

Description

The SD10A is a full-featured, dual output, non-isolated DC-DC converter providing over 66 watts of power in a small 3.3" SIP. These high efficiency converters have two 10 amp outputs to power today's microprocessors, ASICs, and DSPs.

Each output uses an external trim resistor to set the output voltage, allowing variable control. The outputs come up simultaneously and each output has a separate on/off control, allowing them to be sequenced. Both outputs include short circuit protection and have remote sense. A phase-shifted-synchronization approach significantly reduces ripple and noise on the input line. The SD10A uses Bourns Switch Power's patented V²™ technology to ensure extremely fast transient response.

Features

- Dual 10 Amp Outputs
- 90 % Efficiency
- Independent Programmable Outputs
- Low 0.5" Profile
- Phase Shifted Synchronization
- Short Circuit Protection with auto-restart
- Remote Sense
- Improved Input Filtering
- Fast Transient Response
- High-temperature Operation
- Remote Enable Each Output
- Accepts Output Pre-charge
- Simultaneous Startup
- EN55022 Class A

Patent Pending

Common Specifications

	Min	Nom	Max	Units	Notes
Input					
Voltage	4.5	5	5.5	Vdc	
	3.0	3.3	3.6	Vdc	3.15 V _{in} min if V _{out} >2.2 V
Current			15	A	
Remote Enable					each output
High = Disable	2.4			Vdc	
Low = Enable			0.4	Vdc	Open = Enable
Outputs (each output)					
Current	0		10	A	
Current Limit	11			A	
Line Regulation		±5		mV	over full line range
Load Regulation		±7		mV	over full load range
Ripple			100	mV pp	
Dynamic Response					
0 to 100 % load		100		mV	Δi/Δt = 0.2 A/μs
		100		μs	
100 to 0 % load		100		mV	Δi/Δt = 0.2 A/μs
		100		μs	
Cross Regulation		0		mV	
Temperature Regulation			±0.01	%/°C	
General					
MTBF		755		k Hrs	25 °C, 60 % load
Operating Temperature	-25		85	°C	
	-40		85	°C	Option
Storage Temperature	-55		125	°C	
Switching Frequency		200		kHz	3.3 V input
		300		kHz	5 V input



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Electrical Specifications

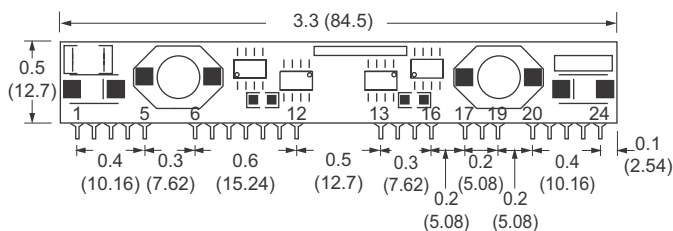
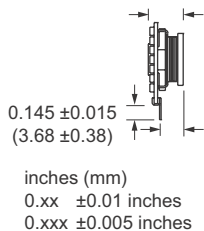
	Input (V)	V _{out1} (V)	I _{out1} (A)	V _{out2} (V)	I _{out2} (A)	Noise (mV pp) max	Efficiency (%) typ
SD10A-3DA	3.3	1 - 2.5	10	1 - 2.5	10	100	90
SD10A-5DA	5	1 - 3.5	10	1 - 3.5	10	100	91

Each output separately adjustable using an external trim resistor from TRIM to GND. See application circuit below.

Standard Options

Add option designators to the end of the part number. Example: SD10A-3DA-Z

Option	Description
Z	-40 °C operation



Pin	Description	Pin	Description	Pin	Description
1	GND	9	GND	17	Trim ₂
2	GND	10	GND	18	Remote Sense ₂
3	V _{out1}	11	V _{in}	19	Enable ₂
4	V _{out1}	12	V _{in}	20	V _{out2}
5	V _{out1}	13	V _{in}	21	V _{out2}
6	Enable ₁	14	V _{in}	22	V _{out2}
7	Remote Sense ₁	15	GND	23	GND
8	Trim ₁	16	GND	24	GND

