



APPLICATIONS

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

FEATURES

- 8 WATTS OUTPUT POWER
- OUTPUT CURRENT UP TO 2.4A
- STANDARD 1.25 X 0.80 X 0.40 INCH
- HIGH EFFICIENCY UP TO 88%
- 4:1 ULTRA WIDE INPUT VOLTAGE RANGE
- FIVE-SIDED CONTINUOUS SHIELD
- FIXED SWITCHING FREQUENCY (300KHz)
- STANDARD 24 PIN DIP 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

OPTIONS

SMD TYPE

DESCRIPTION

The FKC08W series offer 8 watts of output power from a package in an IC compatible 24pin DIP configuration. FKC08W series have 4:1 ultra wide input voltage of 9-36, 18-75VDC. The FKC08W 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	Single (DIP) ± 0.5%	
	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	250µs	
Over voltage protection (only single)	3.3V output	3.9VDC	
	5.0V output	6.2VDC	
	12V output	15VDC	
	15V output	18VDC	
Over load protection	% of FL at nominal input	150%, typ.	
Short circuit protection		Continuous, automatic 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		1500pF, 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		18g (0.62oz)	
MTBF (Note 1)	BELLCORE-TR-NWT-000332	2.350 x 10 ⁶ hrs	
	MIL-HDBK-217F	1.078 x 10 ⁶ hrs	

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		100VDC
Input reflected ripple current	Nominal Vin and full load		20mA _{p-p}
Start up time	Nominal Vin and constant resistive load	Power up	450mS, typ.
Start-up voltage	24V input		9VDC
	48V input		18VDC
Shutdown voltage	24V input		8VDC
	48V input		16VDC
Remote ON/OFF (Note 6)			
	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 Vin		-0.5mA ~ 0.5mA
Remote off state input current	Nominal Vin		2.5mA

ENVIRONMENTAL SPECIFICATIONS			
Operating ambient temperature	Vo:5V,12V,15V	-40°C to +81°C (without derating)	
	±12V,±15V	+81°C to +105°C (with derating)	
	Vo:3.3V;±5V	-40°C to +74°C (without derating)	
		+74°C to +105°C (with derating)	
Maximum case temperature			+105°C
Storage temperature range			-55°C to +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 (Note 7)	EN55022		Class A
ESD	EN61000-4-2	Air Contact	± 8KV
			± 6KV Perf. Criteria B
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

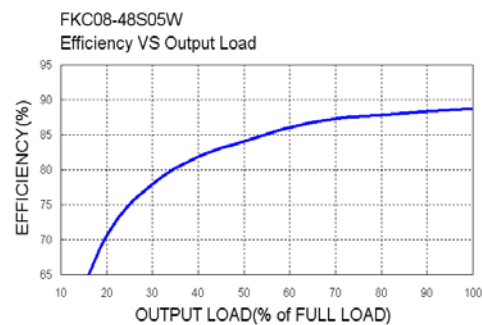
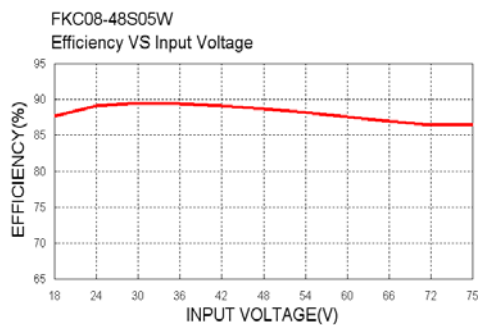
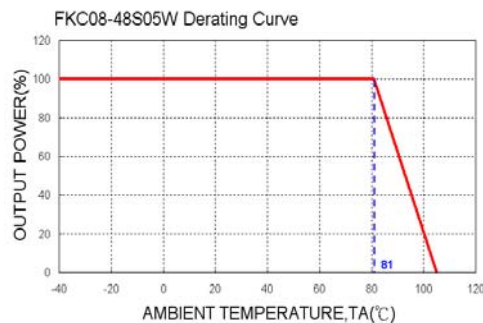


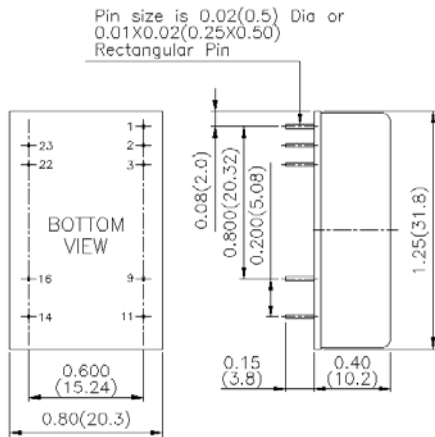


Model Number	Input Range	Output Voltage	Output Current		Output ⁽⁴⁾ Ripple & Noise	Input Current		Eff ⁽⁴⁾ (%)	Capacitor ⁽⁵⁾ Load max
			Min. Load	Max. Load		No load ⁽³⁾	Full Load ⁽²⁾		
FKC08-24S3P3W	9 – 36 VDC	3.3 VDC	0mA	2400mA	50mVp-p	40mA	407mA	85	1330μF
FKC08-24S05W	9 – 36 VDC	5 VDC	0mA	1600mA	50mVp-p	40mA	402mA	87	1330μF
FKC08-24S12W	9 – 36 VDC	12 VDC	0mA	666mA	50mVp-p	25mA	407mA	86	288μF
FKC08-24S15W	9 – 36 VDC	15 VDC	0mA	533mA	50mVp-p	25mA	407mA	86	200μF
FKC08-24D05W	9 – 36 VDC	± 5 VDC	0mA	± 800mA	50mVp-p	20mA	417mA	84	± 900μF
FKC08-24D12W	9 – 36 VDC	± 12 VDC	0mA	± 333mA	50mVp-p	25mA	407mA	86	± 133μF
FKC08-24D15W	9 – 36 VDC	± 15 VDC	0mA	± 267mA	50mVp-p	25mA	407mA	86	± 90μF
FKC08-48S3P3W	18 – 75 VDC	3.3 VDC	0mA	2400mA	50mVp-p	20mA	204mA	85	1330μF
FKC08-48S05W	18 – 75 VDC	5 VDC	0mA	1600mA	50mVp-p	20mA	201mA	87	1330μF
FKC08-48S12W	18 – 75 VDC	12 VDC	0mA	666mA	50mVp-p	13mA	201mA	87	288μF
FKC08-48S15W	18 – 75 VDC	15 VDC	0mA	533mA	50mVp-p	13mA	198mA	88	200μF
FKC08-48D05W	18 – 75 VDC	± 5 VDC	0mA	± 800mA	50mVp-p	10mA	208mA	84	± 900μF
FKC08-48D12W	18 – 75 VDC	± 12 VDC	0mA	± 333mA	50mVp-p	13mA	201mA	87	± 133μF
FKC08-48D15W	18 – 75 VDC	± 15 VDC	0mA	± 267mA	50mVp-p	13mA	201mA	87	± 90μF

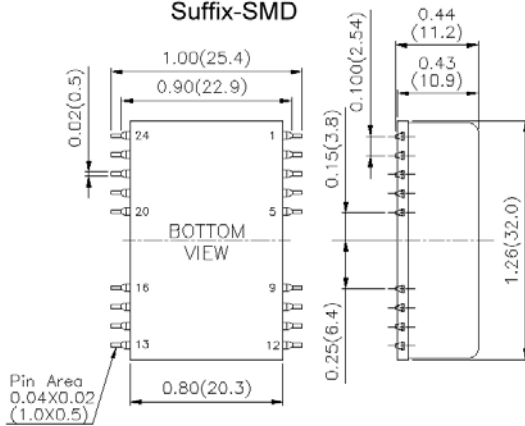
Note

- 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.
- 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 FKC08W series can meet EN55022 Class A with parallel an external capacitor to the input pins.
Recommend : 24Vin : 1μF/50V 1210 MLCC .
48Vin : 0.47μF/100V 1812 MLCC.
- 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.

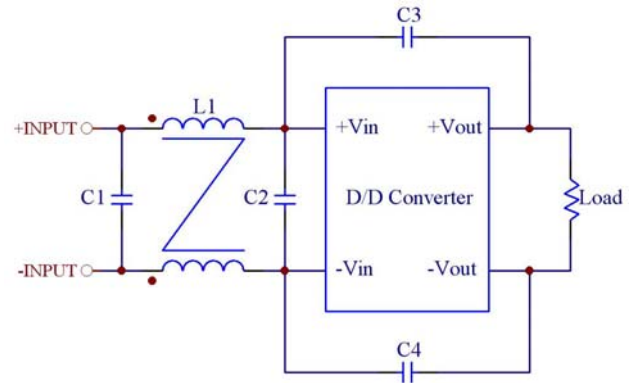




Suffix-SMD



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)



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:

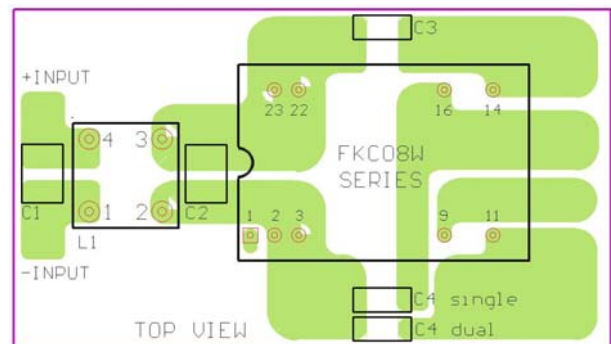
	C1	C2	C3	C4	L1
FKC08-24xxxW	4.7μF/50V 1812 MLCC	N/A	1000pF/2KV MLCC	1000pF/2KV MLCC	325μH Common Choke PMT-050
FKC08-48xxxW	1.5μF/100V 1812 MLCC	1.5μF/100V 1812 MLCC	1000pF/2KV MLCC	1000pF/2KV MLCC	325μH Common Choke PMT-050

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