

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 10⁶ 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

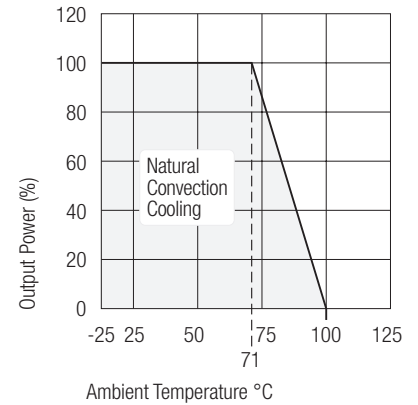
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Specifications (typical at nominal input and 25°C unless otherwise noted)

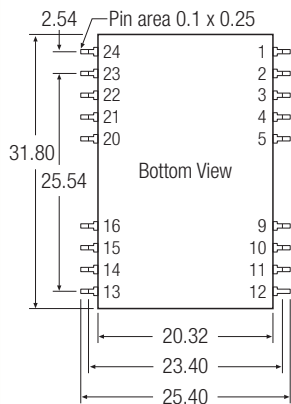
Input Voltage Range	5V types nominal	4.5-6V
	12V types nominal	9-18V
	24V types nominal	18-36V
	48V types nominal	36-75V
Input Filter	Pi Type	
Voltage Accuracy	±2%	
Voltage Balance, Dual Outputs	±2%	
Ripple and Noise, 20MHz BW	±1%/P-P of Vout max.	
Line Regulation	Single Output	±0.5%
	Dual Output	±0.5%
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 ⁹ 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 ⁶ Hours	



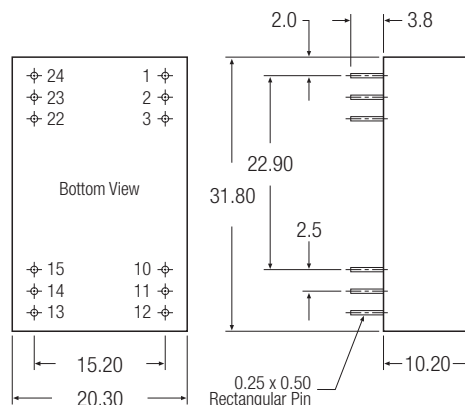
Package Style and Pinning (mm)

SMD Package Style

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



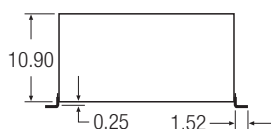
DIP24 Package Style



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