4.5-6.0 VDC	±15 VDC	±100 mA	75
RP03-1233SE	9-18 VDC	3.3 VDC	600 mA	65
RP03-1205SE	9-18 VDC	5 VDC	600 mA	74
RP03-1212SE	9-18 VDC	12 VDC	250 mA	79
RP03-1215SE	9-18 VDC	15 VDC	200 mA	79
RP03-1205DE/DS	9-18 VDC	±5 VDC	±300 mA	74
RP03-1212DE/DS	9-18 VDC	±12 VDC	±125 mA	79
RP03-1215DE/DS	9-18 VDC	±15 VDC	±100 mA	79
RP03-2433SE	18-36 VDC	3.3 VDC	600 mA	66
RP03-2405SE	18-36 VDC	5 VDC	600 mA	74
RP03-2412SE	18-36 VDC	12 VDC	250 mA	80
RP03-2415SE	18-36 VDC	15 VDC	200 mA	80
RP03-2405DE/DS	18-36 VDC	±5 VDC	±300 mA	74
RP03-2412DE/DS	18-36 VDC	±12 VDC	±125 mA	80
RP03-2415DE/DS	18-36 VDC	±15 VDC	±100 mA	80
RP03-4833SE	36-75 VDC	3.3 VDC	600 mA	68
RP03-4805SE	36-75 VDC	5 VDC	600 mA	75
RP03-4812SE	36-75 VDC	12 VDC	250 mA	80
RP03-4815SE	36-75 VDC	15 VDC	200 mA	80
RP03-4805DE/DS	36-75 VDC	±5 VDC	±300 mA	75
RP03-4812DE/DS	36-75 VDC	±12 VDC	±125 mA	80
RP03-4815DE/DS	36-75 VDC	±15 VDC	±100 mA	80

## Maximum Capacitive Load

RP03-xx05SE	1000µF
RP03-xx12SE	220µF
RP03-xx15SE	150µF
RP03-xx05DE/DS	±470µF
RP03-xx12DE/DS	±100µF
RP03-xx15DE/DS	±68µF

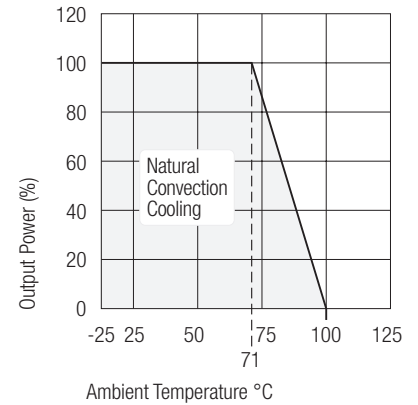
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## Specifications (typical at nominal input and 25°C unless otherwise noted)

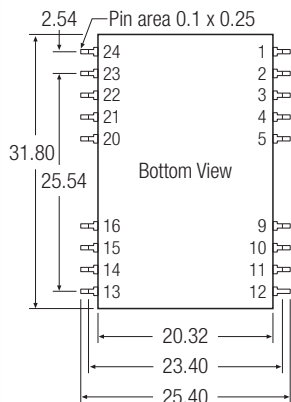
Input Voltage Range	5V types nominal	4.5-6V
	12V types nominal	9-18V
	24V types nominal	18-36V
	48V types nominal	36-75V
Input Filter	Pi Type	
Voltage Accuracy	±2%	
Voltage Balance, Dual Outputs	±2%	
Ripple and Noise, 20MHz BW	±1%/P-P of Vout max.	
Line Regulation	Single Output	±0.5%
	Dual Output	±0.5%
Load Regulation, FL-1/4FL	Single Output	±0.2%
	Dual Output	±2%
Temperature Coefficient	±0.02%/°C	
Over Current Protection	Continuous	
Switching Frequency	100kHz, min.	
Isolation Voltage, I/O	1600VDC	
	„H“ Models	3000VDC
Isolation Voltage, O/O (only DS) Suffix "DS" RPO3-*DS*	500VDC	
Isolation Resistance	10 <sup>9</sup> Ω	
Isolation Capacitance	300pF max.	
Operating Temperature Range	-25°C to +71°C	
Storage Temperature Range	-55°C to +125°C	
Cooling	Free-air Convection	
Case Material	Non-Conductive Black Plastic	
Dimensions	31.8 x 20.3 x 10.2 mm	
	(MIL-HDBK-217F TA = 25°C full load)	
	1.09 x 10 <sup>6</sup> Hours	



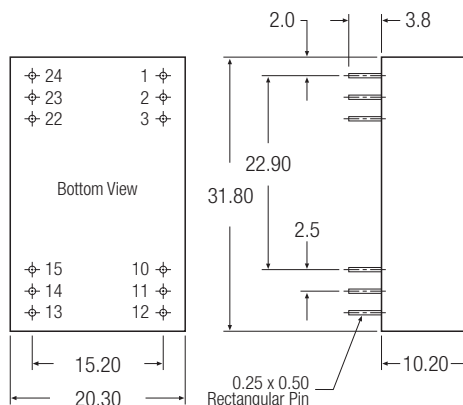
## Package Style and Pinning (mm)

### SMD Package Style

Same spec. as the original DIP spec. and pin definition, excl. of the SMD type pin.



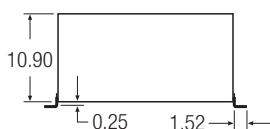
### DIP24 Package Style



### Pin Connections

Pin #	Single	Dual	Dual Separate
1	+ V in	+ V in	+ V in
2	NC	- V out	- V1 out
3	NC	Common	+ V1 out
10	- V in	Common	- V2 out
11	+ V out	+ V out	+ V2 out
12	- V in	- V in	- V in
13	- V in	- V in	- V in
14	+ V out	+ V out	+ V2 out
15	- V out	Common	- V2 out
22	NC	Common	+ V1 out
23	NC	- V out	- V1 out
24	+ V in	+ V in	+ V in

NC = No Connection



Pin Pitch Tolerance ±0.35 mm