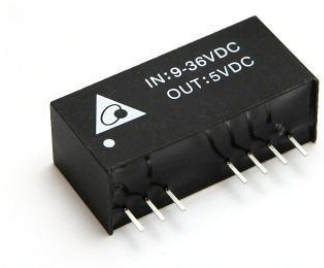
PJ03S/D Series

3W DC/DC CONVERTER, SIP-Package, 4:1 Ultra Wide Input Range



FEATURES

- Efficiency up to 81%
- Overload Protection
- Fully Regulated Output Voltage
- Operating Temperature Range -40°C to +85°C
- Wide 4:1 Input Range
- Isolation Voltage 1600 VDC
- Remote On/Off Control
- Lead free, RoHs compliant
- UL/cUL/IEC/EN 60950-1 Safety Approval(pending)
- 3 Years Product Warranty

The PJ03S/D series are miniature, SIP-8 package, isolated 3W DC/DC converters with 1,600VDC isolation. The PJ03S/D series features fully regulated output and wide 4:1 input voltage ranges. It offers over load protection and allows a wide operating temperature range of –40°C to +85°C. These isolated DC/DC converters are the latest offering from a world leader in power systems technology and manufacturing — Delta Electronics, Inc

Model Selection Guide

Model Number	Input Voltage (Range)	Output Voltage	Output Current		Input Current		Max. capacitive Load	Efficiency (typ.)
			Max.	Min.	@Max. Load	@No Load		@Max. Load
	VDC	VDC	mA	mA	mA(typ.)	mA(typ.)	μF	%
PJ03S1203A	12 (4.5 ~ 18)	3.3	700	175	260	60	1760	74
PJ03S1205A		5	600	150	320		1000	78
PJ03S1212A		12	250	63	313		170	80
PJ03S1215A		15	200	50	313		110	80
PJ03D1205A		±5	±300	±75	313		470*	80
PJ03D1212A		±12	±125	±31	313		1008*	80
PJ03D1215A		±15	±100	±25	313		47 *	80
PJ03S2403A	24 (9 ~ 36)	3.3	700	175	128	25	1760	75
PJ03S2405A		5	600	150	156		1000	80
PJ03S2412A		12	250	63	154		170	81
PJ03S2415A		15	200	50	154		110	81
PJ03D2405A		±5	±300	±75	158		470 *	79
PJ03D2412A		±12	±125	±31	156		100 *	80
PJ03D2415A		±15	±100	±25	154		47 *	81
PJ03S4803A	48 (18 ~ 75)	3.3	700	175	65	15	1760	74
PJ03S4805A		5	600	150	79		1000	79
PJ03S4812A		12	250	63	79		170	79
PJ03S4815A		15	200	50	79		110	79
PJ03D4805A		±5	±300	±75	79		470*	79
PJ03D4812A		±12	±125	±31	79		100 *	79
PJ03D4815A		±15	±100	±25	78		47 *	80

* For each output

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http://www.deltaww.com/dcdc

Input Characteristics

Parameter	Model	Min.	Typ.	Max.	Unit
Input Surge Voltage (1 sec. max.)	12V Input Models	-0.7	---	25	VDC
	24V Input Models	-0.7	---	50	
	48V Input Models	-0.7	---	100	
Start-Up Threshold Voltage	12V Input Models	3	4	4.5	
	24V Input Models	4.5	6	9	
	48V Input Models	8.5	12	18	
Under Voltage Shutdown	12V Input Models	---	3.5	4	
	24V Input Models	---	---	8	
	48V Input Models	---	---	16	
Reverse Polarity Input Current	All Models	---	---	1	A
Short Circuit Input Power		---	---	2500	mW
Internal Filter Type		Capacitor type			
Internal Power Dissipation		---	---	2600	mW

Output Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Unit
Output Voltage Setting Accuracy	At 50% Load and Nominal Vin	---	---	±1.0	%Vom.
Output Voltage Balance	Dual Output, Balanced Loads	---	±0.5	±2.0	%
Line Regulation	Vin=Min. to Max.	---	±0.3	±0.5	%
Load Regulation	Io=25% to 100%	---	±0.5	±1.0	%
Ripple & Noise (20MHz)	0-20 MHz Bandwidth	---	50	75	mV $_{P-P}$
Transient Recovery Time	25% Load Step Change	---	300	500	µsec
Transient Response Deviation		---	±3	±5	%
Temperature Coefficient		---	---	±0.02	%/℃
Short Circuit Protection	Continuous				

General Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Unit
I/O Isolation Voltage (rated)	60 Seconds	1600	---	---	VDC
I/O Isolation Resistance	500 VDC	1000	---	---	MΩ
I/O Isolation Capacitance	100KHz, 1V	---	200	---	pF
Switching Frequency		---	350	---	KHz
MTBF (calculated)	MIL-HDBK-217F@25℃, Ground Benign	800,000	---	---	Hours
Safety Approvals(pending)	UL/cUL 60950-1 recognition (CSA certificate), IEC/EN 60950-1(CB-scheme)				

Recommended Input Fuse

12V Input Models	24V Input Models	48V Input Models
1500mA Slow-Blow Type	700mA Slow-Blow Type	350mA Slow-Blow Type

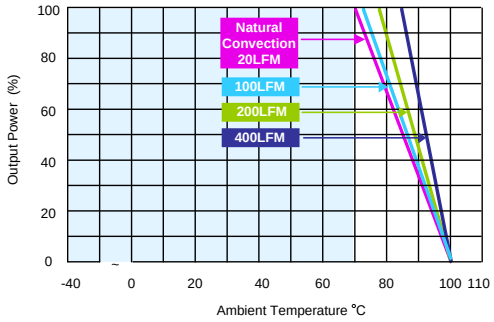
Remote On/Off Control

Parameter	Conditions	Min.	Typ.	Max.	Unit
Converter On	Under 0.6 VDC or Open Circuit, drops down to 0VDC by 2mV/℃				
Converter Off		2.7	---	15	VDC
Device Standby Input Current		---	1	2.5	mA
Control Input Current (on)	Vin = 0V	---	---	1	mA
Control Input Current (off)	Vin = 5.0V	---	---	1	mA
Control Common	Referenced to Negative Input				

Environmental Characteristics

Parameter	Conditions	Min.	Max.	Unit
Operating Ambient Temperature Range (See Power Derating Curve)	Natural Convection	-40	+85	℃
Case Temperature		---	105	℃
Storage Temperature Range		-55	+125	℃
Humidity (non condensing)		---	95	% rel. H
Cooling	Free-Air convection			
Lead Temperature (1.5mm from case for 10Sec.)		---	260	℃

Power Derating Curve

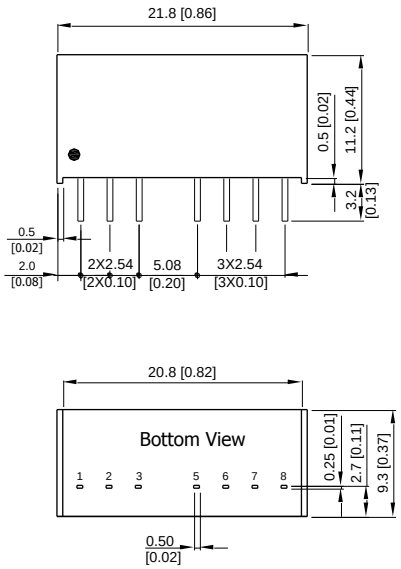


Notes

1. Specifications typical at Ta=+25℃, resistive load, nominal input voltage and rated output current unless otherwise noted.
2. Transient recovery time is measured to within 1% error band for a step change in output load of 75% to 100%.
3. Ripple & Noise measurement bandwidth is 0-20 MHz measured with a 1μF M/C.
4. These power converters require a minimum output loading to maintain specified regulation, operation under no-load conditions will modules; however, they may not meet all specifications listed.
5. All DC/DC converters should be externally fused at the front end for protection.
6. We recommend to protect the converter by a slow blow fuse in the input supply line.
7. That “natural convection” is about 20LFM but is not equal to still air (0 LFM).
8. Specifications are subject to change without notice.

Mechanical Drawing

Mechanical Dimensions



Pin Connections

Pin	Single Output	Dual Output
1	-Vin	-Vin
2	+Vin	+Vin
3	Remote	Remote
5	NC	NC
6	+Vout	+Vout
7	-Vout	Common
8	NC	-Vout

NC: No Connection

- ▶All dimensions in mm (inches)
- ▶Tolerance: X.X±0.5 (X.XX±0.02)
  X.XX±0.25 (X.XXX±0.01)
- ▶Pins ±0.1(±0.004)

Physical Outline

Case Size	:	21.8x9.3x11.2 mm (0.86x0.37x0.44 inches)
Case Material	:	Non-Conductive Black Plastic (flammability to UL 94V-0 rated)
Pin Material	:	Alloy 42
Weight	:	4.8g

Part Numbering System

P	J	03	S	48	05	A
Form factor	Family series	Watt	Number of Outputs	Input Voltage	Output Voltage	Option Code
D-DIP	A~Z	01:1W	S - Single	03:3.3V	03:3.3V	A - Std. Functions
P-SIP		02:2W	D - Dual	05: 5V	05: 5V	
S-SMD		03:3W		12:12V	12:12V	
		04:4W		24: 24V	15: 15V	
		06:6W		48:48V	24: 24V	

WARRANTY

Delta offers a three(3) years limited warranty. Complete warranty information is listed on our web site or is available upon request from Delta.

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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
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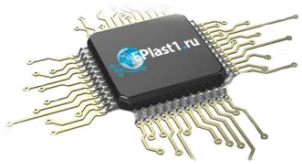
- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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