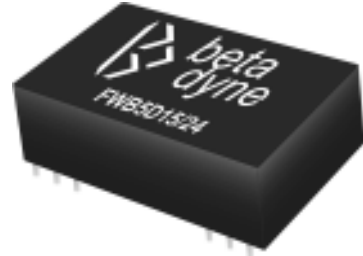




FWB5S & FWB5D

5W SINGLE & DUAL DC/DC CONVERTERS



Functional Description

The FWB5S and FWB5D series of regulated 5W single & dual DC/DC converters feature industry standard pinout in a 24-pin DIP package with a minimum isolation voltage of 1000Vdc, maximum efficiency of 86%, pulse frequency modulation, SMT construction, short circuit protection, and operating temperature range from -40°C to +75°C.

Electrical Specifications: Regulated

INPUT SPECIFICATIONS

Measured at 25°C with the condition of V_N = Nominal and Full Load. Specifications subject to change without notice.

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Input Voltage Range	2:1; See Model Selection Guide				
Input Filter	π				

OUTPUT SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Output Voltage	See Model Selection Guide				
Output Current	See Model Selection Guide				
Output Voltage Accuracy			± 1	± 2	%
Ripple & Noise	@20MHz BW, V_N = Nominal Input		30	50	mV _{pp}
Line Regulation	Minimum V_N to maximum V_N		± 0.1	± 0.2	%
Load Regulation	20% FL to FL		± 0.2	± 0.5	%
Short Circuit Protection	Continuous, Auto-Restarting				

GENERAL SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Efficiency @ FL	See Model Selection Guide				
Isolation Voltage (1 min.), Input to Output		1000			Vdc
Isolation Resistance		1			G Ω
Isolation Capacitance			60		pF
Operating Frequency	FL to 50% FL to 20% FL; V_N = Nominal Input		120		kHz

ENVIRONMENTAL SPECIFICATIONS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Operating Temperature Range	Ambient; V_N = Nominal Input	-40		+75	°C
Storage Temperature Range		-50		+125	°C
Case Temperature			46		°C
Humidity				95	%
MTBF	per MIL-HDBK-217F		9×10^5		hrs

PHYSICAL CHARACTERISTICS

PARAMETER	CONDITION / NOTE	MIN	TYP	MAX	UNIT
Dimensions (LxWxH)	1.26x0.80x0.40 in. (32.00x20.32x10.20mm)				
Weight	0.46 oz. (13g)				
Case Material	Non-conductive black plastic				
Potting Material	Epoxy (UL94V-0)				

MODEL SELECTION GUIDE

MODEL NUMBER	OUTPUT VOLTAGE (Vdc)	OUTPUT CURRENT (mA)	INPUT VOLTAGE (Vdc)	EFFICIENCY (%)
FWB5S3.3/12	3.3	1200	9-18	76
FWB5S5/12 / FWB5D5/12	5 / ±5	1000 / ±500	9-18	80
FWB5S9/12 / FWB5D9/12	9 / ±9	556 / ±278	9-18	82
FWB5S12/12 / FWB5D12/12	12 / ±12	420 / ±210	9-18	84
FWB5S15/12 / FWB5D15/12	15 / ±15	340 / ±170	9-18	85
FWB5S3.3/24	3.3	1200	18-36	78
FWB5S5/24 / FWB5D5/24	5 / ±5	1000 / ±500	18-36	81
FWB5S9/24 / FWB5D9/24	9 / ±9	556 / ±278	18-36	84
FWB5S12/24 / FWB5D12/24	12 / ±12	420 / ±210	18-36	85
FWB5S15/24 / FWB5D15/24	15 / ±15	340 / ±170	18-36	86
FWB5S3.3/48	3.3	1200	36-72	79
FWB5S5/48 / FWB5D5/48	5 / ±5	1000 / ±500	36-72	81
FWB5S9/48 / FWB5D9/48	9 / ±9	556 / ±278	36-72	83
FWB5S12/48 / FWB5D12/48	12 / ±12	420 / ±210	36-72	84
FWB5S15/48 / FWB5D15/48	15 / ±15	340 / ±170	36-72	85

Mechanical Specifications

BOTTOM VIEW

0.80 [20.32]
0.600 [15.24]
0.100 [2.54]
0.084 [2.13]
1.260 [32.00]

1 2 3 10 11 12
24 23 22 15 14 13

DIMENSIONS ARE IN INCH(mm)
TOLERANCE:
.XX ±.02[0.50]
.XXX±.010[0.254]

0.402 [10.20]
0.160 [4.10]
0.100 [2.54] TYP.
0.020 [0.51] DIA.
±.003 [0.07]

Pin	Function	
	SINGLE FWB5S	DUAL FWB5D
1,24	+V _{IN} (V _{CC})	+V _{IN} (V _{CC})
2,23	No Pin	-V _{OUT}
3,22	No Pin	COM
10,15	-V _{OUT}	COM
11,14	+V _{OUT}	+V _{OUT}
12,13	-V _{IN} (GND)	-V _{IN} (GND)