POWER MATE TECHNOLOGY CO.,LTD.

FKC08-SERIES



- **8 WATTS OUTPUT POWER**
- **2:1 WIDE INPUT VOLTAGE RANGE**
- **INTERNATIONAL SAFETY STANDARD APPROVAL**
- **FIVE-SIDED CONTINUOUS SHIELD**
- **HIGH EFFICIENCY UP TO 85%**
- **STANDARD 24 PIN DIP PACKAGE & SMD TYPE PACKAGE**
- **FIXED SWITCHING FREQUENCY**

UL E193009
TUV
CB
CE MARK

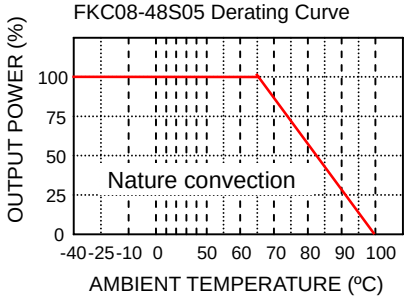
The FKC08 series offer 8 watts of output power from a package in an IC compatible 24pin DIP configuration. FKC08 series have 2:1 wide input voltage of 9-18, 18-36 and 36-75VDC. The FKC08 features 1600VDC of isolation, short circuit protection and as well as five sided shielding. All models are particularly suited to telecommunications, industrial, mobile telecom and test equipment applications.

TECHNICAL SPECIFICATION

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

OUTPUT SPECIFICATIONS		
Output power		8 Watts max
Voltage accuracy	Full load and nominal Vin	± 1%
Minimum load (Note 1)		10% of FL
Line regulation	LL to HL at Full Load	± 0.2%
Load regulation	10% to 100% FL 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	50mVp-p
Temperature coefficient		±0.02% / ºC, 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

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 (Note 2)	Nominal Vin and full load	20mAp-p
Start up time	Nominal Vin and constant resistive load, Power up	700mS max
	Remote ON/OFF	5mS max
Remote ON/OFF (Note 3)		
Remote off input current	DC-DC ON	Open or 3.5V < Vr < 12V
	DC-DC OFF	Short or 0V < Vr < 1.2V
	Nominal Vin	2.5mA



GENERAL SPECIFICATIONS			
Efficiency			See table
Isolation voltage	Input to Output		1600VDC, min
	Input(Output) to Case	DIP	1600VDC, min
		SMD	1000VDC, min
Isolation resistance			10^9ohms, 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 4)			3.053 x 10^6 hrs

ENVIRONMENTAL SPECIFICATIONS		
Operating temperature range		-40ºC to +85ºC (with derating)
Maximum case temperature		+100ºC
Storage temperature range		-55ºC to +105ºC
Thermal impedance	Nature convection	20ºC/Watt
Thermal shock		MIL-STD-810D
Vibration		10~55Hz, 10G, 30minutes along X,Y and Z
Relative humidity		5% to 95% RH

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

8 WATTS DC-DC CONVERTER

Model Number	Input Range	Output Voltage	Output Current	Input Current (5)	Eff (6) (%)	Capacitor(7) Load max
FKC08-12S33	9 – 18 VDC	3.3 VDC	2000mA	724mA	80	3300uF
FKC08-12S05	9 – 18 VDC	5 VDC	1500mA	791mA	83	1600uF
FKC08-12S12	9 – 18 VDC	12 VDC	666mA	792mA	88	350uF
FKC08-12S15	9 – 18 VDC	15 VDC	533mA	802mA	87	240uF
FKC08-12D05	9 – 18 VDC	± 5 VDC	± 800mA	843mA	83	± 1000uF
FKC08-12D12	9 – 18 VDC	± 12 VDC	± 333mA	802mA	87	± 160uF
FKC08-12D15	9 – 18 VDC	± 15 VDC	± 267mA	824mA	85	± 100uF
FKC08-24S33	18 – 36 VDC	3.3 VDC	2000mA	362mA	80	3300uF
FKC08-24S05	18 – 36 VDC	5 VDC	1500mA	396mA	83	1600uF
FKC08-24S12	18 – 36 VDC	12 VDC	666mA	406mA	86	350uF
FKC08-24S15	18 – 36 VDC	15 VDC	533mA	411mA	85	240uF
FKC08-24D05	18 – 36 VDC	± 5 VDC	± 800mA	427mA	82	± 1000uF
FKC08-24D12	18 – 36 VDC	± 12 VDC	± 333mA	406mA	86	± 160uF
FKC08-24D15	18 – 36 VDC	± 15 VDC	± 267mA	411mA	85	± 100uF
FKC08-48S33	36 – 75 VDC	3.3 VDC	2000mA	181mA	80	3300uF
FKC08-48S05	36 – 75 VDC	5 VDC	1500mA	198mA	83	1600uF
FKC08-48S12	36 – 75 VDC	12 VDC	666mA	203mA	86	350uF
FKC08-48S15	36 – 75 VDC	15 VDC	533mA	203mA	86	240uF
FKC08-48D05	36 – 75 VDC	± 5 VDC	± 800mA	205mA	85	± 1000uF
FKC08-48D12	36 – 75 VDC	± 12 VDC	± 333mA	200mA	87	± 160uF
FKC08-48D15	36 – 75 VDC	± 15 VDC	± 267mA	201mA	87	± 100uF

Note

1. The FKC08 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. Please add an external filter at converter input terminals when measuring input reflected ripple, figure 1.
   L : Simulated source impedance of 12 uH C : Nippon chemi-con KMF series 47uF/100V
3. The ON/OFF control pin voltage is referenced to negative input.
4. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40ºC.
   (Ground fixed and controlled environment)
5. Maximum value at nominal input voltage and full load of standard type.
6. Typical value at nominal input voltage and full load.
7. Test by minimum Vin and constant resistive load.

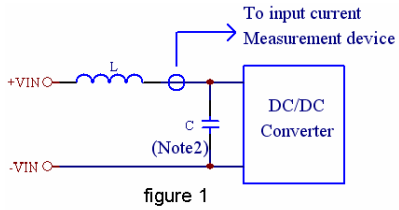
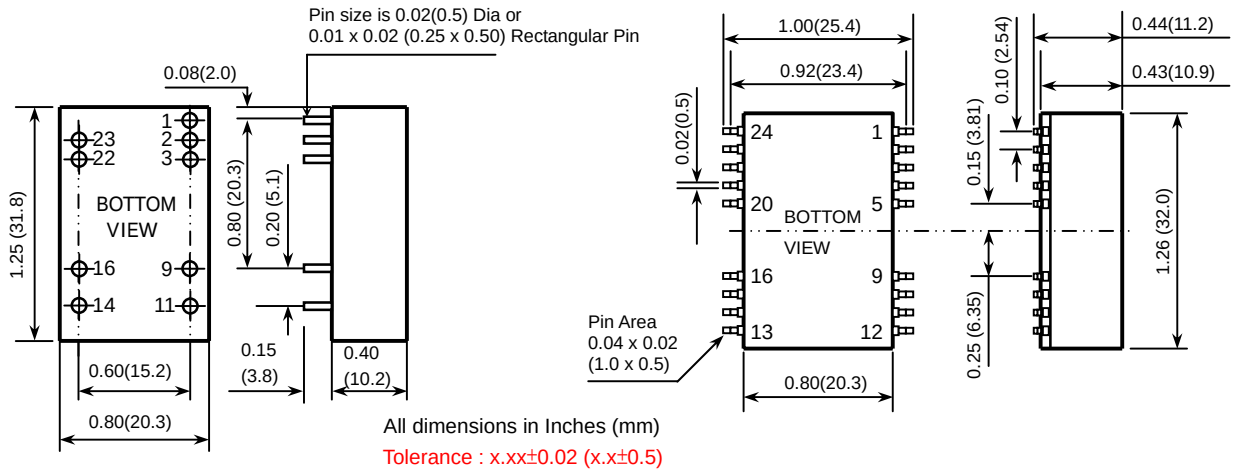


figure 1

Suffix-SMD



All dimensions in Inches (mm)
Tolerance : x.xx±0.02 (x.x±0.5)
x.xxx±0.01 (x.xx±0.25)
Pin pitch tolerance ±0.014(0.35)

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