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**

UL E193009
TUV R50008270
CB JPTUV-003680
CE MARK

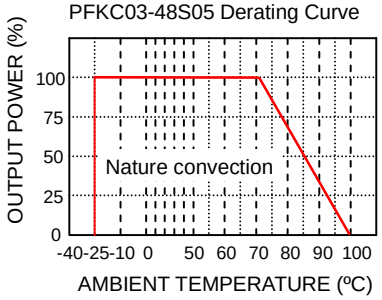
The PFKC03 series offer 3 watts of output power from a package in an IC compatible 24 pin DIP configuration without derating to 71ºC ambient temperature and pin to pin compatible to PFKC05,FKC03,FKC05 series. PFKC03 series have 2:1 wide input voltage of 4.5-6, 9-18, 18-36 and 36-75VDC. PFKC03 features 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.

TECHNICAL SPECIFICATION

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

OUTPUT SPECIFICATIONS			
Output power			3 Watts max
Voltage accuracy	Full load and nominal Vin		± 2%
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	75mVp-p
		others	1%/p-p of Vout max
Temperature coefficient			±0.02% / ºC, 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	Nominal Vin and full load	120mAp-p
Start up time	Nominal Vin and constant resistor load	30mS typ



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, UL1950, EN60950
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 2)			3.69 x 10^6 hrs

ENVIRONMENTAL SPECIFICATIONS	
Operating temperature range	-25ºC ~ +71ºC
Storage temperature range	-55ºC ~ +105ºC
Thermal shock	MIL-STD-810D
Vibration	10~55Hz, 2G, 30minutes along X,Y and Z
Relative humidity	5% to 95% RH

EMC CHARACTERISTICS		
Conducted emissions	EN55022	Level A
Radiated emissions	EN55022	Level A
ESD	EN61000-4-2	Perf. Criteria2
Radiated immunity	EN61000-4-3	Perf. Criteria2
Fast transient	EN61000-4-4	Perf. Criteria2
Surge	EN61000-4-5	Perf. Criteria2
Conducted immunity	EN61000-4-6	Perf. Criteria2

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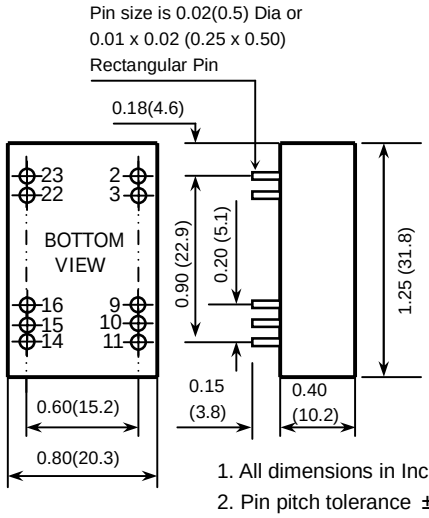
3 WATTS DC-DC CONVERTER

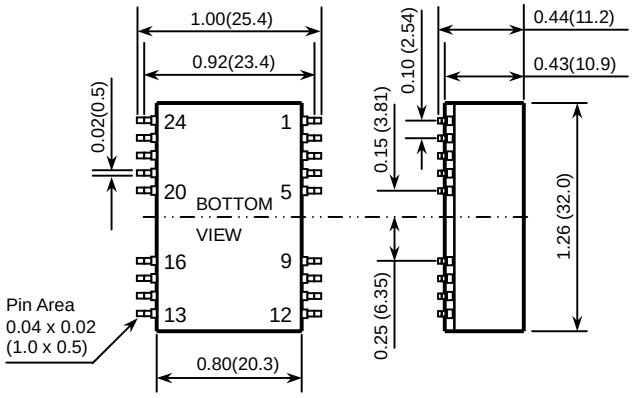
Model Number	Input Range	Output Voltage	Output Current	Input Current (3)	Eff (4) (%)	Capacitor(5) Load max
PFKC03-05S33	4.5 – 6 VDC	3.3 VDC	600mA	649mA	66	2200uF
PFKC03-05S05	4.5 – 6 VDC	5 VDC	600mA	909mA	70	1000uF
PFKC03-05S12	4.5 – 6 VDC	12 VDC	250mA	835mA	76	170uF
PFKC03-05S15	4.5 – 6 VDC	15 VDC	200mA	845mA	75	110uF
PFKC03-05D05	4.5 – 6 VDC	± 5 VDC	± 300mA	870mA	73	± 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. BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40ºC. (Ground fixed and controlled environment)
3. Maximum value at nominal input voltage and full load of standard type.
4. Typical value at nominal input voltage and full load.
5. Test by minimum Vin and constant resistor load.



Suffix-SMD



1. All dimensions in Inches (mm)
2. Pin pitch tolerance ±0.014(0.35)

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