

FKC03 SERIES

DC / DC Single & Dual Output: 3 Watts



Features

- 2:1 Input voltage range
- 12V, 24V & 48V input voltage options
- Single & Dual outputs @ 3 watts
- Fixed switching frequency 300KHz
- Standard 24 pin DIP package
- **SMD** option
- High efficiency up to 85%
- Regulated output & Short circuit protection
- 1600V isolation
- Five sided continuous copper shield
- **M1 option** -40°C to +85°C operating temp (non- derating)

Specifications:

Input Voltage	12VDC (9 ~18) 24VDC (18 ~ 36) 48VDC (36 ~75)
Input Filter	Pi type
Input Surge Voltage. (100mS)	12V : 36VDC, 24V: 50VDC. 48V: 100VDC
Input Reflected Ripple Current	20mA pk-pk (@ nominal input & 100% load
Start Up time	350mS constant resistive load
Output power	3 watts
Voltage Accuracy	±1%
Minim Load	Zero
Line Regulation	±0.2%
Load Regulation	Single ±0.2% , Dual ±1% (0% -100% load)
Cross Regulation	±5% Asymmetrical load: 25-100% load)
Ripple & noise	See table. 20MHZ bandwidth
Temp. Coefficient	±0.02% / °C
Transient Response	200uS (25% load step change)
Overload Protection	Typically 150% of load
Short Circuit protection	Continuous hiccup mode

Efficiency	Model dependant 83 ~ 87%
Isolation	1600VDC
Isolation Cap.	300pF
Switching Freq.	300KHz
Safety	EN60950-1, UL60950-1
Case Material	Nickel-coated copper
Base Material	Non-conductive black plastic
Potting	Epoxy UL94-V0
Dimensions	31.8 x 20.3 x 10.2mm
Weight	18g
MTBF	3.144 x 10 ⁶ Hrs
Operating Temp	-25°C to +85°C (with derating) M1 option -40°C to +85°C (non- derating)
Case Temp	+100°C maximum case temperature
Thermal Impedance	20°C / watt
Thermal shock	MIL-STD-810F
Vibration	10-55Hz, 10G, 30min along X, Y,Z
Humidity	5-95% RH
EMC	EN55022 Class A
ESD	EN61000-4-2
Radiated Immunity	EN61000-4-3
Fast Transients	EN61000-4-4
Surge	EN61000-4-5
Conducted Immunity	EN61000-4-6

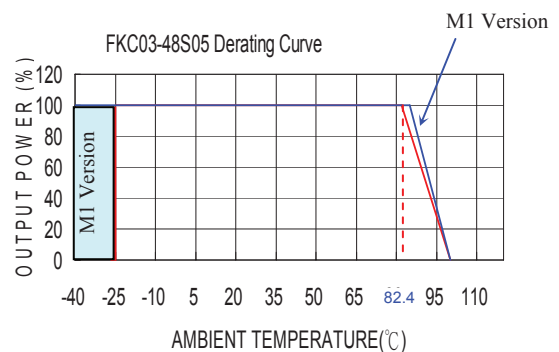
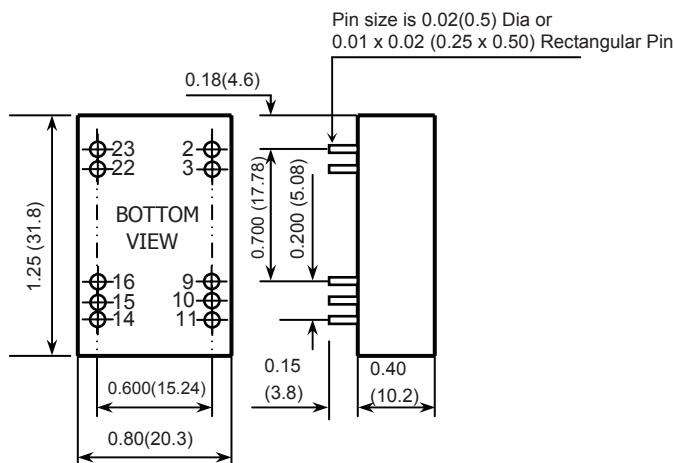
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Model	Input V	Output		Ripple & Noise	Input Current A		Eff (%)	Capacitor Load max
		V	A		No load	Full load		
FKC03-12S33	9 – 18V	3.3 V	500mA	50mVp-p	10mA	194mA	75	2200uF
FKC03-12S05	9 – 18 V	5 V	500mA	50mVp-p	10mA	289mA	76	1000uF
FKC03-12S12	9 – 18 V	12 V	250mA	50mVp-p	10mA	329mA	80	220uF
FKC03-12S15	9 – 18 V	15 V	200mA	50mVp-p	15mA	325mA	81	150uF
FKC03-12D05	9 – 18 V	± 5 V	± 250mA	50mVp-p	15mA	282mA	78	± 470uF
FKC03-12D12	9 – 18 V	± 12 V	± 125mA	50mVp-p	15mA	329mA	80	± 100uF
FKC03-12D15	9 – 18 V	± 15 V	± 100mA	50mVp-p	20mA	321mA	82	± 68uF
FKC03-24S33	18 – 36 V	3.3 V	500mA	50mVp-p	10mA	101mA	72	2200uF
FKC03-24S05	18 – 36 V	5 V	500mA	50mVp-p	10mA	149mA	74	1000uF
FKC03-24S12	18 – 36 V	12 V	250mA	50mVp-p	15mA	169mA	78	220uF
FKC03-24S15	18 – 36 V	15 V	200mA	50mVp-p	15mA	169mA	78	150uF
FKC03-24D05	18 – 36 V	± 5 V	± 250mA	50mVp-p	15mA	149mA	74	± 470uF
FKC03-24D12	18 – 36 V	± 12 V	± 125mA	50mVp-p	20mA	171mA	77	± 100uF
FKC03-24D15	18 – 36 V	± 15 V	± 100mA	50mVp-p	20mA	171mA	77	± 68uF
FKC03-48S33	36 – 75 V	3.3 V	500mA	50mVp-p	5mA	49mA	74	2200uF
FKC03-48S05	36 – 75 V	5 V	500mA	50mVp-p	10mA	75mA	74	1000uF
FKC03-48S12	36 – 75 V	12 V	250mA	50mVp-p	10mA	83mA	79	220uF
FKC03-48S15	36 – 75 V	15 V	200mA	50mVp-p	10mA	84mA	78	150uF
FKC03-48D05	36 – 75 V	± 5 V	± 250mA	50mVp-p	10mA	76mA	73	± 470uF
FKC03-48D12	36 – 75 V	± 12 V	± 125mA	50mVp-p	10mA	83mA	79	± 100uF
FKC03-48D15	36 – 75 V	± 15 V	± 100mA	50mVp-p	10mA	86mA	77	± 68uF

Note

1. Typical values at nominal input voltage and full load.
2. **M1** option (wide operating temperature) is a more efficient and able to operate over -40°C to +85°C non-derating
3. An external filter capacitor is required if the module has to meet EN61000-4-5.
The filter capacitor suggest: Nippon chemi-con KY series, 220µF/100V, ESR 48mΩ



Pin Assignmnet					
Pin	Single	Dual	Pin	Single	Dual
2	- Input	- Input	23	+ Input	+ Input
3	- Input	- Input	22	+ Input	+ Input
9	NC	Com	16	- Output	Com
10	NC	NC	15	NC	NC
11	NC	- Output	14	+ Output	+ Output