FEC30 Series

30 WATT DC/DC CONVERTER
SINGLE OUTPUT

FEATURES

- *30 WATT OUTPUT POWER*
- *2 : 1 INPUT VOLTAGE RANGE*
- *EXTREMELY RELIABLE*
- *SIX SIDED CONTINOUS SHIELD*
- *HIGH EFFICIENCY UP TO 90%*
- *SHORT CIRCUIT PROTECTION*
- *DIRECT PCB-SOLDERING*
- *INDUSTRY STANDARD 2 X 1.6 X.04 PACKAGE*
- *INTERNATIONAL SAFETY STANDARD*

APPROVALS

SAFETIES/APPROVALS

UL, TUV, CE
UL1950
EN60950

ELECTRICAL SPECIFICATIONS

All specifications are typical at nominal input, full load

INPUT SPECIFICATIONS

Input Voltage Range.....2 : 1
Input Filter..... PI-Network

OUTPUT SPECIFICATIONS

Output Voltage Accuracy..... ..... ±1%
Voltage Adjustability.....±10%
Minimum Load.....0%
Efficiency.....Up to 90%
Over-Current Protection.....150% max
Ripple **12/15V:** 75mVp-p
Others: 50mVp-p
(20Mhz Bandwidth)
Line Regulation.....±0.2%
Line Filter..... Built-in
Load Regulation.....±0.5%
(Load Rate 10% ~ 100%)

GENERAL SPECIFICATIONS

Isolation Voltage.....1600VDC min
MTBF..... >1.535 x 10^{6} hours
Isolation Resistance.....10^{9}ohms min
Isolation Capacitance.....1000pF
Switching Frequency.....300Khz typical

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature .....-40°C ~ +85°C
Temperature Coefficient.....±0.05%/ °C
Humidity..... 5%~95% RH
Storage Temperature..... -55°C ~ +105°C

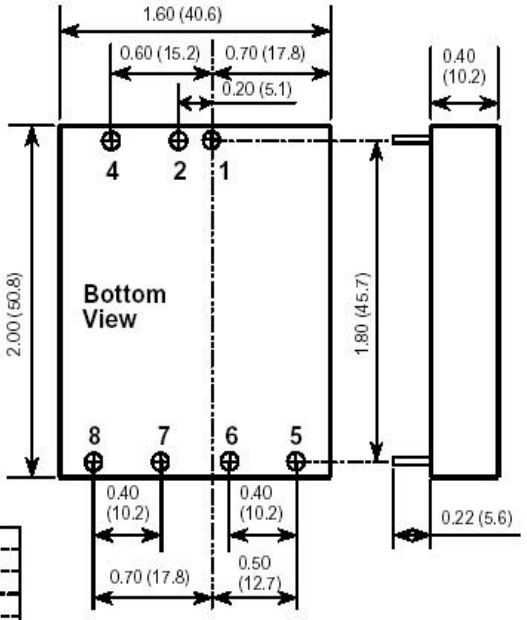
PHYSICAL SPECIFICATIONS

Case Material.....Nickel-Coated Copper
Base Material.....Non-Conductive
Black Plastic

MODEL	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT
FEC30-24S1P8	24VDC (18 - 36V)	1.8VDC	6000mA
FEC30-24S2P5		2.5VDC	6000mA
FEC30-24S3P3		3.3VDC	6000mA
FDC30-24S05		5VDC	6000mA
FEC30-24S12		12VDC	2500mA
FEC30-24S15		15VDC	2000mA
FEC30-48S1P8	48VDC (36 – 75V)	1.8VDC	6000mA
FEC30-48S2P5		2.5VDC	6000mA
FEC30-48S3P3		3.3VDC	6000mA
FEC30-48S05		5VDC	6000mA
FEC30-48S12		12VDC	2500mA
FEC30-48S15		15VDC	2000mA

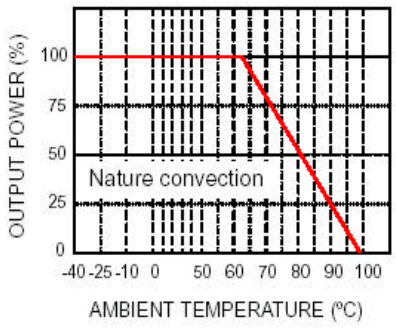
Note

1. An external filter capacitor is required for normal operation. The capacitor should be capable of handing 1A ripple current for 48V/24V models. Power mate suggest: Nippon chemi-con KMF series, 220 μ F/100V, ESR 90mΩ.
2. Simulated source impedance of 12uH. 12uH inductor in series with +Vin.
3. The ON/OFF control pin voltage is referenced to negative input
4. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40ºC. (Ground fixed and controlled environment)
5. Heat sink is optional and P/N: 7G-0011A.
6. Maximum value at nominal input voltage and full load.
7. Typical value at nominal input voltage and full load.
8. Test by minimum Vin and constant resistor load.

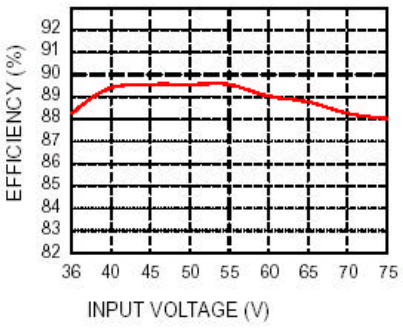


1. All dimensions in Inches (mm)
2. Pin pitch tolerance ±0.014(0.35)

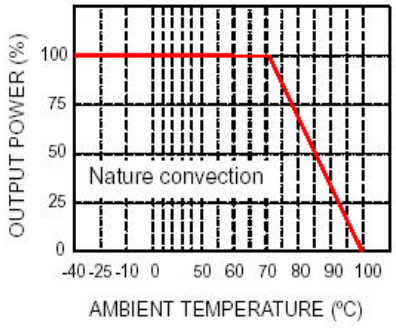
FEC30-48S05
Derating Curve without Heat-Sink



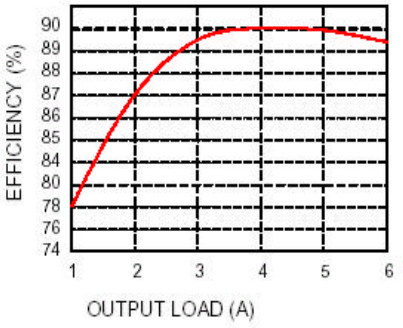
FEC30-48S05
Efficiency VS Input voltage



FEC30-48S05 (Note 5)
Derating Curve with Heat-Sink



FEC30-48S05
Efficiency VS Output load



PIN CONNECTION	
PIN	DEFINE
1	+ INPUT
2	- INPUT
4	CTRL
5	NO PIN
6	+ OUTPUT
7	- OUTPUT
8	TRIM

EXTERNAL OUTPUT TRIMMING

Output can be externally trimmed by using the method shown below.