



FEATURES

- 8 WATTS OUTPUT POWER
- OUTPUT CURRENT UP TO 2A
- STANDARD 1.25 X 0.80 X 0.40 INCH
- HIGH EFFICIENCY UP TO 88%
- 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 2004/108/EC
- 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 Equipment
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	Single (DIP)	± 0.5%
	No Load to Full Load 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	200µS
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 ⁹ 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)	BELLCORE TR-NWT-000332	3.053 x 10 ⁵ hrs
	MIL-HDBK-217F	1.213 x 10 ⁶ 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 _{p-p}
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 ambient temperature		-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		MIL-STD-810F
Relative humidity		5% to 95% RH

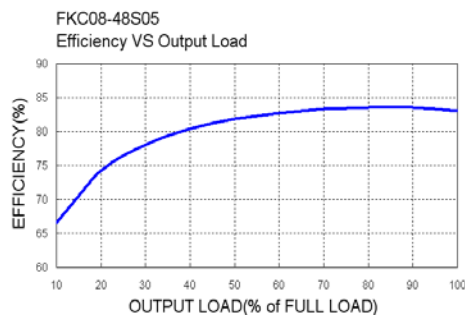
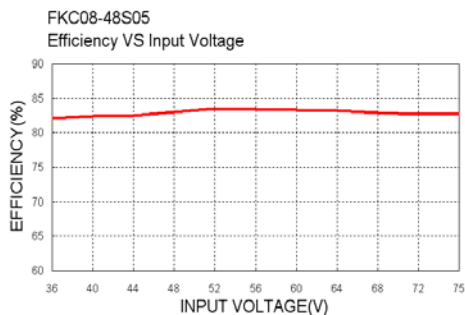
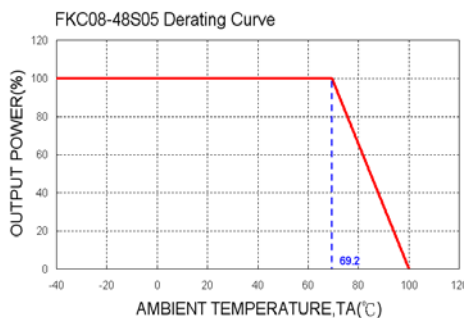
EMC CHARACTERISTICS		
EMI (Note 7)	EN55022	Class A
ESD	EN61000-4-2	Air ± 8KV
		Contact ± 6KV Perf. Criteria A
Radiated immunity	EN61000-4-3	10 V/m Perf. Criteria A
Fast transient (Note 8)	EN61000-4-4	± 2KV Perf. Criteria A
Surge (Note 8)	EN61000-4-5	± 1KV Perf. Criteria A
Conducted immunity	EN61000-4-6	10 Vr.m.s Perf. Criteria A

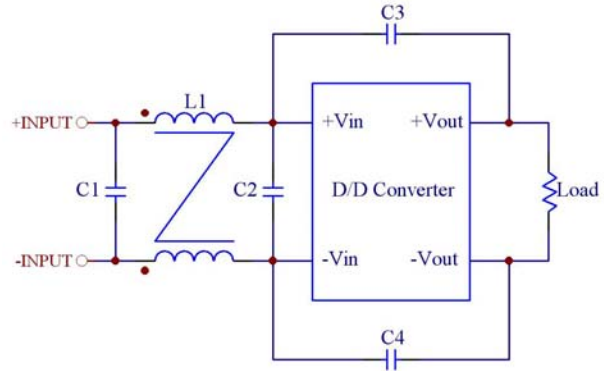
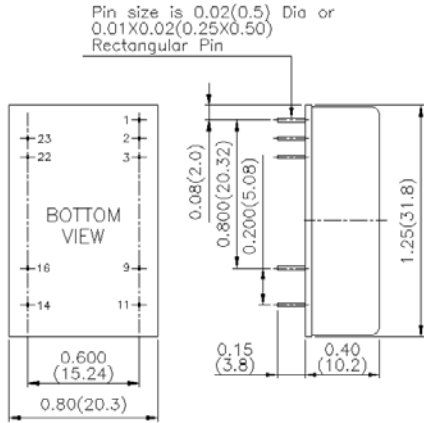


Model Number	Input Range	Output Voltage	Output Current		Output ⁽⁴⁾ Ripple & Noise	Input Current		Eff ⁽⁴⁾ (%)	Capacitor ⁽⁵⁾ Load max
			Min. load	Full load		No load ⁽³⁾	Full load ⁽²⁾		
FKC08-12S33	9 – 18 VDC	3.3 VDC	0mA	2000mA	50mVp-p	10mA	724mA	80	3300µF
FKC08-12S05	9 – 18 VDC	5 VDC	0mA	1500mA	50mVp-p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

Note

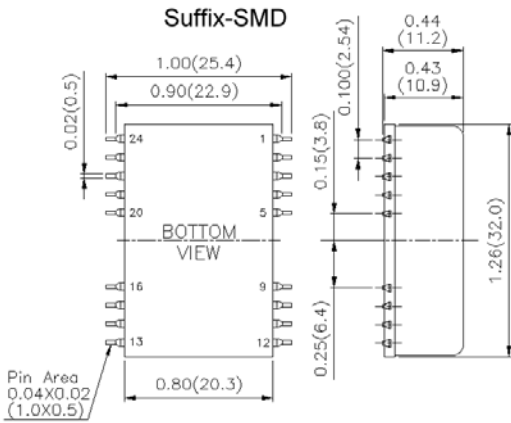
- BELLCORE TR-NWT-000332. Case 1: 50% Stress, Temperature at 40°C.
MIL-HDBK-217F Notice2 @Ta=25 °C, Full load(Ground, Benign, controlled environment).
- Maximum value at nominal input voltage and full load of standard type.
- Typical value at nominal input voltage and no load.
- Typical value at nominal 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 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.





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:

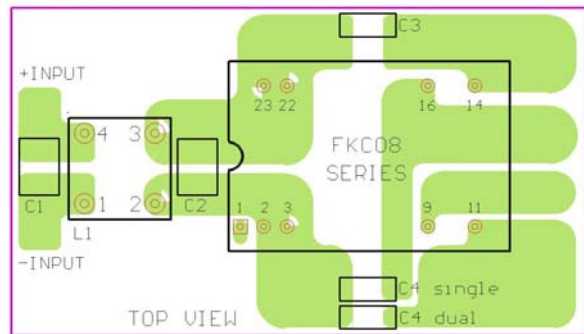


1. All dimensions in Inches (mm)
Tolerance: X.XX±0.02 (X.X±0.5)
X.XXX±0.01 (X.XX±0.25)
2. Pin pitch tolerance ±0.01(0.25)
3. Pin dimension tolerance ±0.004 (0.1)

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

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

SMD 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
Others	NC	NC	Others	NC	NC



Recommended EN55022 Class B Filter Circuit Layout

