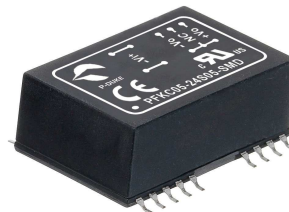
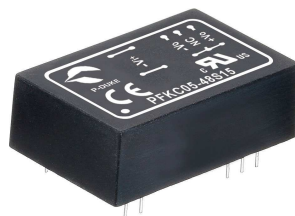


PFKC05 SERIES

DC-DC CONVERTER

2:1 WIDE INPUT RANGE
UP TO 5Watts



FEATURES

- 1600VDC INPUT TO OUTPUT ISOLATION AND 3000VDC FOR OPTION
- STANDARD 1.25 X 0.80 X 0.40 INCH
- STANDARD 24 PIN DIP PACKAGE & SMD TYPE PACKAGE
- UL60950-1, EN60950-1, & IEC60950-1 SAFETY APPROVALS
- CE MARKED
- COMPLIANT TO RoHS II & REACH

APPLICATIONS

- WIRELESS NETWORK
- TELECOM/DATACOM
- INDUSTRY CONTROL SYSTEM
- DISTRIBUTED POWER ARCHITECTURES
- SEMICONDUCTOR EQUIPMENT

3000VDC
ISOLATION

1600VDC
ISOLATION

SCP

TECHNICAL SPECIFICATION

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

Model Number	Input Range VDC	Output Voltage VDC	Output Current @ Full Load		Input Current @ No Load mA	Efficiency %	Maximum Capacitor Load (2) µF
			Min. Load (1) mA	Full Load mA			
PFKC05-12S33	9 ~ 18	3.3	100	1000	25	72	2200
PFKC05-12S05	9 ~ 18	5	100	1000	10	76	1000
PFKC05-12S12	9 ~ 18	12	47	470	30	80	220
PFKC05-12S15	9 ~ 18	15	40	400	20	80	150
PFKC05-12D05	9 ~ 18	±5	±50	± 500	20	77	± 680
PFKC05-12D12	9 ~ 18	±12	±20	± 230	50	80	± 100
PFKC05-12D15	9 ~ 18	±15	±19	± 190	30	80	± 68
PFKC05-24S33	18 ~ 36	3.3	100	1000	15	72	2200
PFKC05-24S05	18 ~ 36	5	100	1000	10	79	1000
PFKC05-24S12	18 ~ 36	12	47	470	10	81	220
PFKC05-24S15	18 ~ 36	15	40	400	10	81	150
PFKC05-24D05	18 ~ 36	±5	±50	± 500	10	78	± 680
PFKC05-24D12	18 ~ 36	±12	±23	± 230	40	81	± 100
PFKC05-24D15	18 ~ 36	±15	±19	± 190	10	81	± 68
PFKC05-48S33	36 ~ 75	3.3	100	1000	5	73	2200
PFKC05-48S05	36 ~ 75	5	100	1000	5	78	1000
PFKC05-48S12	36 ~ 75	12	47	470	5	81	220
PFKC05-48S15	36 ~ 75	15	40	400	5	81	150
PFKC05-48D05	36 ~ 75	±5	±50	± 500	10	77	± 680
PFKC05-48D12	36 ~ 75	±12	±23	± 230	10	81	± 100
PFKC05-48D15	36 ~ 75	±15	±19	± 190	10	81	± 68

PART NUMBER STRUCTURE

PFKC05 - 48 S 05 H - SMD

Series Name	Input Voltage (VDC) 12: 9~18 24: 18~36 48: 36~75	Output Quantity S: Single D: Dual	Output Voltage (VDC) 33: 3.3 05: 5 12: 12 15: 15 05: ±5 12: ±12 15: ±15	Isolation Voltage (VDC) □: 1600 H: 3000	Package □: DIP Type SMD: SMD Type
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INPUT SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Operating input voltage range	12Vin(nom) 24Vin(nom) 48Vin(nom)	9 18 36	12 24 48	18 36 75	VDC
Input reflected ripple current	Nominal input and Full load		150		mAp-p
Start up time	Constant resistive load Power up			30	ms
Input surge voltage	100 ms, max. 12Vin(nom) 24Vin(nom) 48Vin(nom)			36 50 100	VDC
Input filter				Pi type	

OUTPUT SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Voltage accuracy		-1.0		+1.0	%
Line regulation	Low Line to High Line at Full Load	-0.2		+0.2	%
Load regulation	Min. Load to Full Load Single Dual	-0.5 -2.0		+0.5 +2.0	%
Cross regulation	Asymmetrical load 25%/100% FL Dual	-5.0		+5.0	%
Ripple and noise	Measured by 20MHz bandwidth 3.3Vout, 5Vout 12Vout 15Vout		75 120 150		mVp-p
Temperature coefficient		-0.02		+0.02	%/°C
Transient response recovery time	25% load step change		500		µs
Short circuit protection				Continuous, automatic recovery	

GENERAL SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Isolation voltage	1 minute Input to Output Standard Suffix " H "	1600 3000			VDC
Isolation resistance	500VDC	1			GΩ
Isolation capacitance				300	pF
Switching frequency		100			kHz
Safety approvals				UL60950-1 EN60950-1 IEC60950-1	
Case material				Non-conductive black plastic	
Base material				Non-conductive black plastic	
Potting material				Epoxy (UL94 V-0)	
Weight	DIP Type SMD Type			14g (0.48oz) 15g (0.52oz)	
MTBF	MIL-HDBK-217F, Full load			5.953 x 10 ⁶ hrs	

ENVIRONMENTAL SPECIFICATIONS

Parameter	Conditions	Min.	Typ.	Max.	Unit
Operating ambient temperature	Without derating	-25		+71	°C
Storage temperature range		-55		+125	°C
Thermal shock				MIL-STD-810F	
Vibration				MIL-STD-810F	
Relative humidity				5% to 95% RH	

EMC SPECIFICATIONS

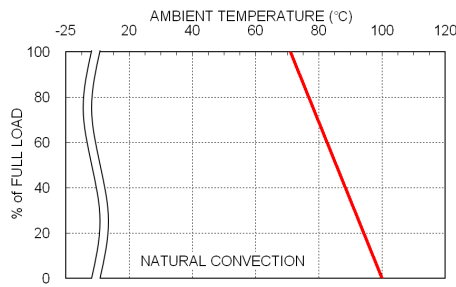
Parameter	Conditions	Level
EMI	EN55022	Class A
ESD	EN61000-4-2 Air ± 8kV and Contact ± 6kV	Perf. Criteria A
Radiated immunity	EN61000-4-3 10 V/m	Perf. Criteria A
Fast transient (3)	EN61000-4-4 ± 2kV	Perf. Criteria B
Surge (3)	EN61000-4-5 ± 1kV	Perf. Criteria B
Conducted immunity	EN61000-4-6 10 Vr.m.s	Perf. Criteria A
Power frequency magnetic field	EN61000-4-8 100A/m continuous; 1000A/m 1 second	Perf. Criteria A

Note:

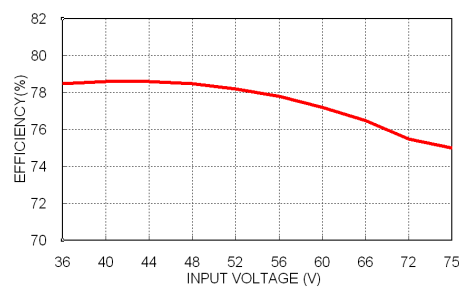
- The output requires a minimum loading on the output to maintain specified regulation. Operation under no-load condition will not damage these devices, however they may not meet all listed specification.
- Test by minimum input and constant resistive load.
- An external input filter capacitor is required 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.

CAUTION: This power module is not internally fused. An input line fuse must always be used.

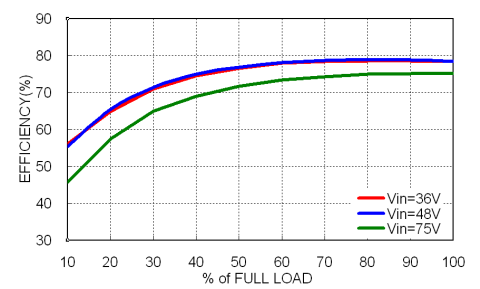
CHARACTERISTIC CURVE



PFKC05-48S05 Derating Curve



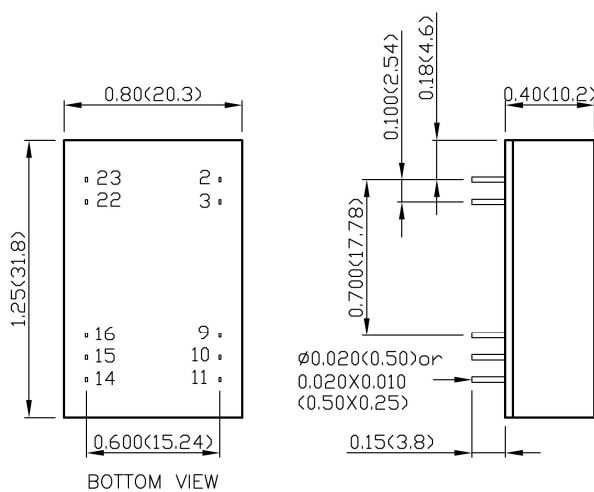
PFKC05-48S05 Efficiency vs. Input Voltage



PFKC05-48S05 Efficiency vs. Output Load

MECHANICAL DRAWING

DIP TYPE

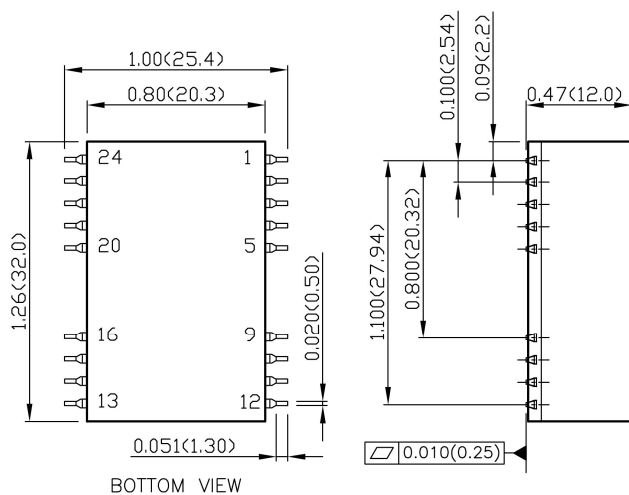


DIP PIN CONNECTION

PIN	SINGLE	DUAL	PIN	SINGLE	DUAL
2	-Vin	-Vin	23	+Vin	+Vin
3	-Vin	-Vin	22	+Vin	+Vin
9	NC	Common	16	-Vout	Common
10	NC	NC	15	NC	NC
11	NC	-Vout	14	+Vout	+Vout

* NC : No Connection

SMD TYPE



SMD PIN CONNECTION

PIN	SINGLE	DUAL	PIN	SINGLE	DUAL
2	-Vin	-Vin	23	+Vin	+Vin
3	-Vin	-Vin	22	+Vin	+Vin
9	NC	Common	16	-Vout	Common
10	NC	NC	15	NC	NC
11	NC	-Vout	14	+Vout	+Vout
Others	NC	NC			

* NC : No Connection

1. All dimensions in inch (mm)
2. Tolerance : $x.xx \pm 0.02$ ($x.x \pm 0.5$)
 $x.xxx \pm 0.01$ ($x.xx \pm 0.25$)
3. Pin pitch tolerance ± 0.01 (0.25)
4. Pin dimension tolerance ± 0.004 (0.1)