



FEATURES

- HIGH POWER DENSITY WITH 15WATTS OUTPUT POWER
- OUTPUT CURRENT UP TO 4A
- HIGH EFFICIENCY UP TO 91%
- LOW STANDBY POWER DISSIPATION
- 2:1 WIDE INPUT VOLTAGE RANGE
- INPUT UNDER VOLTAGE LOCKOUT
- SIX-SIDED CONTINUOUS SHIELD
- EMI MEETS EN55022 CLASS A WITHOUT EXTERNAL FILTER
- FIXED SWITCHING FREQUENCY
- STANDARD 1.25 X 0.80 X 0.40 INCH AND 24 PIN DIP PACKAGE
- I/O ISOLATION 1600 VDC
- CE MARK MEETS 2006/95/EC, 93/68/EEC AND 2004/108/EC
- UL60950-1, EN60950-1 AND IEC60950-1 SAFETY APPROVALS PENDING
- COMPLIANT TO RoHS EU DIRECTIVE 2002/95/EC

APPLICATIONS

Wireless Network
Telecom/Datacom
Industry Control System
Measurement Equipment
Semiconductor Equipment

DESCRIPTION

The FKC15 series offer 15 watts of output power from a package in an IC compatible 24pin DIP configuration. FKC15 series have 2:1 wide input voltage of 9~18, 18~36 and 36~75VDC. The FKC15 have features 1600VDC of isolation, short circuit protection and as well as six sided shielding.

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	±1.0%, max.		
Minimum load	0%		
Line regulation	LL to HL at Full Load	Single	± 0.2%
		Dual	± 0.5%
Load regulation	No Load to Full Load	Single	± 0.5%
		Dual	± 1%
	10% Load to 90% Load	Single	± 0.3%
		Dual	± 0.8%
Cross regulation (Dual)	Asymmetrical load 25% / 100% FL		± 5%
Ripple and noise (Note 5)	20MHz bandwidth		See table
Temperature coefficient	±0.02% / °C, max.		
Transient response recovery time	25% load step change		250µs
Over voltage protection	3.3VDC output	3.9VDC	
Zener diode clamp	5.1VDC output	6.2VDC	
(Single only)	12VDC output	15VDC	
	15VDC output	18VDC	
Over load protection	% of FL at nominal input		150%
Short circuit protection	Hiccup, automatics recovery		
GENERAL SPECIFICATIONS			
Efficiency	See table		
Isolation voltage	Input to Output	1600VDC, min.	1minute
	Input (Output) to Case	1600VDC, min.	1minute
Isolation resistance	10 ⁹ ohms, min.		
Isolation capacitance	2000pF, max.		
Switching frequency	330KHz±10%		
Safety approvals pending	IEC60950-1, UL60950-1, EN60950-1		
Case material	Nickel-coated copper		
Base material	FR4 PCB		
Potting material	Silicon(UL94-V0)		
Dimensions	1.25 X 0.80 X 0.40 Inch (31.8 X 20.3 X 10.2 mm)		
Weight	14.4g (0.51oz)		
MTBF (Note 1)	BELLCORE TR-NWT-000332	3.37 x 10 ⁶ hrs	
	MIL-HDBK-217F	4.64 x 10 ⁶ hrs	

INPUT SPECIFICATIONS			
Input voltage range	12VDC nominal input	9 ~ 18VDC	
	24VDC nominal input	18 ~ 36VDC	
	48VDC nominal input	36 ~ 75VDC	
Input filter	Pi type		
Input surge voltage	12VDC input	36VDC 1sec, max.	
	24VDC input	50VDC 1sec, max.	
	48VDC input	100VDC 1sec, max.	
Input reflected ripple current	20mA _{p-p}		
Start up time	Nominal Vin and constant resistive load	Power up	60mS, max.
	12VDC input	9VDC	
Start-up voltage	24VDC input	18VDC	
	48VDC input	36VDC	
	12VDC input	8VDC	
Shutdown voltage	24VDC input	16VDC	
	48VDC input	33VDC	
	Remote ON/OFF (Note 6)	(Positive logic)	
	DC-DC ON	Open or 3.0V < Vr < 12V	
	DC-DC OFF	Short or 0V < Vr < 1.2V	
Input current of remote control pin	Nominal input	-0.5mA ~ 0.5mA	
Remote off state input current	Nominal input	2.5mA	
ENVIRONMENTAL SPECIFICATIONS			
Operating ambient temperature	-40°C to +100°C (with derating)		
Maximum case temperature	105°C		
Storage temperature range	-55°C ~ +125°C		
Thermal impedance	Nature convection	20°C/Watt	
Thermal shock	MIL-STD-810F		
Vibration	MIL-STD-810F		
Relative humidity	5% to 95% RH		
EMC CHARACTERISTICS			
EMI	EN55022	Class A	
ESD	EN61000-4-2	Air	± 8KV
		Contact	± 6KV
Radiated immunity	EN61000-4-3	10 V/m	Perf. Criteria A
Fast transient (Note 7)	EN61000-4-4	± 2KV	Perf. Criteria A
Surge (Note 7)	EN61000-4-5	± 2KV	Perf. Criteria A
Conducted immunity	EN61000-4-6	10 V/m	Perf. Criteria A

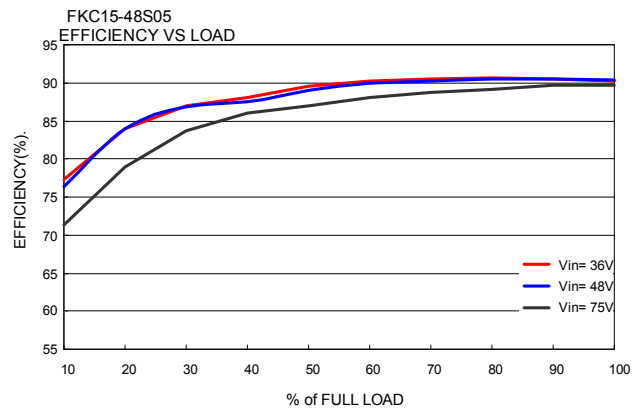
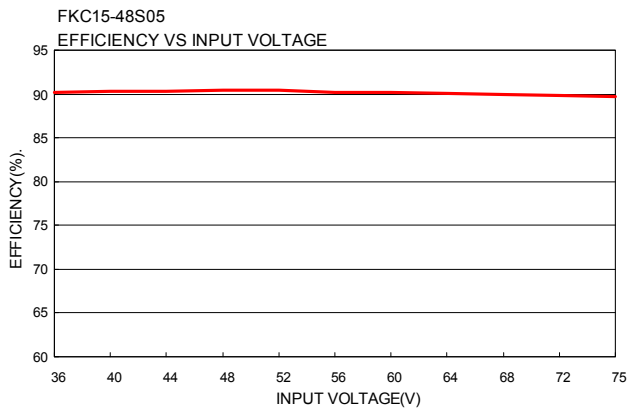


Model Number	Input Range	Output Voltage	Output Current		Output (5) Ripple & Noise	No load(2) Input Current	Eff(3) (%)	Capacitor(4) Load max.
			Min. load	Full load				
FKC15-12S3P3	9 ~ 18 VDC	3.3 VDC	0mA	4000mA	60mVp-p	10mA	87	4700μF
FKC15-12S05	9 ~ 18 VDC	5.1 VDC	0mA	3000mA	60mVp-p	10mA	90	3300μF
FKC15-12S12	9 ~ 18 VDC	12 VDC	0mA	1250mA	60mVp-p	5mA	90	600μF
FKC15-12S15	9 ~ 18 VDC	15 VDC	0mA	1000mA	60mVp-p	10mA	90	400μF
FKC15-12D05	9 ~ 18 VDC	± 5 VDC	0mA	±1500mA	60mVp-p	10mA	86	± 1500μF
FKC15-12D12	9 ~ 18 VDC	± 12 VDC	0mA	± 625mA	60mVp-p	6mA	90	± 288μF
FKC15-12D15	9 ~ 18 VDC	± 15 VDC	0mA	± 500mA	60mVp-p	10mA	90	± 200μF
FKC15-24S3P3	18 ~ 36 VDC	3.3 VDC	0mA	4000mA	60mVp-p	6mA	88	4700μF
FKC15-24S05	18 ~ 36 VDC	5.1 VDC	0mA	3000mA	60mVp-p	6mA	90	3300μF
FKC15-24S12	18 ~ 36 VDC	12 VDC	0mA	1250mA	60mVp-p	4mA	91	600μF
FKC15-24S15	18 ~ 36 VDC	15 VDC	0mA	1000mA	60mVp-p	6mA	91	400μF
FKC15-24D05	18 ~ 36 VDC	± 5 VDC	0mA	±1500mA	60mVp-p	4mA	87	± 1500μF
FKC15-24D12	18 ~ 36 VDC	± 12 VDC	0mA	± 625mA	60mVp-p	6mA	90	± 288μF
FKC15-24D15	18 ~ 36 VDC	± 15 VDC	0mA	± 500mA	60mVp-p	6mA	90	± 200μF
FKC15-48S3P3	36 ~ 75 VDC	3.3 VDC	0mA	4000mA	60mVp-p	4mA	88	4700μF
FKC15-48S05	36 ~ 75 VDC	5.1 VDC	0mA	3000mA	60mVp-p	4mA	90	3300μF
FKC15-48S12	36 ~ 75 VDC	12 VDC	0mA	1250mA	60mVp-p	4mA	90	600μF
FKC15-48S15	36 ~ 75 VDC	15 VDC	0mA	1000mA	60mVp-p	4mA	91	400μF
FKC15-48D05	36 ~ 75 VDC	± 5 VDC	0mA	±1500mA	60mVp-p	4mA	87	± 1500μF
FKC15-48D12	36 ~ 75 VDC	± 12 VDC	0mA	± 625mA	60mVp-p	4mA	90	± 288μF
FKC15-48D15	36 ~ 75 VDC	± 15 VDC	0mA	± 500mA	60mVp-p	4mA	90	± 200μF

NOTE:

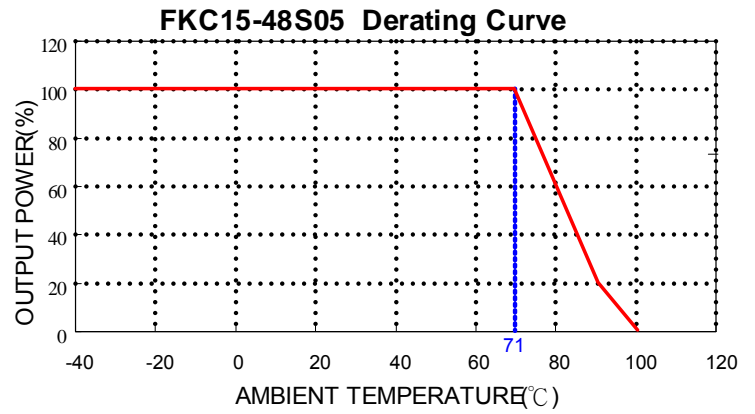
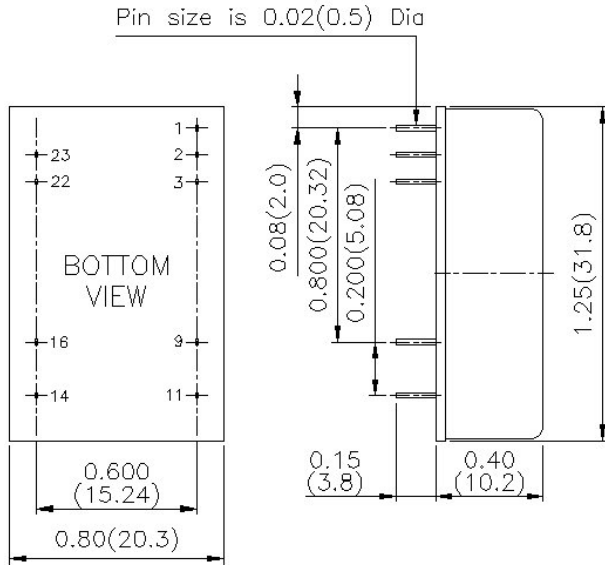
1. BELLCORE TR-NWT-000332. Case 1: 50% Stress, Temperature at 40°C.
MIL-HDBK-217F Notice2 @Ta=25 °C, Full load (Ground, Benign, controlled environment).
2. Typical value at nominal input and no load.
3. Typical value at nominal input and full load.
4. Test by minimum input and constant resistive load.
5. Measured with 1μF ceramic capacitor.
6. The ON/OFF control pin voltage is referenced to -INPUT.
7. An external input filter capacitor is required if the module has to meet EN61000-4-4, EN61000-4-5.
The filter capacitor Power Mate suggest: Nippon chemi-con KY series, 220μF/100V, ESR 48mΩ.

CAUTION: This power module is not internally fused. An input line fuse must always be used.





Mechanical Drawing:



1. All dimensions in Inch (mm)
Tolerance: X.XX±0.02 (X.X±0.5)
X.XXX±0.01 (X.XX±0.25)
2. Pin pitch tolerance ±0.01(0.25)
3. Pin dimension tolerance ±0.004 (0.1)

DIP PIN CONNECTION					
PIN	SINGLE	DUAL	PIN	SINGLE	DUAL
1	CTRL	CTRL			
2	-INPUT	-INPUT	23	+INPUT	+INPUT
3	-INPUT	-INPUT	22	+INPUT	+INPUT
9	NC	COMMON	16	-OUTPUT	COMMON
11	NC	-OUTPUT	14	+OUTPUT	+OUTPUT

