



- 15 WATTS OUTPUT POWER
- 4:1 WIDE INPUT VOLTAGE RANGE
- INTERNATIONAL SAFETY STANDARD APPROVAL
- SIX-SIDED CONTINUOUS SHIELD
- HIGH EFFICIENCY UP TO 82%
- STANDARD 2" X 1.6" X 0.4" PACKAGE
- FIXED SWITCHING FREQUENCY

The FDC15 series offer 15 watts of output power from a 2 x 1.6 x 0.4 inch package. The FDC15 series have 4:1 wide input voltage of 9-36 and 18-75VDC. The FDC15 features 1600VDC of isolation, short-circuit and over-voltage protection, as well as six sided shielding. A safety approval to EN60950 and UL1950. All models are particularly suited to telecommunications, industrial, mobile telecom and test equipment applications.



UL E193009
TUV R2054633
CB JPTUV-001402
CE MARK

TECHNICAL SPECIFICATION

All specifications are typical at nominal input, full load and 25°C otherwise noted

OUTPUT SPECIFICATIONS		
Output power		15 Watts max
Voltage accuracy	Full load and nominal Vin	± 2%
Voltage adjustability		± 10%
Minimum load (Note 1)		10% of FL
Line regulation	LL to HL at Full Load	± 0.5%
Load regulation	10% to 100% FL Single	± 1%
	Dual	± 5%
Cross regulation (Dual)	Asymmetrical load 25% / 100% FL	± 5%
Ripple and noise	20MHz bandwidth	75mVp-p
Temperature coefficient		±0.02% / °C, max
Transient response recovery time	25% load step change	500uS
Over voltage protection	5V output	6.2V
Zener diode clamp	12V output	15V
	15V output	18V
Over load protection	% of FL at nominal input	150%, max
Short circuit protection		Hiccup, automatics recovery
INPUT SPECIFICATIONS		
Input voltage range	24V nominal input	9 – 36VDC
	48V nominal input	18 – 75VDC
Input filter		Pi type
Input surge voltage	24V input	50VDC
100mS max	48V input	100VDC
Input reflected ripple (Note 2)	Nominal Vin and full load	20mA _{p-p}
Start up time	Nominal Vin and constant resistor load	20mS typ
Remote ON/OFF (Note 3)		
	DC-DC ON	Open or 3.5V < Vr < 12V
	DC-DC OFF	Short or 0V < Vr < 1.2V
Remote off input current	Nominal Vin	20mA

GENERAL SPECIFICATIONS	
Efficiency	See table
Isolation voltage	1600VDC, min
Isolation resistance	10 ⁹ ohms, min
Isolation capacitance	300pF, max
Switching frequency	270KHz, typ
Approvals and standard	IEC60950, UL1950, EN60950
Case material	Nickel-coated copper
Base material	Non-conductive black plastic
Potting material	Epoxy (UL94-V0)
Dimensions	2.00 X 1.60 X 0.40 Inch (50.8 X 40.6 X 10.2 mm)
Weight	48g (1.69oz)
MTBF (Note 4)	2.041 x 10 ⁶ hrs

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature	-40°C ~ +85°C (with derating)
Maximum case temperature	100°C
Storage temperature range	-55°C ~ +105°C
Thermal impedance (Note 5)	Nature convection 10°C/Watt Nature convection with heat-sink 8.24°C/Watt
Thermal shock	MIL-STD-810D
Vibration	10~55Hz, 2G, 30minutes along X,Y and Z
Relative humidity	5% to 95% RH

EMC CHARACTERISTICS		
Conducted emissions	EN55022	Level A
Radiated emissions	EN55022	Level A
ESD	EN61000-4-2	Perf. Criteria2
Radiated immunity	EN61000-4-3	Perf. Criteria2
Fast transient	EN61000-4-4	Perf. Criteria2
Surge	EN61000-4-5	Perf. Criteria2
Conducted immunity	EN61000-4-6	Perf. Criteria2

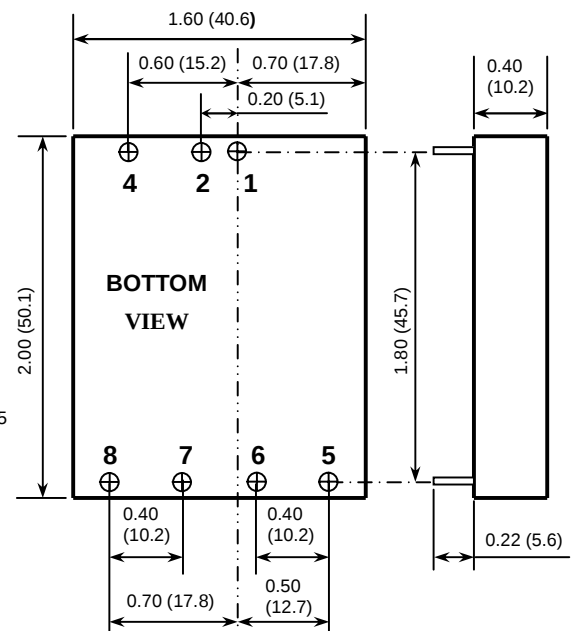
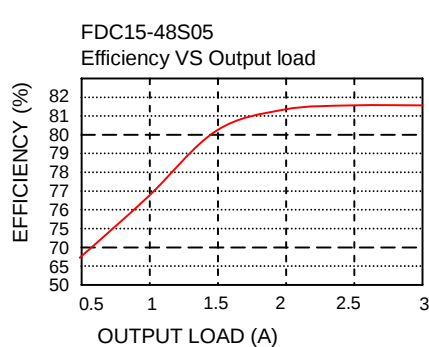
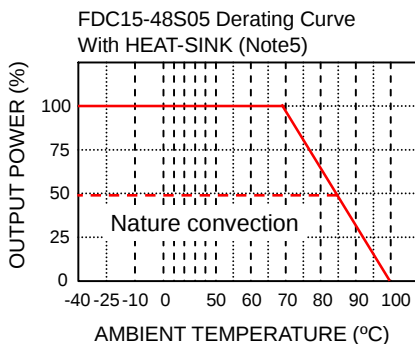
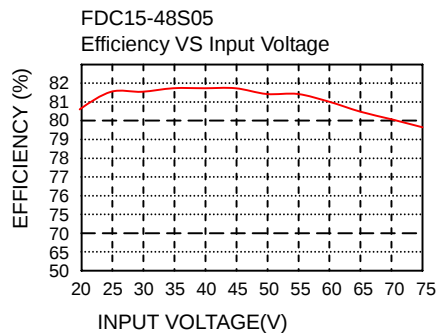
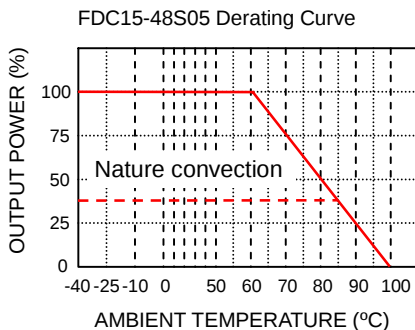


Model Number	Input Range	Output Voltage	Output Current	Input Current ⁽⁶⁾	Eff ⁽⁷⁾ (%)	Capacitor Load max ⁽⁸⁾
FDC15-24S05	9 – 36 VDC	5 VDC	3000mA	822mA	79	6800uF
FDC15-24S12	9 – 36 VDC	12 VDC	1250mA	801mA	82	890uF
FDC15-24S15	9 – 36 VDC	15 VDC	1000mA	801mA	82	570uF
FDC15-24D05	9 – 36 VDC	± 5 VDC	± 1500mA	822mA	80	± 1700uF
FDC15-24D12	9 – 36 VDC	± 12 VDC	± 625mA	801mA	82	± 300uF
FDC15-24D15	9 – 36 VDC	± 15 VDC	± 500mA	801mA	82	± 200uF
FDC15-48S05	18 – 75 VDC	5 VDC	3000mA	411mA	80	6800uF
FDC15-48S12	18 – 75 VDC	12 VDC	1250mA	401mA	82	890uF
FDC15-48S15	18 – 75 VDC	15 VDC	1000mA	401mA	82	570uF
FDC15-48D05	18 – 75 VDC	± 5 VDC	± 1500mA	411mA	80	± 1700uF
FDC15-48D12	18 – 75 VDC	± 12 VDC	± 625mA	401mA	82	± 300uF
FDC15-48D15	18 – 75 VDC	± 15 VDC	± 500mA	401mA	82	± 200uF

Note

1. The FDC15 series required a minimum 10% loading on the output to maintain specified regulation. Operation under no-load condition will not damage these devices, however they may not meet all listed specification.
2. Simulated source impedance of 12uH. 12uH inductor in series with +Vin.
3. The ON/OFF control voltage is reference to negative input.
4. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment).
5. Heat-sink option, Thermal impedance is 8.24°C/Watt for natural convection and the P/N is 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.

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



1. All dimensions in Inches (mm)
2. Pin pitch tolerance $\pm 0.014(0.35)$

EXTERNAL OUTPUT TRIMMING

Output can be externally trimmed by using the method shown below.
() for dual output trim

