



**FEATURES**

- 8 WATTS OUTPUT POWER
- OUTPUT CURRENT UP TO 2A
- STANDARD 1.25" X 0.8" X 0.4" INCH
- HIGH EFFICIENCY UP TO 85%
- 2:1 WIDE INPUT VOLTAGE RANGE
- FIVE-SIDED CONTINUOUS SHIELD
- FIXED SWITCHING FREQUENCY (300KHz)
- STANDARD 24 PIN DIP PACKAGE & SMD TYPE PACKAGE
- CE MARK MEETS 2006/95/EC, 93/68/EEC AND 89/336 EEC
- UL60950-1, EN60950-1 AND IEC60950-1 LICENSED
- ISO9001 CERTIFIED MANUFACTURING FACILITIES
- COMPLIANT TO RoHS EU DIRECTIVE 2002/95/EC

**APPLICATIONS**

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

**OPTIONS**

SMD TYPE

**DESCRIPTION**

The FKC08 series offer 8 watts of output power from a package in an IC compatible 24pin DIP configuration. FKC08 series have 2:1 wide input voltage of 9-18, 18-36 and 36-75VDC. The FKC08 have features 1600VDC of isolation, short circuit protection and as well as five sided shielding.

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

OUTPUT SPECIFICATIONS			
Output power			8 Watts max
Voltage accuracy	Full load and nominal Vin		± 1%
Minimum load			0%
Line regulation	LL to HL at Full Load		± 0.2%
Load regulation	No Load to Full Load	Single (DIP)	± 0.5%
		Single (SMD)	± 1%
		Dual (SMD,DIP)	± 1%
Cross regulation (Dual)	Asymmetrical load 25% / 100% FL		± 5%
Ripple and noise	20MHz bandwidth		See table
Temperature coefficient			±0.02% / °C, max
Transient response recovery time	25% load step change		200uS
Over load protection	% of FL at nominal input		150% typ
Short circuit protection		Continuous, automatics recovery	
GENERAL SPECIFICATIONS			
Efficiency			See table
Isolation voltage	Input to Output		1600VDC, min
	Input(Output) to Case	DIP	1600VDC, min
		SMD	1000VDC, min
Isolation resistance			10 <sup>9</sup> ohms, min
Isolation capacitance			300pF, max
Switching frequency			300KHz, typ
Approvals and standard			IEC60950-1, UL60950-1, EN60950-1
Case material			Nickel-coated copper
Base material			Non-conductive black plastic
Potting material			Epoxy (UL94-V0)
Dimensions			1.25 X 0.80 X 0.40 Inch (31.8 X 20.3 X 10.2 mm)
Weight	DIP		16g (0.55oz)
	SMD		18g (0.62oz)
MTBF (Note 1)			3.053 x 10 <sup>6</sup> hrs

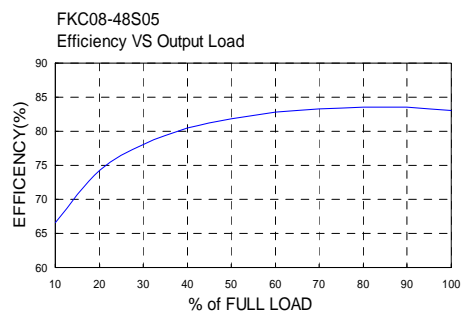
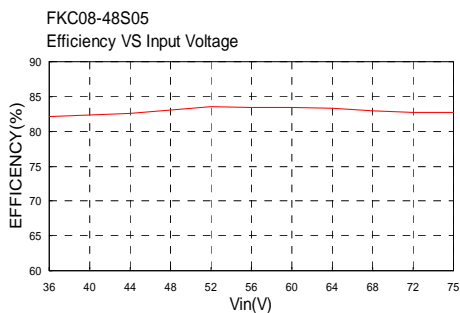
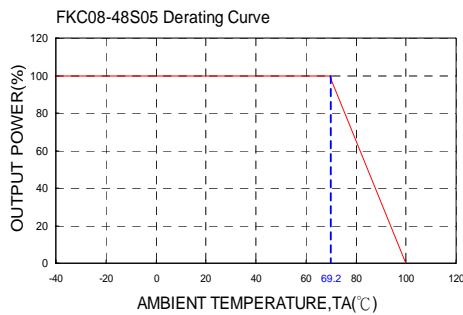
INPUT SPECIFICATIONS			
Input voltage range	12V nominal input		9 – 18VDC
	24V nominal input		18 – 36VDC
	48V nominal input		36 – 75VDC
Input filter			Pi type
Input surge voltage 100mS max	12V input		36VDC
	24V input		50VDC
	48V input		100VDC
Input reflected ripple current	Nominal Vin and full load		20mA <sub>p-p</sub>
Start up time	Nominal Vin and constant resistive load	Power up	700mS max
Remote ON/OFF (Note 6) (Positive logic)	DC-DC ON		Open or 3.5V < Vr < 12V
	DC-DC OFF		Short or 0V < Vr < 1.2V
Input current of remote control pin	Nominal Vin		-0.5mA ~ 0.5mA
Remote off state input current	Nominal Vin		2.5mA
ENVIRONMENTAL SPECIFICATIONS			
Operating temperature range			-40°C to +85°C (with derating)
Maximum case temperature			+100°C
Storage temperature range			-55°C to +105°C
Thermal impedance	Nature convection		20°C/Watt
Thermal shock			MIL-STD-810F
Vibration			10~55Hz, 10G, 30minutes along X,Y and Z
Relative humidity			5% to 95% RH
EMC CHARACTERISTICS			
EMI (Note 7)	EN55022		Class A
ESD	EN61000-4-2	Air Contact	± 8KV Perf. Criteria B
			± 6KV Perf. Criteria B
Radiated immunity	EN61000-4-3		10 V/m Perf. Criteria A
Fast transient	EN61000-4-4		± 2KV Perf. Criteria B
Surge (Note 8)	EN61000-4-5		± 1KV Perf. Criteria B
Conducted immunity	EN61000-4-6		10 Vr.m.s Perf. Criteria A

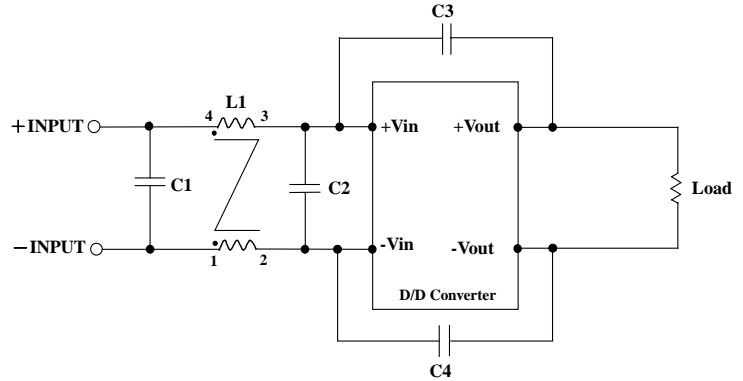
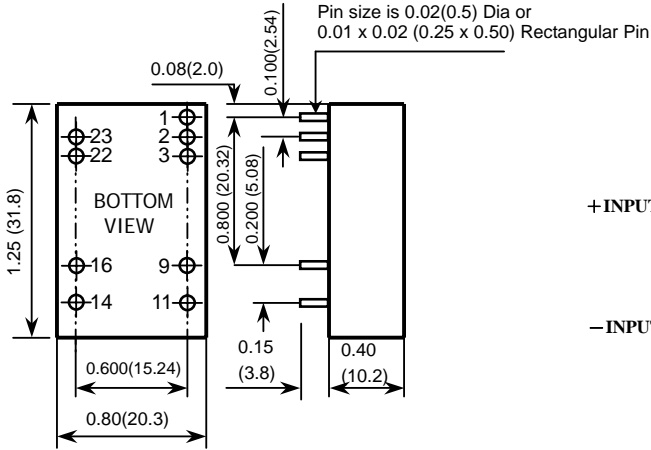


Model Number	Input Range	Output Voltage	Output Current		Output (4) Ripple & Noise	Input Current		Eff (4) (%)	Capacitor(5) Load max
			Min. load	Full load		No load (3)	Full load (2)		
FKC08-12S33	9 – 18 VDC	3.3 VDC	0mA	2000mA	50mVp-p	10mA	724mA	80	3300uF
FKC08-12S05	9 – 18 VDC	5 VDC	0mA	1500mA	50mVp-p	15mA	791mA	83	1600uF
FKC08-12S12	9 – 18 VDC	12 VDC	0mA	666mA	50mVp-p	13mA	792mA	88	350uF
FKC08-12S15	9 – 18 VDC	15 VDC	0mA	533mA	50mVp-p	20mA	802mA	87	240uF
FKC08-12D05	9 – 18 VDC	± 5 VDC	0mA	± 800mA	50mVp-p	15mA	843mA	83	± 1000uF
FKC08-12D12	9 – 18 VDC	± 12 VDC	0mA	± 333mA	50mVp-p	20mA	802mA	87	± 160uF
FKC08-12D15	9 – 18 VDC	± 15 VDC	0mA	± 267mA	50mVp-p	20mA	824mA	85	± 100uF
FKC08-24S33	18 – 36 VDC	3.3 VDC	0mA	2000mA	50mVp-p	10mA	362mA	80	3300uF
FKC08-24S05	18 – 36 VDC	5 VDC	0mA	1500mA	50mVp-p	30mA	396mA	83	1600uF
FKC08-24S12	18 – 36 VDC	12 VDC	0mA	666mA	50mVp-p	13mA	406mA	86	350uF
FKC08-24S15	18 – 36 VDC	15 VDC	0mA	533mA	50mVp-p	15mA	411mA	85	240uF
FKC08-24D05	18 – 36 VDC	± 5 VDC	0mA	± 800mA	50mVp-p	15mA	427mA	82	± 1000uF
FKC08-24D12	18 – 36 VDC	± 12 VDC	0mA	± 333mA	50mVp-p	15mA	406mA	86	± 160uF
FKC08-24D15	18 – 36 VDC	± 15 VDC	0mA	± 267mA	50mVp-p	13mA	411mA	85	± 100uF
FKC08-48S33	36 – 75 VDC	3.3 VDC	0mA	2000mA	50mVp-p	7mA	181mA	80	3300uF
FKC08-48S05	36 – 75 VDC	5 VDC	0mA	1500mA	50mVp-p	8mA	198mA	83	1600uF
FKC08-48S12	36 – 75 VDC	12 VDC	0mA	666mA	50mVp-p	10mA	203mA	86	350uF
FKC08-48S15	36 – 75 VDC	15 VDC	0mA	533mA	50mVp-p	10mA	203mA	86	240uF
FKC08-48D05	36 – 75 VDC	± 5 VDC	0mA	± 800mA	50mVp-p	8mA	205mA	85	± 1000uF
FKC08-48D12	36 – 75 VDC	± 12 VDC	0mA	± 333mA	50mVp-p	8mA	200mA	87	± 160uF
FKC08-48D15	36 – 75 VDC	± 15 VDC	0mA	± 267mA	50mVp-p	7mA	201mA	87	± 100uF

**Note**

- BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment)
- Maximum value at nominal input voltage and full load of standard type.
- Typical value at nominal input voltage and no load.
- Typical value at nominal input voltage and full load.
- Test by minimum Vin and constant resistive load.
- The ON/OFF control pin voltage is referenced to -Vin.
- The FKC08 series can meet EN55022 Class A with parallel an external capacitor to the input pins.  
Recommend: 12Vin: 4.7µF/25V 1210 MLCC .  
24Vin : N/A .  
48Vin : N/A.
- An external filter capacitor is required if the module has to meet EN61000-4-5.  
The filter capacitor Power Mate suggest: Nippon chemi-con KY series, 220 µ F/100V, ESR 48mΩ .

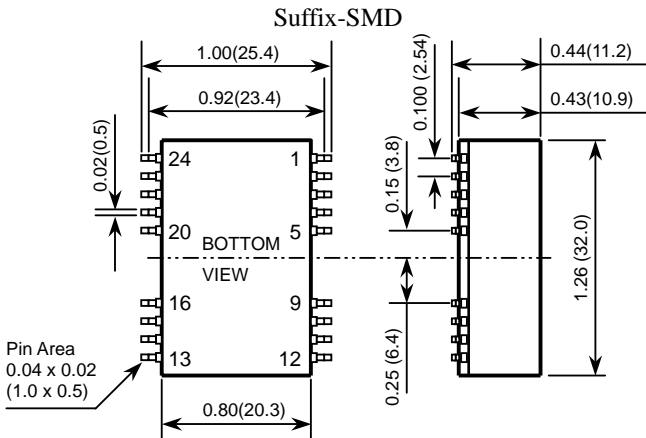




**Recommended Filter for EN55022 Class B Compliance**

The components used in the above figure, together with the manufacturers' part numbers for these components, are as follows:

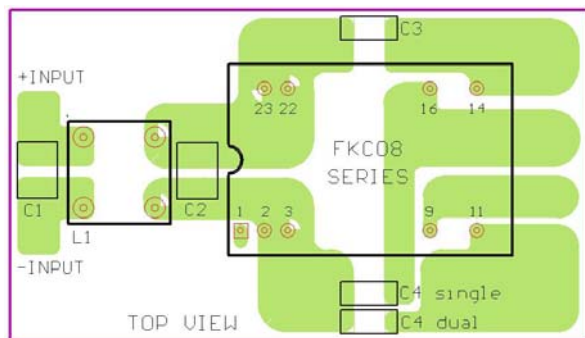
	C1	C2	C3	C4	L1
FKC08-12xxx	4.7uF/50V 1812 MLCC	N/A	1000pF/2KV MLCC	1000pF/2KV MLCC	325uH Common Choke PMT-050
FKC08-24xxx	6.8uF/50V 1812 MLCC	N/A	1000pF/2KV MLCC	1000pF/2KV MLCC	325uH Common Choke PMT-050
FKC08-48xxx	2.2uF/100V 1812 MLCC	2.2uF/100V 1812 MLCC	1000pF/2KV MLCC	1000pF/2KV MLCC	325uH Common Choke PMT-050



- All dimensions in Inches (mm)  
Tolerance: X.XX±0.02 (X.XX±0.5)  
X.XXX±0.01 (X.XX±0.25)
- Pin pitch tolerance ±0.01(0.25)
- Pin dimension tolerance ±0.004 (0.1)

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

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
Others	NC	NC	Others	NC	NC



**Recommended EN55022 Class B Filter Circuit Layout**