DJ06S/ D Series

6W DC/DC CONVERTER, DIP-Package, High Isolation



FEATURES

- Efficiency up to 84%
- DIP Package with Industry Standard Pinout
- 4:1 Wide Input Range
- Operating Temperature Range -40°C to +85°C
- Isolation Voltage 1500VDC /3000VDC(Optional)
- Short Circuit Protection
- Overload Protection
- Complies with EN 55022 Class A
- Lead free, RoHs Compliant
- 3 Years Product Warranty



The DJ06S/D series is miniature, DIP Package, isolated 6W DC/DC converters with 1,500VDC/3000VDC isolation. It offers short circuit 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. With creative design technology and optimization of component placement, these converters possess outstanding electrical and thermal performance, as well as extremely high reliability under highly stressful operating conditions.

Model List

Model Number	Input Voltage (Range)	Output Voltage	Output Current	Input Current		Reflected Ripple Current	Max. capacitive Load	Efficiency (typ.)
			Max.	@Max. Load	@No Load			@Max. Load
	VDC	VDC	mA	mA(typ.)	mA(typ.)	mA(typ.)	uF	%
DJ06S2403A	24 (9 ~ 36)	3.3	1200	214	20	20	470	77
DJ06S2405A		5	1200	313			470	80
DJ06S2412A		12	500	298			100	84
DJ06S2415A		15	400	298			100	84
DJ06S2424A		24	250	298			47	84
DJ06D2405A		±5	±500	260			100*	80
DJ06D2412A		±12	±250	298			100*	84
DJ06D2415A		±15	±200	298			100*	84
DJ06S4803A	48 (18 ~ 75)	3.3	1200	107	10	15	470	77
DJ06S4805A		5	1200	156			470	80
DJ06S4812A		12	500	149			100	84
DJ06S4815A		15	400	149			100	84
DJ06S4824A		24	250	149			47	84
DJ06D4805A		±5	±500	130			100*	80
DJ06D4812A		±12	±250	149			100*	84
DJ06D4815A		±15	±200	149			100*	84

* For each output

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Input Characteristics

Parameter	Model	Min.	Typ.	Max.	Unit
Input Surge Voltage (1 sec. max.)	24V Input Models	-0.7	---	50	VDC
	48V Input Models	-0.7	---	100	
Start-Up Voltage	24V Input Models	7	8	9	
	48V Input Models	14	16	18	
Under Voltage Shutdown	24V Input Models	---	---	8.5	
	48V Input Models	---	---	16	
Short Circuit Input Power	All Models	---	---	3000	mW
Internal Power Dissipation		---	---	2500	mW
Conducted EMI		Compliance to EN 55022,class A and FCC part 15,class A			

Output Characteristics

Parameter	Conditions	Min.	Typ.	Max.	Unit
Output Voltage Accuracy		---	±1.0	±2.0	%
Output Voltage Balance	Dual Output, Balanced Loads	---	±1.0	±2.0	%
Line Regulation	Vin=Min. to Max.	---	±0.1	±0.5	%
Load Regulation	Io=0% to 100%	---	±0.6	±1.2	%
Min.Load	No minimum Load Requirement				
Ripple & Noise (20MHz)		---	50	80	mV_{P-P}
Ripple & Noise (20MHz)	Over Line, Load & Temp.	---	---	100	mV_{P-P}
Transient Recovery Time	25% Load Step Change	---	300	600	uS
Transient Response Deviation		---	±3	---	%
Temperature Coefficient		---	±0.01	±0.02	%/℃
Over Load Protection	Foldback	110	150	---	%
Short Circuit Protection	Continuous				

General Characteristics

Parameter	Conditions		Min.	Typ.	Max.	Unit
I/O Isolation Voltage (rated)	60 Seconds	Standard	1500	---	---	VDC
		Suffix H (note 5)	3000	---	---	VDC
I/O Isolation Resistance	500 VDC		1000	---	---	MΩ
I/O Isolation Capacitance	100KHz, 1V		---	1000	---	pF
Switching Frequency			---	330	---	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

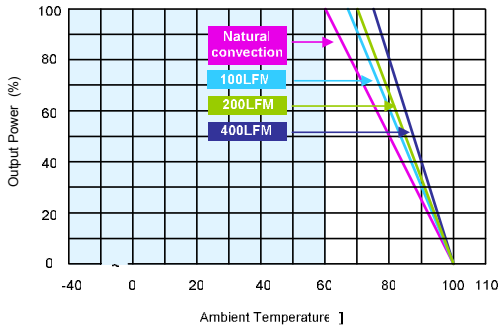
24V Input Models	48V Input Models
1500mA Slow-Blow Type	800mA Slow-Blow Type

Environmental Characteristics

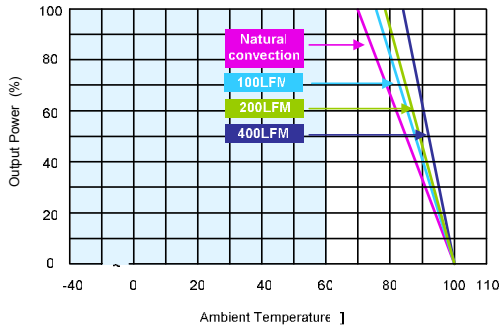
Parameter	Conditions	Min.	Max.	Unit
Operating Temperature Range (with Derating)	Ambient	-40	+85	℃
Case Temperature		---	+100	℃
Storage Temperature Range		-50	+125	℃
Humidity (non condensing)		---	95	% rel. H
Cooling	Free-Air convection			
Lead Temperature (1.5mm from case for 10Sec.)		---	260	℃

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Power Derating Curve



(3.3 & 5V Output Models)



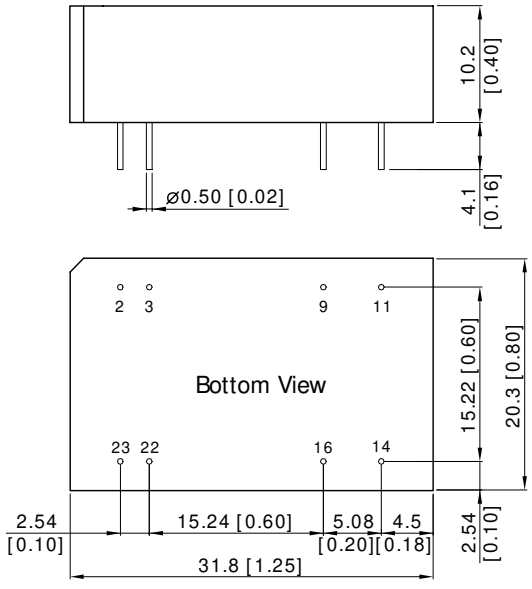
(Other Output Models)

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 0-20MHz.
4. All DC/DC converters should be externally fused at the front end for protection.
5. To order the converter at 3KVDC isolation, please add a suffix H (e.g. DJ06S2403H) to order code.
6. Specifications subject to change without notice.

Mechanical Drawing

Mechanical Dimensions



Pin Connections

Pin	Single Output	Dual Output
2	-Vin	-Vin
3	-Vin	-Vin
9	No Pin	Common
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Common
22	+Vin	+Vin
23	+Vin	+Vin

NC: No Connection

- ▶All dimensions in mm (inches)
- ▶Tolerance: X.X±0.25 (X.XX±0.01)
  X.XX±0.13 (X.XXX±0.005)
- ▶Pin diameter ⇔ 0.5 ±0.05 (0.02±0.002)

Physical Outline

Case Size	:	31.8x20.3x10.2mm (1.25x0.80x0.40 Inches)
Case Material	:	Non-Conductive Black Plastic (flammability to UL 94V-0 rated)
Weight	:	12.7g

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Part Numbering System

D	J	06	S	24	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	H- High isolation
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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