

# Make-Ps<sup>®</sup>

## DC/DC CONVERTER

### Single & Dual Output DC/DC Converter

**Series FKC12(W)**  
12Watt | DC-DC Converter



**FEATURES:**

- 12W DIL PACKAGE
- 4:1 WIDE INPUT RANGE
- 100% BURNED IN
- HIGH EFFICIENCY
- UL94V-0 PACKAGE MATERIAL
- CUSTOM SOLUTIONS AVAILABLE
- RoHS COMPLIANT
- Remote Control:On/Off

**APPLICATIONS:**

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



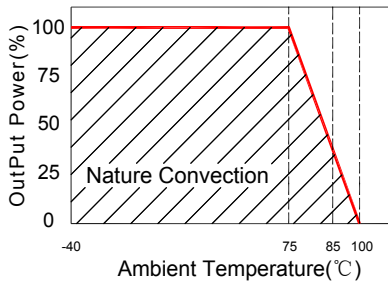
**MODEL SELECTION CHART**

Part Number	Input Voltage Vdc	Input Current		Output Voltage Vdc	Output Current Full Load (mA)	Efficiency %TYP
		No-Load (mA TYP)	Full Load (mA TYP)			
FKC12-24S03W	9-36	30	602	3.3	3500	80
FKC12-24S05W	9-36	30	610	5	2400	82
FKC12-24S12W	9-36	30	602	12	1000	83
FKC12-24S15W	9-36	30	602	15	800	83
FKC12-24D05W	9-36	30	602	+5	±1200	83
FKC12-24D12W	9-36	30	602	+12	±500	83
FKC12-24D15W	9-36	30	602	+15	±400	83
FKC12-48S03W	18-75	30	301	3.3	3500	80
FKC12-48S05W	18-75	30	305	5	2400	82
FKC12-48S12W	18-75	30	301	12	1000	83
FKC12-48S15W	18-75	30	301	15	800	83
FKC12-48D05W	18-75	30	301	+5	±1200	83
FKC12-48D12W	18-75	30	301	+12	±500	83
FKC12-48D15W	18-75	30	301	+15	±400	83

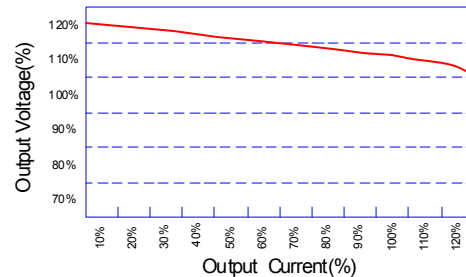
FKC12-12S03W/\*\* add Suffix SMD for SMD package

NOTE: All specifications in this datasheet are measured at an ambient temperature of 25°C, humidity<75%, nominal input voltage and at rated output load unless otherwise specified.

Temperature Derating Graph

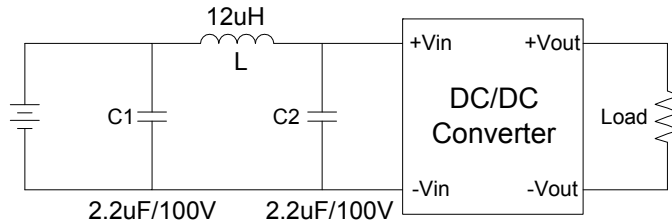


Tolerance Envelope Graph

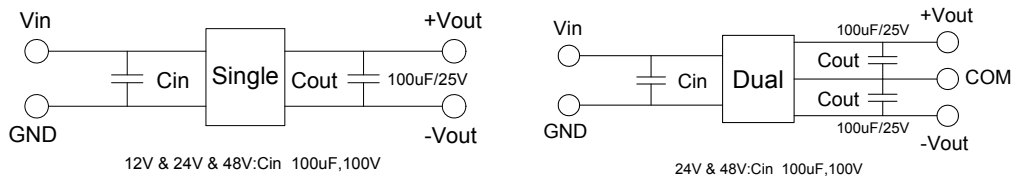


Input Specifications					
Parameters	Conditions	Min	Typ	Max	Units
Voltage Types				4:1	
Filter	Pi Network				
Protection	Fuse Recommended				
Output Specifications					
Temperature Coefficient:±0.05%/°C					
Parameters	Conditions	Min	Typ	Max	Units
Voltage Tolerance	Single/Dual			±2	%
Short Circuit/ Restart	Continuous/ Automatic				
Over Load Protection			150		%
Line Regulation	High Line to Low Line			±0.5	%
Load Regulation	Single & Dual (F.L-25%F.L)			±0.5	%
Minimum Load	10% of Full Load				
Ripple & Noise	BW=DC To 20MHz (with 1uF Cap.)			100	mVp-p
Transient response setting time	current change from 25% to 100%			350	us
General Specifications					
Parameters	Conditions	Min	Typ	Max	Units
Isolation Resistance	500Vdc	1000			MΩ
Switching Frequency			400		KHz
Operating Temperature		-40		100	°C
Humidity	Non Condensing			95	%
Cooling	Free air Convection				
Case material	Five-Side Shielded Case				
Weight			17.5		g
Dimensions	Appearance size		31.6X20.1X10.0		mm
Potting Material		Epoxy (UL94V-0 rated)			
Radiated Emissions	EN55022	CLASS A			
Conducted Emissions	EN55022	CLASS A			
Efficiency		80			%
Isolation Voltage	For 10 seconds			1500	VDC
MTBF	MIL-HDBK-217F @25°C , Ground Benign	900000			Hours
Storage Temperature		-55		+125	°C
Case Temperature				+95	°C

Suggest adding input external filter(C1,C2,L)to meet conducted emissions (En55022 class A)

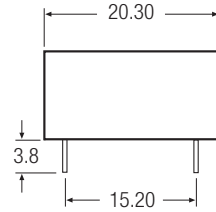
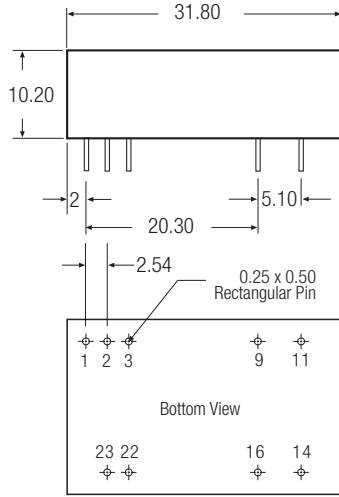


Recommended Test Circuit

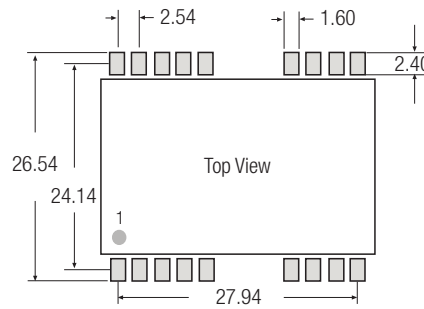
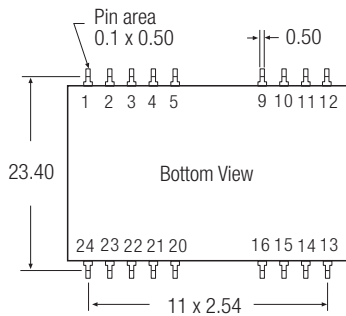
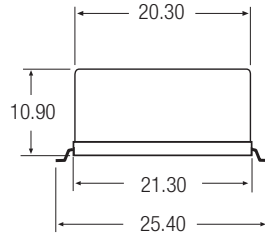
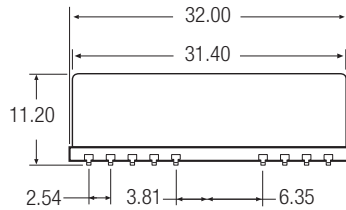


OUTLINE DRAWING

Package Style and Pinning (mm)



SMD Package Style



DIP24 Package Style

Pin Connections

Pin #	Single	Dual
1	ON/OFF	ON/OFF
2	-Vin	-Vin
3	-Vin	-Vin
9	NC	Com
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Com
22	+Vin	+Vin
23	+Vin	+Vin

NC = No Connection  
Pin Pitch Tolerance  $\pm 0.35$  mm

SMD Package Style

Same spec. as the original DIP spec. and pin definition, excl. of the SMD type pin.

Pin Connections

Pin #	Single	Dual
1	ON/OFF	ON/OFF
2	-Vin	-Vin
3	-Vin	-Vin
9	NC	Com
11	NC	-Vout
14	+Vout	+Vout
16	-Vout	Com
22	+Vin	+Vin
23	+Vin	+Vin
Others	NC	NC

NC = No Connection  
Pin Pitch Tolerance  $\pm 0.35$  mm

All specifications are typical at nominal input, nominal load and 25° C unless otherwise specified.  
External, low ESR, 10 microfarad (minimum) capacitor across output is recommended for operation.

Make Power world-class design, development and manufacturing team stands ready to work with you to deliver the exact power converter you need for your demanding, large volume, OEM applications. And ... we'll do it on time and within budget

Our experienced applications and design staffs; quick-turn prototype capability; highly automated, SMT assembly facilities; and in-line SPC quality-control techniques combine to give us the unique ability to design and deliver any quantity of power converters to the highest standards of quality and reliability.

We have compiled a large library of DC/DC designs that are currently used in a variety of telecom, medical, computer, railway, aerospace and industrial applications. We may already have the converter you need.

Contact us. Our goal is to provide you the highest-quality, most cost-effective power converters available.

CUSTOM CAPABILITIES