



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

PFKC05-SERIES



UL E193009
TUV R50008270
CB JPTUV-003680
CE MARK

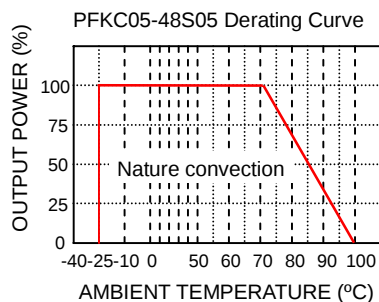
- 5 WATTS REGULATED OUTPUT POWER
- 2:1 WIDE INPUT VOLTAGE RANGE
- INTERNATIONAL SAFETY STANDARD APPROVAL
- OVER CURRENT PROTECTION
- HIGH EFFICIENCY UP TO 80%
- STANDARD 24 PIN DIP PACKAGE & SMD TYPE PACKAGE

The 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. The PFKC05 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 25°C otherwise noted

OUTPUT SPECIFICATIONS			
Output power		5 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	± 0.5%	
	Dual	± 2%	
Cross regulation (Dual)	Asymmetrical load 25% / 100% FL		± 5%
Ripple and noise	20MHz bandwidth	3.3V/5V others	75mVp-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	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	Nominal Vin and full load		150mA _{p-p}
Start up time	Nominal Vin and constant resistor load		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, 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)			3.731 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, 2G, 30minutes along X,Y and Z
Relative humidity	5% to 95% RH

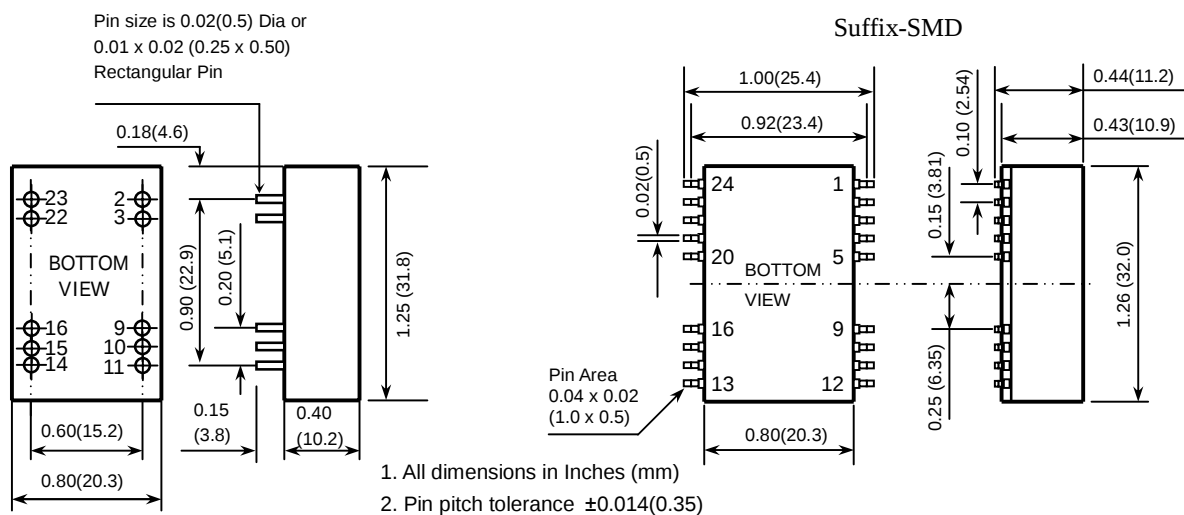
EMC CHARACTERISTICS		
Conducted emissions	EN55022	Level A
Radiated emissions	EN55022	Level A
ESD	EN61000-4-2	Perf. Criteria2
Radiated immunity	EN61000-4-3	Perf. Criteria2
Fast transient	EN61000-4-4	Perf. Criteria2
Surge	EN61000-4-5	Perf. Criteria2
Conducted immunity	EN61000-4-6	Perf. Criteria2



Model Number	Input Range	Output Voltage	Output Current	Input Current ⁽³⁾	Eff ⁽⁴⁾ (%)	Capacitor ⁽⁵⁾ Load max
PFKC05-12S33	9 – 18 VDC	3.3 VDC	1000mA	404mA	72	2200uF
PFKC05-12S05	9 – 18 VDC	5 VDC	1000mA	579mA	76	1000uF
PFKC05-12S12	9 – 18 VDC	12 VDC	470mA	618mA	80	220uF
PFKC05-12S15	9 – 18 VDC	15 VDC	400mA	658mA	80	150uF
PFKC05-12D05	9 – 18 VDC	± 5 VDC	± 500mA	571mA	77	± 680uF
PFKC05-12D12	9 – 18 VDC	± 12 VDC	± 230mA	605mA	80	± 100uF
PFKC05-12D15	9 – 18 VDC	± 15 VDC	± 190mA	625mA	80	± 68uF
PFKC05-24S33	18 – 36 VDC	3.3 VDC	1000mA	202mA	72	2200uF
PFKC05-24S05	18 – 36 VDC	5 VDC	1000mA	278mA	79	1000uF
PFKC05-24S12	18 – 36 VDC	12 VDC	470mA	306mA	81	220uF
PFKC05-24S15	18 – 36 VDC	15 VDC	400mA	325mA	81	150uF
PFKC05-24D05	18 – 36 VDC	± 5 VDC	± 500mA	282mA	78	± 680uF
PFKC05-24D12	18 – 36 VDC	± 12 VDC	± 230mA	299mA	81	± 100uF
PFKC05-24D15	18 – 36 VDC	± 15 VDC	± 190mA	309mA	81	± 68uF
PFKC05-48S33	36 – 75 VDC	3.3 VDC	1000mA	100mA	73	2200uF
PFKC05-48S05	36 – 75 VDC	5 VDC	1000mA	141mA	78	1000uF
PFKC05-48S12	36 – 75 VDC	12 VDC	470mA	153mA	81	220uF
PFKC05-48S15	36 – 75 VDC	15 VDC	400mA	162mA	81	150uF
PFKC05-48D05	36 – 75 VDC	± 5 VDC	± 500mA	143mA	77	± 680uF
PFKC05-48D12	36 – 75 VDC	± 12 VDC	± 230mA	149mA	81	± 100uF
PFKC05-48D15	36 – 75 VDC	± 15 VDC	± 190mA	154mA	81	± 68uF

Note

1. The PFKC05 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 40°C. (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.



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