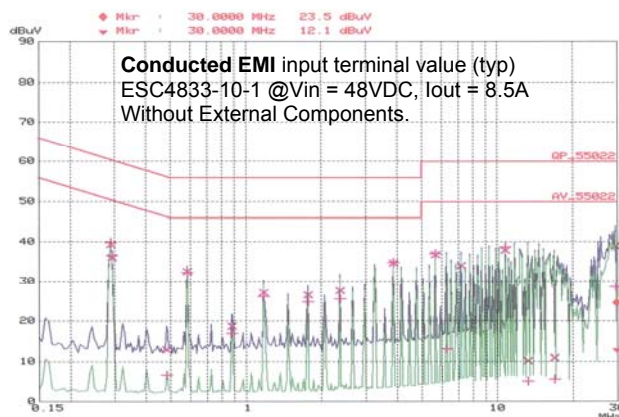




- High efficiency 89% @ 3.3V (SR topology)
- Save up to 40% board space
- Standard pin out; **Fully replaceable** with 2"x1.6" standard case
- 1500V **Basic Insulation** (input to output)
- **Built-in EMC filter** meets **EN 55022 class B** and **FCC Level B** without external components
- MTBF ≥ 1,989,000 hours @ 50°C GB (BellCore TR-332)



Model Selection Guide

Typical @ Ta = +25°C under nominal line voltage and full load conditions unless noted.

Model	Input				Output			Efficiency @FL
	Voltage (Volts)		Current (A)		Voltage (Volts)	Current (A)	Power (W)	
	Nominal	Range	No load	Full load				Typ. (%)
ESC4850-7-E	48	36-75	0.05	0.82	5.0	7	35	89%
ESC4833-10-E	48	36-75	0.05	0.79	3.3	10	33	88%
ESC4825-10-E	48	36-75	0.05	0.6	2.5	10	25	87%
ESC4818-10-E	48	36-75	0.05	0.44	1.8	10	18	85%
ESC2450-7-E	24	18-36	0.1	1.64	5.0	7	35	88%
ESC2433-10-E	24	18-36	0.1	1.56	3.3	10	33	87%
ESC2425-10-E	24	18-36	0.1	1.2	2.5	10	25	86%
ESC2418-10-E	24	18-36	0.1	0.88	1.8	10	18	85%
ESC4850-6-E	48	36-75	0.05	0.69	5.0	6	30	90%
ESC4833-8-E	48	36-75	0.05	0.62	3.3	8	26.4	89%
ESC4825-8-E	48	36-75	0.05	0.48	2.5	8	20	87%
ESC4818-8-E	48	36-75	0.05	0.35	1.8	8	14.4	85%
ESC2450-6-E	24	18-36	0.1	1.4	5.0	6	30	89%
ESC2433-8-E	24	18-36	0.1	1.25	3.3	8	26.4	88%
ESC2425-8-E	24	18-36	0.1	0.96	2.5	8	20	87%
ESC2418-8-E	24	18-36	0.1	0.71	1.8	8	14.4	85%
ESC4850-5-E	48	36-75	0.05	0.59	5.0	5	25	88%
ESC4833-7-E	48	36-75	0.05	0.56	3.3	7	23.1	87%
ESC4825-7-E	48	36-75	0.05	0.43	2.5	7	17.5	86%
ESC2450-5-E	24	18-36	0.1	1.18	5.0	5	25	88%
ESC2433-7-E	24	18-36	0.1	1.11	3.3	7	23.1	87%
ESC2425-7-E	24	18-36	0.1	0.85	2.5	7	17.5	86%
ESC1250-6-E	12	9-18	0.1	2.87	5.0	6	30	87%
ESC48120-S-E	48	36-75	0.006	0.710	12.0	2.5	30	88%
ESC48150-S-E	48	36-75	0.006	0.702	15.0	2.0	30	89%
ESC24120-S-E	24	18-36	0.010	1.43	12.0	2.5	30	87%
ESC24150-S-E	24	18-36	0.010	1.42	15.0	2.0	30	88%
ESC12120-S-E	12	9-18	0.02	2.33	12.0	2.0	24	86%
ESC12150-S-E	12	9-18	0.02	2.33	15.0	1.6	24	87%
ESC48120-D-E	48	36-75	0.006	0.710	±12.0	±1.25	30	88%
ESC48150-D-E	48	36-75	0.006	0.702	±15.0	±1.0	30	89%
ESC48240-D-E	48	36-75	0.006	0.68	±24	±0.6	30	87%
ESC24120-D-E	24	18-36	0.010	1.43	±12.0	±1.25	30	87%
ESC24150-D-E	24	18-36	0.010	1.42	±15.0	±1.0	30	88%
ESC24240-D-E	24	18-36	0.010	0.69	±24	±0.6	30	87%
ESC12120-D-E	12	9-18	0.02	2.33	±12.0	±1.0	24	86%
ESC12150-D-E	12	9-18	0.02	2.33	±15.0	±0.8	24	87%

Enable polarity: "-1" for positive logic Built-In EMC Input Filter, "-P" for positive logic PI Input Filter
"-0" for negative logic Built-In EMC Input Filter, "-N" for negative logic PI Input Filter

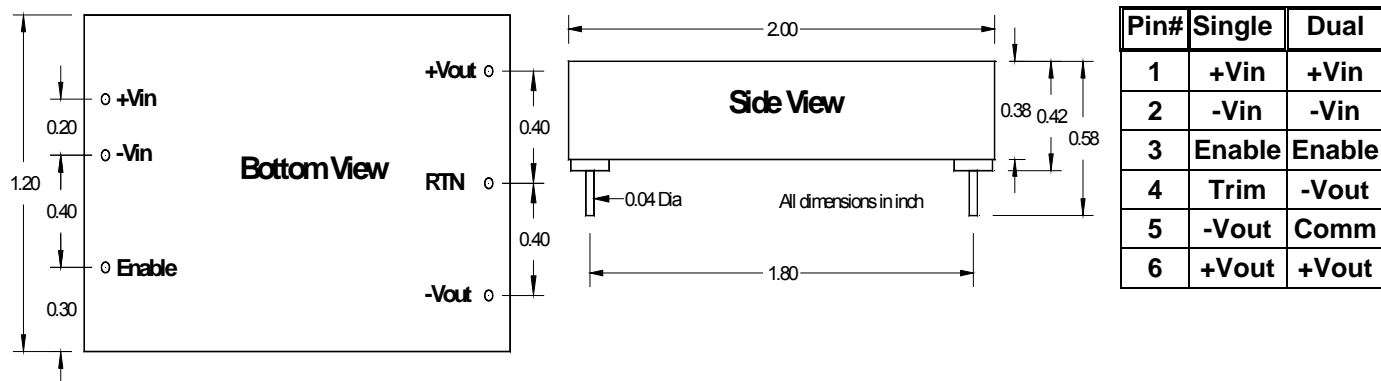
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Electrical Specifications

Typical @ Ta=+25°C under nominal line voltage and full load conditions unless noted.

Input

Parameter	Notes and Conditions	Min.	Typ	Max.	Unit
Operating Input Voltage ranges	ESC12 models ESC24 models ESC48 models	9 18 36	12 24 48	18 36 75	VDC
Under-Voltage Lockout Turn-ON Threshold	ESC12 models ESC24 models ESC48 models	8.5 17.5 35			VDC
Under-Voltage Lockout Turn-OFF Threshold	ESC12 models ESC24 models ESC48 models			8 17 34	VDC
Input Current	See model selection guide, Standby mode (OFF, UVLO) 5mA				
High Input Level	Enable Function Input	3		5.5	VDC
Low Input Level		0		1.2	VDC
Input Filter	All models	PI / EMC Filter			

Output

Parameter	Notes and Conditions	Min.	Typ	Max.	Unit
Output Voltage Accuracy	50% Load			±1.5	%
Line Regulation	Low line to High line			±0.3	%
Load Regulation	10% to 100% load			±0.5	%
Ripple & Noise (20MHz bandwidth)	Over Line, Load & Temp.		50	100 30	mV pk-pk mV RMS
Temperature Coefficient				±0.04	% / °C
Transient Recovery Time	25% load step change			800	µSec.
Transient Peck Deviation	25% load step change			2	%Vo
Start-Up Time			2	5	mSec.
Output Power Protection		100	120	140	%

General Specifications

Parameter	Notes and Conditions	Min.	Typ	Max.	Unit
Switching Frequency		270	300	330	KHz
Storage Temperature range	All models	-55		125	°C
Operating Case Temperature	All models	-40		115	°C
Isolation Voltage	All models, 1 Minute			1500	VDC
Isolation Resistance	All models, 500VDC	10			MΩ
Isolation Capacitance	All models			3000	pF
Humidity	All models			95	%
Calculated MTBF	BellCore TR-332 @ 50°C G.B.		1,989,000		Hours
Weight				34(1.3)	g (oz.)
Efficiency	See model selection guide				
Dimensions	2.0" x 1.2" x 0.42" (50.8 x 30.5 x 10.7mm)				
Case Material	Aluminum				

It is recommended to protect the input by fuses or other protection devices.

The information and specifications contained in this data sheet are believed to be correct at time of publication. All specifications are subject to change without notice. No rights under any patent accompany the sale of any such products or information contained herein.

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