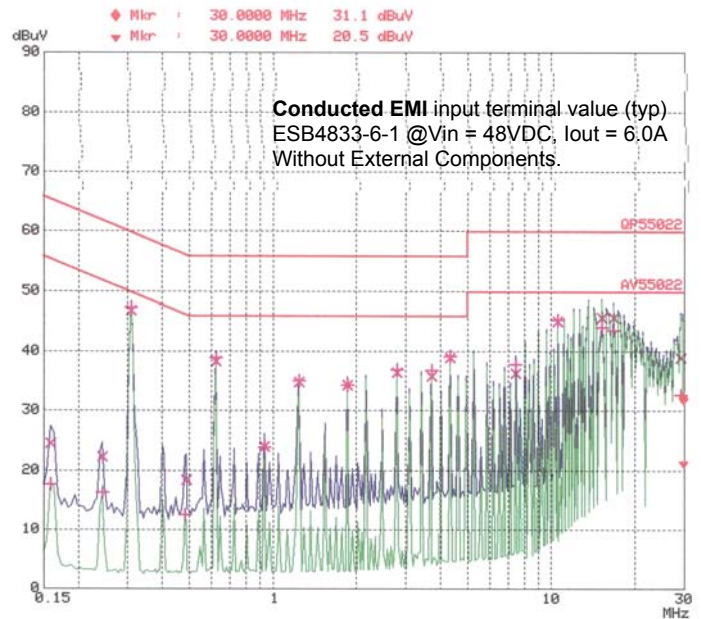




High efficiency 88% @ 3.3V (SR topology)
Save up to 20% board space
Standard pin out; **Fully replaceable** with 2"x1" standard case
1500V **Basic Insulation** (input to output)
Built-in EMC filter meets **EN 55022 class B** and **FCC Level B**
without external components
MTBF ≥ 2,195,000 hours @ 50°C GB (BellCore TR-332)



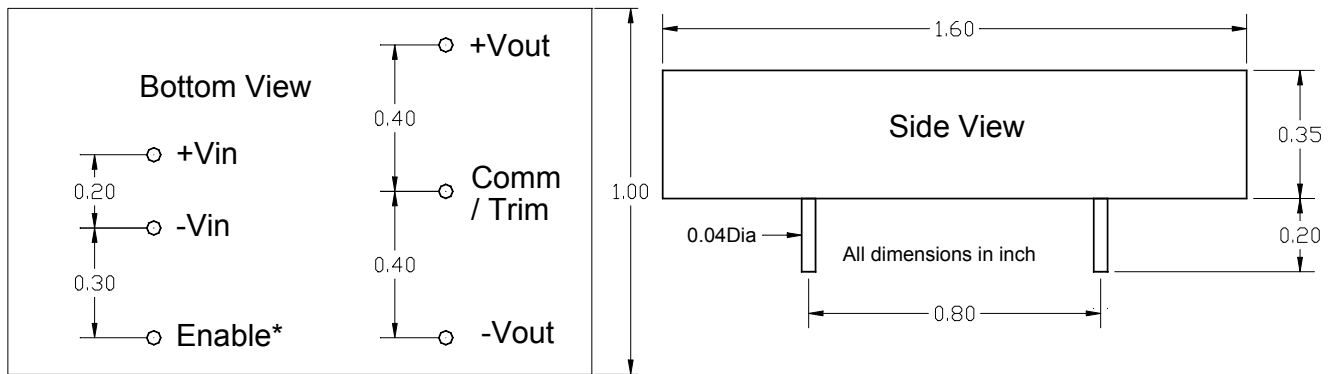
E220958

Model Selection Guide

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

Model	Input				Output			Efficiency @FL Typ.
	Voltage (Volts)		Current (A)		Voltage (Volts)	Current (A)	Power (W)	
	Nominal	Range	No load	Full load				
ESB4850-4-X	48	36-75	0.025	0.47	5.0	4	20	89%
ESB4833-6-X	48	36-75	0.025	0.47	3.3	6	19.8	88%
ESB4825-6-X	48	36-75	0.025	0.36	2.5	6	15	86%
ESB4818-6-X	48	36-75	0.025	0.26	1.8	6	10.8	85%
ESB4815-6-X	48	36-75	0.025	0.22	1.5	6	9	84%
ESB2450-4-X	24	18-36	0.045	0.95	5.0	4	20	88%
ESB2433-6-X	24	18-36	0.045	0.95	3.3	6	19.8	87%
ESB2425-6-X	24	18-36	0.045	0.74	2.5	6	15	85%
ESB2418-6-X	24	18-36	0.045	0.54	1.8	6	10.8	84%
ESB2415-6-X	24	18-36	0.045	0.45	1.5	6	9	83%
ESB4850-3-X	48	36-75	0.025	0.36	5.0	3	15	88%
ESB4833-4-X	48	36-75	0.025	0.36	3.3	4.5	14.9	87%
ESB4825-4-X	48	36-75	0.025	0.28	2.5	4.5	11.3	85%
ESB2450-3-X	24	18-36	0.045	0.71	5.0	3	15	88%
ESB2433-4-X	24	18-36	0.045	0.71	3.3	4.5	14.9	87%
ESB2425-4-X	24	18-36	0.045	0.55	2.5	4.5	11.3	85%

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



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	ESB24 models	18	24	36	VDC
	ESB48 models	36	48	75	VDC
Under-Voltage Lockout Turn-ON Threshold	ESB24 models	17.5			VDC
	ESB48 models	35			VDC
Under-Voltage Lockout Turn-OFF Threshold	ESB24 models			17	VDC
	ESB48 models			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 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.		80	150	mV pk-pk
				30	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			50	100	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		100	°C
Isolation Voltage	All models, 1 Minute			1500	VDC
Isolation Resistance	All models, 500VDC	10			MΩ
Isolation Capacitance	All models			1000	pF
Humidity	All models			95	%
Calculated MTBF	BellCore TR-332 @ 50°C G.B.		2,195,000		Hours
Weight				22(0.8)	g (oz.)
Efficiency	See model selection guide				
Dimensions	1.6" x 1.0" x 0.35" (40.6 x 25.4 x 8.9mm)				
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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