

FKC12W SERIES

DC / DC Single & Dual Output: 12 Watts



Features

- 4:1 wide Input range
- 9~36V & 18~75V input voltage options
- Single & Dual outputs
- 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

Specifications:

Input Voltage	24VDC (9 ~ 36) 48VDC (18 ~75)	Efficiency	Model dependant 83 ~ 87%
Input Filter	Pi type	Isolation	1600VDC
Input Surge Voltage. (100mS)	24V: 50VDC. 48V: 100VDC	Isolation Cap.	1500pF
Input Reflected Ripple Current	20mA pk-pk (@ nominal input & 100% load	Switching Freq.	400KHz
Start Up time	450mS constant resistive load	Safety	EN60950-1, UL60950-1
Remote ON/OFF (Positive logic)	DC-DC ON Open or 3.0V < Vr < 12V DC-DC OFF Short or 0V < Vr < 1.2V Input current of remote control pin: 0.5mA Remote off state input current: 2.5mA	Case Material	Nickel-coated copper
Output power	12 watts	Base Material	Non-conductive black plastic
Voltage Accuracy	±1.2%	Potting	Epoxy UL94-V0
Minim Load	Zero	Dimensions	31.8 x 20.3 x 10.2mm
Line Regulation	Single ±0.2% Dual ±0.5%	Weight	18g
Load Regulation	Single ±0.5% , Dual ±1% (0% -100% load)	MTBF	8.745 x 10 ⁶ Hrs
Cross Regulation	±5% Asymmetrical load: 25-100% load)	Operating Temp	-40°C to +69°C (without derating)
Ripple & noise	See table. 20MHZ bandwidth	Case Temp	+100°C maximum case temperare
Temp. Coefficient	±0.02% / °C	Thermal Impedance	20°C / watt
Transient Response	250uS (25% load step change)	Thermal shock	MIL-STD-810F
Over voltage Protection	3.3V: 3.9V 5.1V: 6.2V 12V: 15V 15V: 18V	Vibration	10-55Hz, 10G, 30min along X, Y,Z
Overload Protection	Typically 150% of load	Humidity	5-95% RH
Short Circuit protection	Continuous hiccup mode	EMC	EN55022 Class A Consult office for Class B design
		ESD	EN61000-4-2
		Radiated Immunity	EN61000-4-3
		Fast Transients	EN61000-4-4
		Surge	EN61000-4-5
		Conducted Immunity	EN61000-4-6

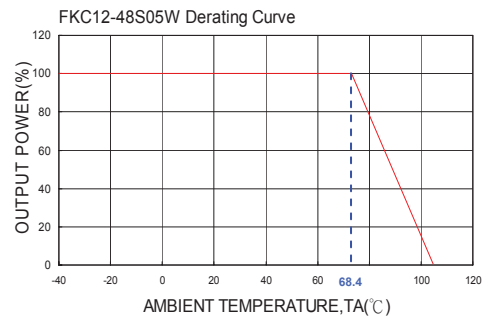
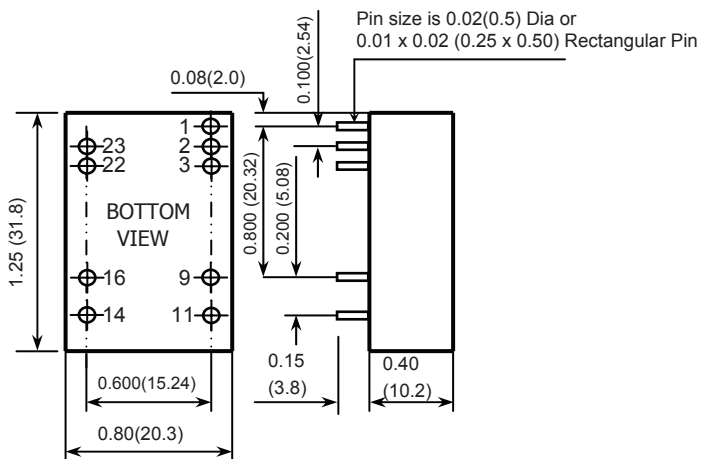
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Model	Input V	Output		Output Ripple & Noise	Input Current		Eff (%)	Capacitor Load max	Power W
		V	A		No load	Full Load			
FKC12-24S3P3W	9 – 36 V	3.3 V	3500mA	85mVp-p	55mA	602mA	84	2000uF	12W
FKC12-24S05W	9 – 36 V	5.1 V	2400mA	85mVp-p	55mA	614mA	87	2000uF	12W
FKC12-24S12W	9 – 36 V	12 V	1000mA	85mVp-p	13mA	602mA	87	430uF	12W
FKC12-24S15W	9 – 36 V	15 V	800mA	85mVp-p	11mA	602mA	87	300uF	12W
FKC12-24D05W	9 – 36 V	± 5 V	± 1200mA	85mVp-p	15mA	625mA	84	± 1250uF	12W
FKC12-24D12W	9 – 36 V	± 12 V	± 500mA	85mVp-p	12mA	602mA	87	± 200uF	12W
FKC12-24D15W	9 – 36 V	± 15 V	± 400mA	85mVp-p	20mA	602mA	87	± 120uF	12W
FKC12-48S3P3W	18 – 75 V	3.3 V	3500mA	85mVp-p	17mA	301mA	84	2000uF	12W
FKC12-48S05W	18 – 75 V	5.1 V	2400mA	85mVp-p	20mA	307mA	87	2000uF	12W
FKC12-48S12W	18 – 75 V	12 V	1000mA	85mVp-p	6mA	302mA	87	430uF	12W
FKC12-48S15W	18 – 75 V	15 V	800mA	85mVp-p	6mA	298mA	88	300uF	12W
FKC12-48D05W	18 – 75 V	± 5 V	± 1200mA	85mVp-p	7mA	309mA	85	± 1250uF	12W
FKC12-48D12W	18 – 75 V	± 12 V	± 500mA	85mVp-p	7mA	301mA	87	± 200uF	12W
FKC12-48D15W	18 – 75 V	± 15 V	± 400mA	85mVp-p	7mA	301mA	87	± 120uF	12W

Note

1. Typical values at nominal input voltage and full load.
2. The ON/OFF control pin voltage is referenced to -Vin.
3. The FKC12 series can meet EN55022 Class A with parallel an external capacitor to the input pins.
Recommend: 12Vin : 6.8µF/50V 1812 MLCC . 24Vin : 4.7µF/50V 1812 MLCC .48Vin : 2.2µF/100V 1812 MLCC.
4. An external filter capacitor is required if the module has to meet EN61000-4-5.
The filter capacitor Nippon chemi-con KY series, 220µF/100V, ESR 48mΩ



Pin Assignment					
Pin	Single	Dual	Pin	Single	Dual
1	Ctrl	Ctrl			
2	- Input	- Input	23	+Input	+Input
3	- Input	- Input	22	+Input	+Input
9	NC	COM	16	- Output	COM
11	NC	- Output	14	+Output	+Output