



**UL E193009**  
**TUV R3-50007936**  
**CB JPTUV-003641**  
**CE MARK**

- 5 WATTS OUTPUT POWER
- 2:1 AND 4:1 WIDE INPUT VOLTAGE RANGE
- INTERNATIONAL SAFETY STANDARD APPROVAL
- FIVE-SIDED SHIELD
- HIGH EFFICIENCY UP TO 84%
- STANDARD 24 PIN DIP PACKAGE & SMD TYPE PACKAGE
- FIXED SWITCHING FREQUENCY

The FKC05 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 FKC03 series. FKC05 series have 2:1 wide input voltage of 9-18, 18-36 and 36-75VDC. FKC05-W series have 4:1 ultra wide input voltage of 9-36 and 18-75VDC. The FKC05 features 1600VDC of isolation, short-circuit protection and as well as five sided shielding. All models are particularly suited to telecommunications, industrial, mobile telecom and test equipment applications.

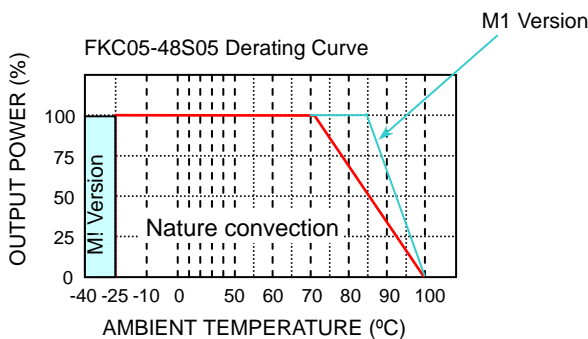
**TECHNICAL SPECIFICATION** All specifications are typical at nominal input, full load and 25°C otherwise noted

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	± 1%
Cross regulation(Dual)	Asymmetrical load 25% / 100% FL	± 5%	
Ripple and noise	20MHz bandwidth	50mVp-p	
Temperature coefficient	± 0.02% / °C, max		
Transient response recovery time	25% load step change	200uS	
Over load protection	% of FL at nominal input	170% typ	
Short circuit protection	Continuous, automatics recovery		
INPUT SPECIFICATIONS			
Input voltage range	FKC05	12V nominal input	9 – 18VDC
		24V nominal input	18 – 36VDC
		48V nominal input	36 – 75VDC
	FKC05-W	24V nominal input	9 – 36VDC
		48V nominal input	18 – 75VDC
Input filter	Pi type		
Input surge voltage 100mS max	12V input	36VDC	
	24V input	50VDC	
	48V input	100VDC	
Input reflected ripple (Note 2)	Nominal Vin and full load	20mAp-p	
Start up time	Nominal Vin and constant resistor load	600mS typ	

GENERAL SPECIFICATIONS			
Efficiency	See table		
Isolation voltage	Input to Output	1600VDC, min	
	Input ( Output ) to Case	DIP	1600VDC, min
		SMD	1000VDC, min
Isolation resistance	10 <sup>9</sup> ohms, min		
Isolation capacitance	300pF, max		
Switching frequency	300KHz, typ		
Approvals and standard	IEC60950, UL1950, EN60950		
Case material	Nickel-coated copper		
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	16g (0.55oz)	
	SMD	18g (0.62oz)	
MTBF (Note 3)	3.165 x 10 <sup>6</sup> hrs		

ENVIRONMENTAL SPECIFICATIONS			
Operating temperature range	Standard	-25°C~+85°C (with derating)	
	M1 (Note 4)	-40°C~+85°C (non-derating)	
	M2 (W series)	-40°C~+85°C (with derating)	
Maximum case temperature	+100°C		
Storage temperature range	-55°C ~ +105°C		
Thermal impedance	Nature convection	20°C/watt	
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. 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	



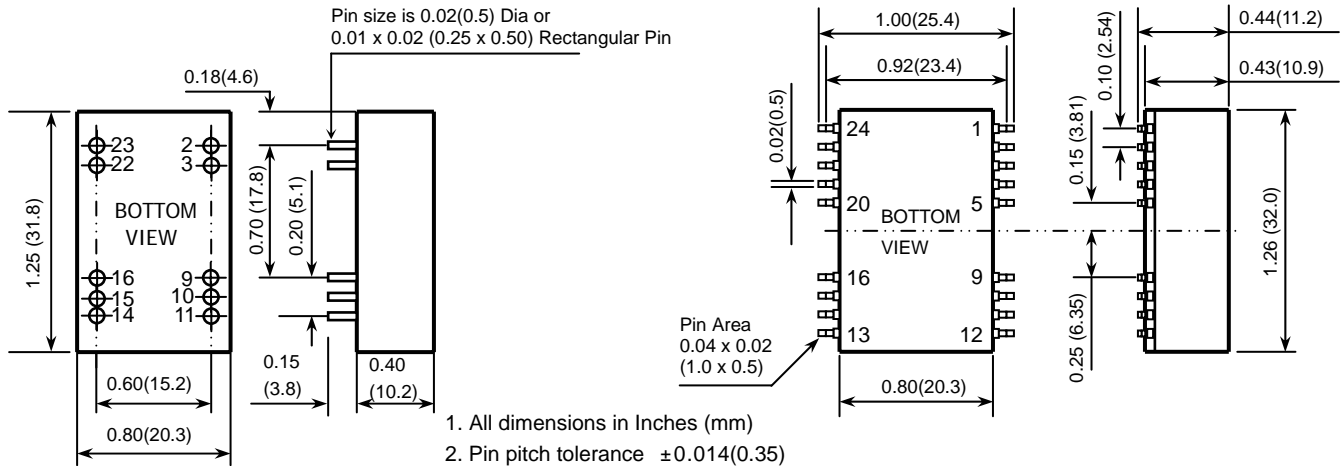


Model Number	Input Range	Output Voltage	Output Current	Input Current <sup>(5)</sup>	Eff <sup>(6)</sup> (%)	Capacitor <sup>(7)</sup> Load max
FKC05-12S33	9 – 18 VDC	3.3 VDC	1000mA	382mA	76	2200uF
FKC05-12S05	9 – 18 VDC	5 VDC	1000mA	563mA	78	1000uF
FKC05-12S12	9 – 18 VDC	12 VDC	470mA	603mA	82	220uF
FKC05-12S15	9 – 18 VDC	15 VDC	400mA	649mA	81	150uF
FKC05-12D05	9 – 18 VDC	± 5 VDC	± 500mA	563mA	78	± 680uF
FKC05-12D12	9 – 18 VDC	± 12 VDC	± 230mA	597mA	81	± 100uF
FKC05-12D15	9 – 18 VDC	± 15 VDC	± 190mA	594mA	84	± 68uF
FKC05-24S33 (W)	18 – 36 (9 – 36) VDC	3.3 VDC	1000mA	194mA (191mA)	75 (76)	2200uF
FKC05-24S05 (W)	18 – 36 (9 – 36) VDC	5 VDC	1000mA	285mA (278mA)	77 (79)	1000uF
FKC05-24S12 (W)	18 – 36 (9 – 36) VDC	12 VDC	470mA	305mA (309mA)	81 (80)	220uF
FKC05-24S15 (W)	18 – 36 (9 – 36) VDC	15 VDC	400mA	325mA (312mA)	81 (84)	150uF
FKC05-24D05 (W)	18 – 36 (9 – 36) VDC	± 5 VDC	± 500mA	274mA (282mA)	80 (78)	± 680uF
FKC05-24D12 (W)	18 – 36 (9 – 36) VDC	± 12 VDC	± 230mA	288mA (295mA)	84 (82)	± 100uF
FKC05-24D15 (W)	18 – 36 (9 – 36) VDC	± 15 VDC	± 190mA	308mA (297mA)	81 (84)	± 68uF
FKC05-48S33 (W)	36 – 75 (18 – 75) VDC	3.3 VDC	1000mA	98mA (100mA)	74 (73)	2200uF
FKC05-48S05 (W)	36 – 75 (18 – 75) VDC	5 VDC	1000mA	143mA (138mA)	77 (79)	1000uF
FKC05-48S12 (W)	36 – 75 (18 – 75) VDC	12 VDC	470mA	151mA (155mA)	82 (80)	220uF
FKC05-48S15 (W)	36 – 75 (18 – 75) VDC	15 VDC	400mA	162mA (160mA)	81 (82)	150uF
FKC05-48D05 (W)	36 – 75 (18 – 75) VDC	± 5 VDC	± 500mA	141mA (145mA)	78 (76)	± 680uF
FKC05-48D12 (W)	36 – 75 (18 – 75) VDC	± 12 VDC	± 230mA	147mA (151mA)	82 (80)	± 100uF
FKC05-48D15 (W)	36 – 75 (18 – 75) VDC	± 15 VDC	± 190mA	154mA (159mA)	81 (79)	± 68uF

**Note**

- The FKC05 (W) 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.
- Simulated source impedance of 12uH. 12uH inductor on series with + Vin.
- BELLCORE TR-NWT-000332. Case I: 50% Stress, Temperature at 40°C. (Ground fixed and controlled environment)
- M1 version is more efficient, therefore, it can be operated in a more extensive temperature range than standard and M2 version
- Maximum value at nominal input voltage and full load of standard type.
- Typical value at nominal input voltage and full load
- Test by minimum Vin and constant resistor load.
- There is no pin at PIN10 & PIN15 for FKC05-W series

**Suffix-SMD**



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(Note 8)	NC(Note 8)	15	NC(Note 8)	NC(Note 8)
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