



### APPLICATIONS

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

### FEATURES

- 5 WATTS REGULATED OUTPUT POWER
- OUTPUT CURRENT UP TO 1000mA
- STANDARD 1.25 X 0.80 X 0.40 INCH
- HIGH EFFICIENCY UP TO 81%
- 2:1 WIDE INPUT VOLTAGE RANGE
- SWITCHING FREQUENCY (100KHz, MIN)
- OVER CURRENT PROTECTION
- STANDARD 24 PIN DIP PACKAGE & SMD TYPE 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 PFKC05 series offer 5 watts of output power from a package in an IC compatible 24pin DIP configuration without derating to 71°C ambient temperature and pin to pin compatible with PFKC03, FKC03, FKC05 series. PFKC05 series have 2:1 wide input voltage of 9-18, 18-36 and 36-75VDC.

## TECHNICAL SPECIFICATION

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

OUTPUT SPECIFICATIONS			
Output power			5 Watts, max.
Voltage accuracy	Full load and nominal Vin		± 1%
Minimum load (Note 7)			See table
Line regulation	LL to HL at Full Load		± 0.2%
Load regulation	Min. Load to Full Load	Single Dual	± 0.5% ± 2%
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		500µs
Over load protection	% of FL at nominal input		180%, typ.
Short circuit protection			Continuous, automatic recovery
GENERAL SPECIFICATIONS			
Efficiency			See table
Isolation voltage	Input to Output	Standard Suffix " H "	1600VDC, min. 3000VDC, min.
Isolation resistance			10 <sup>9</sup> ohms, min.
Isolation capacitance			300pF, max.
Switching frequency			100KHz, min.
Approvals and standard			IEC60950-1, UL60950-1, EN60950-1
Case material			Non-conductive black plastic
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 SMD		14g (0.48oz) 15g (0.52oz)
MTBF (Note 1)	BELLCORE TR-NWT-000332 MIL-HDBK-217F		3.731 x 10 <sup>6</sup> hrs 2.591 x 10 <sup>6</sup> hrs

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 current	Nominal Vin and full load		150mA <sub>p-p</sub>
Start up time	Nominal Vin and constant resistive load	Power up	30mS, typ.
ENVIRONMENTAL SPECIFICATIONS			
Operating ambient temperature			-25°C ~ +71°C(non derating)
Storage temperature range			-55°C ~ +105°C
Thermal shock			MIL-STD-810F
Vibration			MIL-STD-810F
Relative humidity			5% to 95% RH
EMC CHARACTERISTICS			
EMI	EN55022		Class A
ESD	EN61000-4-2	Air Contact	± 8KV ± 6KV Perf. Criteria A
Radiated immunity	EN61000-4-3		10 V/m Perf. Criteria A
Fast transient (Note 6)	EN61000-4-4		± 2KV Perf. Criteria B
Surge (Note 6)	EN61000-4-5		± 1KV Perf. Criteria B
Conducted immunity	EN61000-4-6		10 Vr.m.s Perf. Criteria A

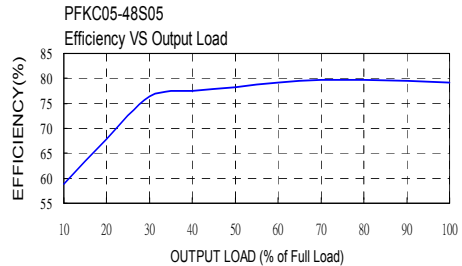
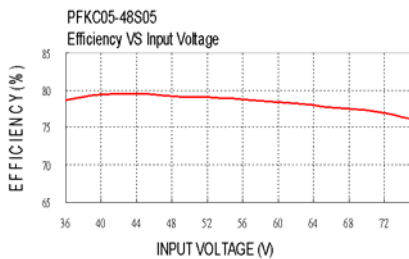
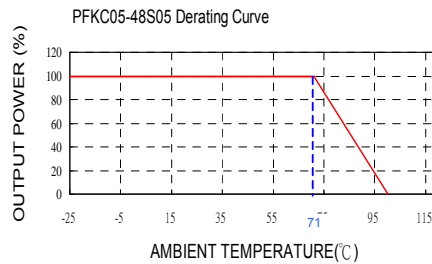


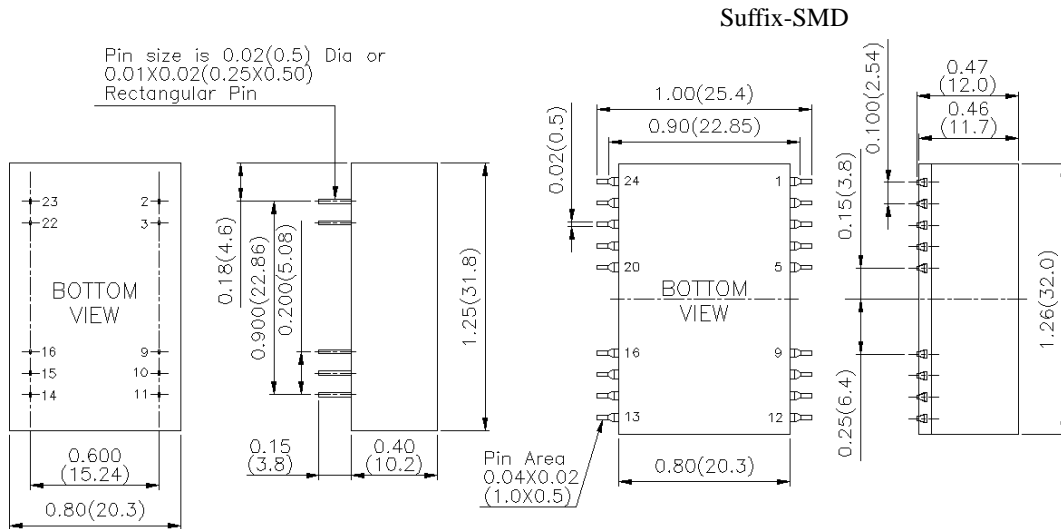


Model Number	Input Range	Output Voltage	Output Current		Output <sup>(4)</sup> Ripple & Noise	Input Current No load <sup>(3)</sup>	Current Full load <sup>(2)</sup>	Eff <sup>(4)</sup> (%)	Capacitor <sup>(5)</sup> Load max
			Min. load	Full load					
PFKC05-12S33	9 – 18 VDC	3.3 VDC	100mA	1000mA	75mVp-p	25mA	404mA	72	2200µF
PFKC05-12S05	9 – 18 VDC	5 VDC	100mA	1000mA	75mVp-p	10mA	579mA	76	1000µF
PFKC05-12S12	9 – 18 VDC	12 VDC	47mA	470mA	120mVp-p	30mA	618mA	80	220µF
PFKC05-12S15	9 – 18 VDC	15 VDC	40mA	400mA	150mVp-p	20mA	658mA	80	150µF
PFKC05-12D05	9 – 18 VDC	± 5 VDC	±50mA	± 500mA	75mVp-p	20mA	571mA	77	± 680µF
PFKC05-12D12	9 – 18 VDC	± 12 VDC	±20mA	± 230mA	120mVp-p	50mA	605mA	80	± 100µF
PFKC05-12D15	9 – 18 VDC	± 15 VDC	±19mA	± 190mA	150mVp-p	30mA	625mA	80	± 68µF
PFKC05-24S33	18 – 36 VDC	3.3 VDC	100mA	1000mA	75mVp-p	15mA	202mA	72	2200µF
PFKC05-24S05	18 – 36 VDC	5 VDC	100mA	1000mA	75mVp-p	10mA	278mA	79	1000µF
PFKC05-24S12	18 – 36 VDC	12 VDC	47mA	470mA	120mVp-p	10mA	306mA	81	220µF
PFKC05-24S15	18 – 36 VDC	15 VDC	40mA	400mA	150mVp-p	10mA	325mA	81	150µF
PFKC05-24D05	18 – 36 VDC	± 5 VDC	±50mA	± 500mA	75mVp-p	10mA	282mA	78	± 680µF
PFKC05-24D12	18 – 36 VDC	± 12 VDC	±23mA	± 230mA	120mVp-p	40mA	299mA	81	± 100µF
PFKC05-24D15	18 – 36 VDC	± 15 VDC	±19mA	± 190mA	150mVp-p	10mA	309mA	81	± 68µF
PFKC05-48S33	36 – 75 VDC	3.3 VDC	100mA	1000mA	75mVp-p	5mA	100mA	73	2200µF
PFKC05-48S05	36 – 75 VDC	5 VDC	100mA	1000mA	75mVp-p	5mA	141mA	78	1000µF
PFKC05-48S12	36 – 75 VDC	12 VDC	47mA	470mA	120mVp-p	5mA	153mA	81	220µF
PFKC05-48S15	36 – 75 VDC	15 VDC	40mA	400mA	150mVp-p	5mA	162mA	81	150µF
PFKC05-48D05	36 – 75 VDC	± 5 VDC	±50mA	± 500mA	75mVp-p	10mA	143mA	77	± 680µF
PFKC05-48D12	36 – 75 VDC	± 12 VDC	±23mA	± 230mA	120mVp-p	10mA	149mA	81	± 100µF
PFKC05-48D15	36 – 75 VDC	± 15 VDC	±19mA	± 190mA	150mVp-p	10mA	154mA	81	± 68µF

**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.
- 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.
- The output requires a minimum 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.





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)

DIP PIN CONNECTION					
PIN	SINGLE	DUAL	PIN	SINGLE	DUAL
2	- INPUT	- INPUT	23	+ INPUT	+ INPUT
3	- INPUT	- INPUT	22	+ INPUT	+ INPUT
9	NC	COMMON	16	- OUTPUT	COMMON
10	NC	NC	15	NC	NC
11	NC	- OUTPUT	14	+ OUTPUT	+ OUTPUT

SMD PIN CONNECTION					
PIN	SINGLE	DUAL	PIN	SINGLE	DUAL
2	- INPUT	- INPUT	23	+ INPUT	+ INPUT
3	- INPUT	- INPUT	22	+ INPUT	+ INPUT
9	NC	COMMON	16	- OUTPUT	COMMON
10	NC	NC	15	NC	NC
11	NC	- OUTPUT	14	+ OUTPUT	+ OUTPUT
Others	NC	NC	Others	NC	NC

