



**POWER MATE
TECHNOLOGY CO.,LTD.**

PFKC03-SERIES



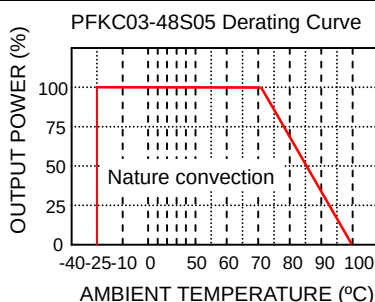
- 3 WATTS REGULATED OUTPUT POWER
- 2:1 WIDE INPUT VOLTAGE RANGE
- INTERNATIONAL SAFETY STANDARD APPROVAL
- OVER CURRENT PROTECTION
- HIGH EFFICIENCY UP TO 80%
- STANDARD 24 PIN DIP PACKAGE & SMD TYPE PACKAGE

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. PFKC03 features 1600VDC of isolation and, short-circuit protection and suffix "H" can get 3000VDC isolation. All models are particularly suited to telecommunications, industrial, mobile telecom and test equipment applications.

UL E193009
TUV
CB
CE MARK

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 1)			10% of FL
Line regulation	LL to HL at Full Load		± 0.2%
Load regulation	25% to 100% FL Single		± 0.2%
	Dual		± 2%
Cross regulation (Dual)	Asymmetrical load 25% / 100% FL		± 5%
Ripple and noise	20MHz bandwidth	3.3V/5V others	75mVp-p 1%/p-p of Vout max
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, automatics recovery	
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 (Note2)	Nominal Vin and full load		120mA p-p
Start up time	Nominal Vin and constant resistive load	Power up	30mS typ



GENERAL SPECIFICATIONS			
Efficiency			See table
Isolation voltage	Input to Output	Standard Suffix " H "	1600VDC, min 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 3)			3.69 x 10 ⁶ hrs
ENVIRONMENTAL SPECIFICATIONS			
Operating temperature range			-25°C ~ +71°C
Storage temperature range			-55°C ~ +105°C
Thermal shock			MIL-STD-810D
Vibration			10~55Hz, 10G, 30minutes along X,Y and Z
Relative humidity			5% to 95% RH
EMC CHARACTERISTICS			
Conducted emissions	EN55022		Class A
Radiated emissions	EN55022		Class A
ESD	EN61000-4-2		Perf. Criteria B
Radiated immunity	EN61000-4-3		Perf. Criteria A
Fast transient	EN61000-4-4		Perf. Criteria B
Surge	EN61000-4-5		Perf. Criteria B
Conducted immunity	EN61000-4-6		Perf. Criteria A



Model Number	Input Range	Output Voltage	Output Current	Input Current ⁽⁴⁾	Eff ⁽⁵⁾ (%)	Capacitor ⁽⁶⁾ Load max
PFKC03-05S33	4.5 – 6 VDC	3.3 VDC	600mA	649mA	66	2200uF
PFKC03-05S05	4.5 – 6 VDC	5 VDC	600mA	909mA	70	1000uF
PFKC03-05S12	4.5 – 6 VDC	12 VDC	250mA	835mA	76	170uF
PFKC03-05S15	4.5 – 6 VDC	15 VDC	200mA	845mA	75	110uF
PFKC03-05D05	4.5 – 6 VDC	± 5 VDC	± 300mA	857mA	74	± 500uF
PFKC03-05D12	4.5 – 6 VDC	± 12 VDC	± 125mA	845mA	75	± 96uF
PFKC03-05D15	4.5 – 6 VDC	± 15 VDC	± 100mA	870mA	73	± 47uF
PFKC03-12S33	9 – 18 VDC	3.3 VDC	600mA	266mA	70	2200uF
PFKC03-12S05	9 – 18 VDC	5 VDC	600mA	353mA	75	1000uF
PFKC03-12S12	9 – 18 VDC	12 VDC	250mA	333mA	79	170uF
PFKC03-12S15	9 – 18 VDC	15 VDC	200mA	343mA	77	110uF
PFKC03-12D05	9 – 18 VDC	± 5 VDC	± 300mA	348mA	76	± 500uF
PFKC03-12D12	9 – 18 VDC	± 12 VDC	± 125mA	338mA	78	± 96uF
PFKC03-12D15	9 – 18 VDC	± 15 VDC	± 100mA	333mA	79	± 47uF
PFKC03-24S33	18 – 36 VDC	3.3 VDC	600mA	123mA	71	2200uF
PFKC03-24S05	18 – 36 VDC	5 VDC	600mA	174mA	76	1000uF
PFKC03-24S12	18 – 36 VDC	12 VDC	250mA	164mA	80	170uF
PFKC03-24S15	18 – 36 VDC	15 VDC	200mA	164mA	80	110uF
PFKC03-24D05	18 – 36 VDC	± 5 VDC	± 300mA	172mA	77	± 500uF
PFKC03-24D12	18 – 36 VDC	± 12 VDC	± 125mA	167mA	79	± 96uF
PFKC03-24D15	18 – 36 VDC	± 15 VDC	± 100mA	167mA	79	± 47uF
PFKC03-48S33	36 – 75 VDC	3.3 VDC	600mA	61mA	72	2200uF
PFKC03-48S05	36 – 75 VDC	5 VDC	600mA	88mA	75	1000uF
PFKC03-48S12	36 – 75 VDC	12 VDC	250mA	84mA	79	170uF
PFKC03-48S15	36 – 75 VDC	15 VDC	200mA	84mA	79	110uF
PFKC03-48D05	36 – 75 VDC	± 5 VDC	± 300mA	86mA	77	± 500uF
PFKC03-48D12	36 – 75 VDC	± 12 VDC	± 125mA	84mA	79	± 96uF
PFKC03-48D15	36 – 75 VDC	± 15 VDC	± 100mA	84mA	79	± 47uF

Note

1. PFKC03 series required a minimum 10% 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
2. Please add an external filter at converter input terminals when measuring input reflected ripple, as figure 1.
L: Simulated source impedance of 12uH C: Nippon chemi-con KMF series 47uF/100V
3. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment)
4. Maximum value at nominal input voltage and full load of standard type.
5. Typical value at nominal input voltage and full load.
6. Test by minimum Vin and constant resistive load.

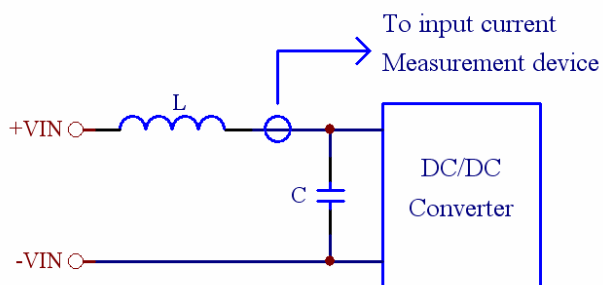
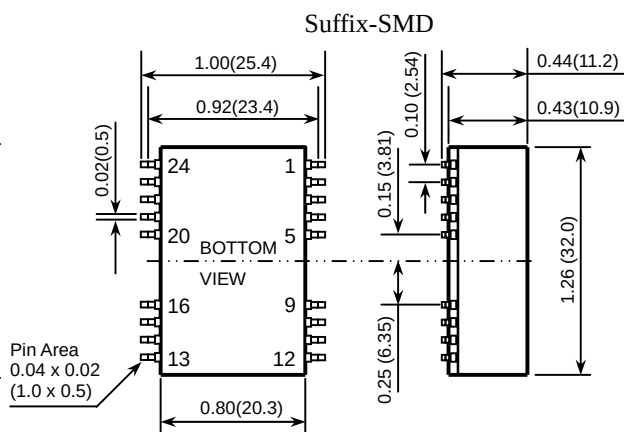


Figure 1



Pin size is 0.02(0.5) Dia or
0.01 x 0.02 (0.25 x 0.50)
Rectangular Pin



Pin pitch tolerance $\pm 0.014(0.35)$

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