



APPLICATIONS

Wireless Network
Telecom/Datacom
Industry Control System
Measurement
Semiconductor Equipment

FEATURES

- 3 WATTS REGULATED OUTPUT POWER
- OUTPUT CURRENT UP TO 600mA
- STANDARD 1.25" X 0.8" X 0.4" INCH
- HIGH EFFICIENCY UP TO 80%
- 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 PFKC03 series offer 3 watts of output power from a package in an IC compatible 24 pin DIP configuration without derating to 71°C ambient temperature and pin to pin compatible to PFKC05, FKC03, FKC05 series. PFKC03 series have 2:1 wide input voltage of 4.5-6, 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			3 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 3.3Vout	± 0.3%
		Others	± 0.2%
		Dual	± 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		500uS
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	1600VDC, min
		Suffix " H "	3000VDC, min
Isolation resistance			10 ⁹ 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		14g (0.48oz)
	SMD		15g (0.52oz)
MTBF (Note 1)	BELLCORE TR-NWT-000332		3.690 x 10 ⁶ hrs
	MIL-HDBK-217F		3.082 x 10 ⁶ hrs

INPUT SPECIFICATIONS			
Input voltage range	5V nominal input		4.5 – 6VDC
	12V nominal input		9 – 18VDC
	24V nominal input		18 – 36VDC
	48V nominal input		36 – 75VDC
Input filter			Pi type
Input surge voltage 100mS max	5V input		15VDC
	12V input		36VDC
	24V input		50VDC
	48V input		100VDC
Input reflected ripple current	Nominal Vin and full load		120mA p-p
Start up time	Nominal Vin and constant resistive load	Power up	30mS typ

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range	-25°C ~ +71°C(non derating)
Storage temperature range	-55°C ~ +105°C
Thermal shock	MIL-STD-810F
Vibration	10-55Hz, 10G, 30minutes along X,Y and Z
Relative humidity	5% to 95% RH

EMC CHARACTERISTICS			
EMI	EN55022		Class A
ESD	EN61000-4-2	Air	± 8KV
		Contact	± 6KV
Radiated immunity	EN61000-4-3	10 V/m	Perf. Criteria A
Fast transient	EN61000-4-4	± 2KV	Perf. Criteria B
Surge (Note 6)	EN61000-4-5	± 0.5KV	Perf. Criteria B
Conducted immunity	EN61000-4-6	10 Vr.m.s	Perf. Criteria A

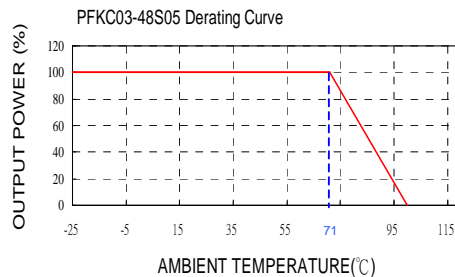


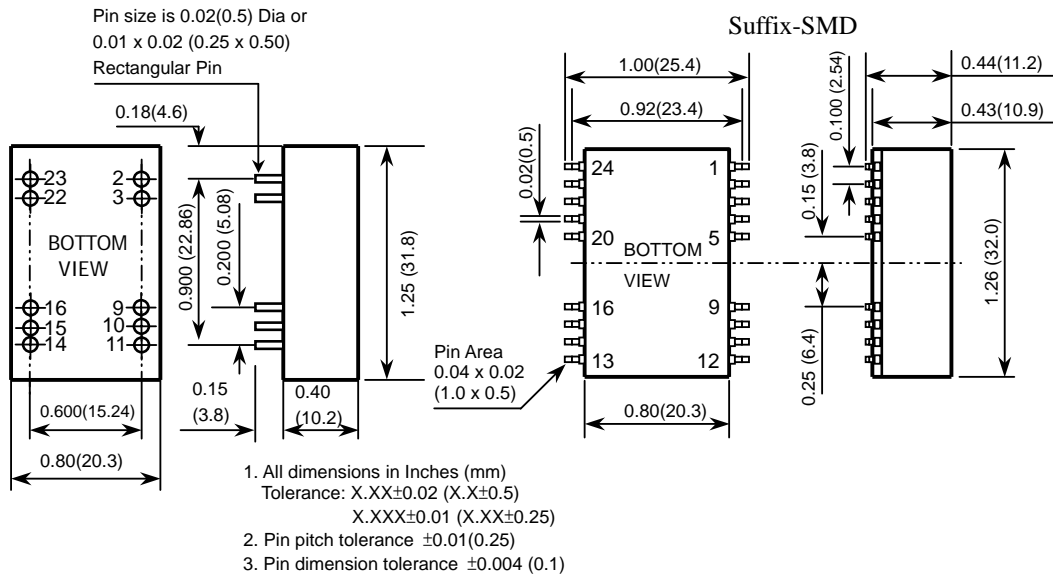
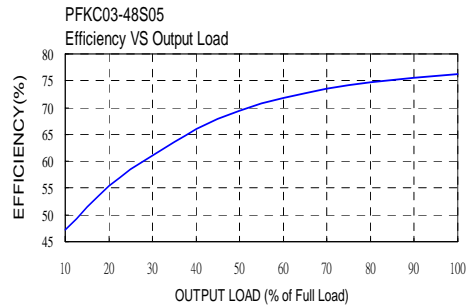
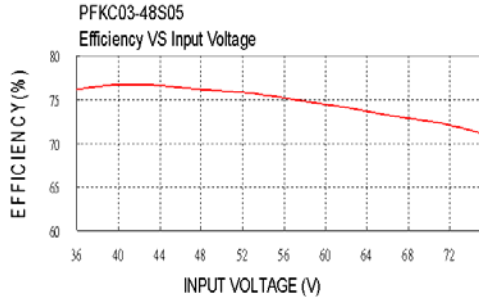


Model Number	Input Range	Output Voltage	Output Current		Output ⁽⁴⁾ Ripple & Noise	Input Current		Eff ⁽⁴⁾ (%)	Capacitor ⁽⁵⁾ Load max
			Min. load	Full load		No load ⁽³⁾	Full load ⁽²⁾		
PFKC03-05S33	4.5 – 6 VDC	3.3 VDC	60mA	600mA	75mVp-p	20mA	649mA	66	2200uF
PFKC03-05S05	4.5 – 6 VDC	5 VDC	60mA	600mA	75mVp-p	20mA	909mA	70	1000uF
PFKC03-05S12	4.5 – 6 VDC	12 VDC	25mA	250mA	120mVp-p	35mA	835mA	76	170uF
PFKC03-05S15	4.5 – 6 VDC	15 VDC	20mA	200mA	150mVp-p	35mA	845mA	75	110uF
PFKC03-05D05	4.5 – 6 VDC	± 5 VDC	±30mA	± 300mA	75mVp-p	20mA	857mA	74	± 500uF
PFKC03-05D12	4.5 – 6 VDC	± 12 VDC	±12mA	± 125mA	120mVp-p	25mA	845mA	75	± 96uF
PFKC03-05D15	4.5 – 6 VDC	± 15 VDC	±10mA	± 100mA	150mVp-p	55mA	870mA	73	± 47uF
PFKC03-12S33	9 – 18 VDC	3.3 VDC	60mA	600mA	75mVp-p	10mA	266mA	70	2200uF
PFKC03-12S05	9 – 18 VDC	5 VDC	60mA	600mA	75mVp-p	10mA	353mA	75	1000uF
PFKC03-12S12	9 – 18 VDC	12 VDC	25mA	250mA	120mVp-p	15mA	333mA	79	170uF
PFKC03-12S15	9 – 18 VDC	15 VDC	20mA	200mA	150mVp-p	15mA	343mA	77	110uF
PFKC03-12D05	9 – 18 VDC	± 5 VDC	±30mA	± 300mA	75mVp-p	15mA	348mA	76	± 500uF
PFKC03-12D12	9 – 18 VDC	± 12 VDC	±12mA	± 125mA	120mVp-p	20mA	338mA	78	± 96uF
PFKC03-12D15	9 – 18 VDC	± 15 VDC	±10mA	± 100mA	150mVp-p	25mA	333mA	79	± 47uF
PFKC03-24S33	18 – 36 VDC	3.3 VDC	60mA	600mA	75mVp-p	10mA	123mA	71	2200uF
PFKC03-24S05	18 – 36 VDC	5 VDC	60mA	600mA	75mVp-p	10mA	174mA	76	1000uF
PFKC03-24S12	18 – 36 VDC	12 VDC	25mA	250mA	120mVp-p	10mA	164mA	80	170uF
PFKC03-24S15	18 – 36 VDC	15 VDC	20mA	200mA	150mVp-p	10mA	164mA	80	110uF
PFKC03-24D05	18 – 36 VDC	± 5 VDC	±30mA	± 300mA	75mVp-p	10mA	172mA	77	± 500uF
PFKC03-24D12	18 – 36 VDC	± 12 VDC	±12mA	± 125mA	120mVp-p	10mA	167mA	79	± 96uF
PFKC03-24D15	18 – 36 VDC	± 15 VDC	±10mA	± 100mA	150mVp-p	10mA	167mA	79	± 47uF
PFKC03-48S33	36 – 75 VDC	3.3 VDC	60mA	600mA	75mVp-p	5mA	61mA	72	2200uF
PFKC03-48S05	36 – 75 VDC	5 VDC	60mA	600mA	75mVp-p	5mA	88mA	75	1000uF
PFKC03-48S12	36 – 75 VDC	12 VDC	25mA	250mA	120mVp-p	5mA	84mA	79	170uF
PFKC03-48S15	36 – 75 VDC	15 VDC	20mA	200mA	150mVp-p	5mA	84mA	79	110uF
PFKC03-48D05	36 – 75 VDC	± 5 VDC	±30mA	± 300mA	75mVp-p	5mA	86mA	77	± 500uF
PFKC03-48D12	36 – 75 VDC	± 12 VDC	±12mA	± 125mA	120mVp-p	5mA	84mA	79	± 96uF
PFKC03-48D15	36 – 75 VDC	± 15 VDC	±10mA	± 100mA	150mVp-p	5mA	84mA	79	± 47uF

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 filter capacitor is required if the module has to meet EN61000-4-5.
The filter capacitor Power Mate suggest: Nippon chemi-con KY series, 220 μ F/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.





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