



FEATURES

- 75 WATTS MAXIMUM OUTPUT POWER
- OUTPUT CURRENT UP TO 20A
- COMPACT 2.40 X 2.28 X 0.50 INCH PACKAGE
- HIGH EFFICIENCY UP TO 90%
- INPUT RANGE FROM 36VDC TO 75VDC
- FIXED SWITCHING FREQUENCY (300kHz)
- HALT TESTED
- INDUSTRY STANDARD FOOTPRINT
- ADJUSTABLE OUTPUT VOLTAGE, INDEPENDENTLY REGULATED OUTPUTS
- INPUT TO OUTPUT BASIC INSULATION:1600 VDC
- 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

OPTIONS

Positive remote on/off, pin length

DESCRIPTION

HEC75-SERIES DC/DC converters provide up to 75 watts of output power in an industry standard half-brick package and footprint. All models feature a wide input range, adjustable output voltage and a 20A current rating.

TECHNICAL SPECIFICATION

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

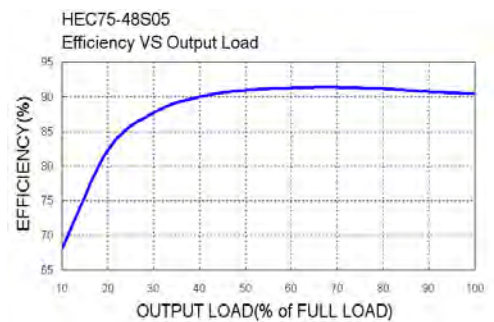
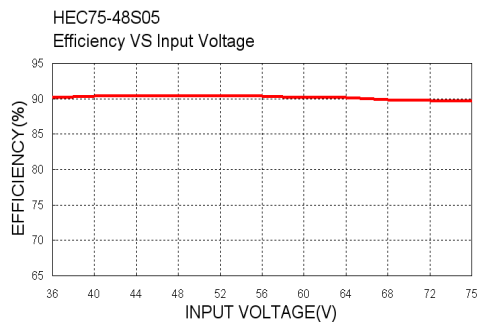
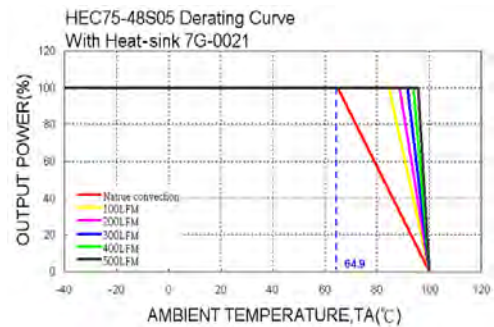
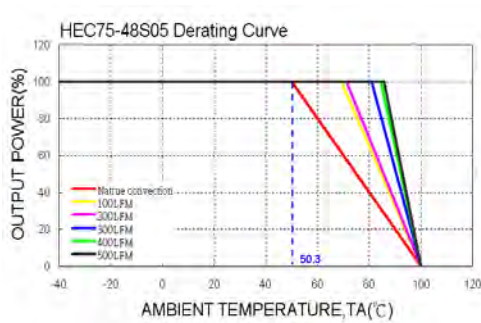
OUTPUT SPECIFICATIONS		INPUT SPECIFICATIONS	
Output power	75 Watts, max.	Input voltage range	36 ~ 75VDC
Voltage accuracy	± 1.5%	Input filter	L-C type
Minimum load	0%	Input surge voltage	100VDC 100ms,max
Voltage adjustability (Note 5)	+ 10%, -20%	Start up time	Nominal input and constant resistive load Power up Remote ON/OFF 25ms 25ms
Line regulation	LL to HL at FL	See table	
Load regulation	No Load to Full Load	See table	
Remote sense(Note 5)	10% of Vout(nom)	Input reflected-ripple current	20mA p-p
Ripple and noise(Note 6)	20MHz bandwidth	100mVp-p	
Temperature coefficient	±0.02% / °C, max.	Start-up voltage	34VDC
Transient response recovery time	25% load step change	200µs	
Over voltage protection threshold (Non-latching Hiccup)	115% ~ 130% of Vout(nom)	Shutdown voltage	32VDC
Over current protection threshold	110% ~ 140% of Iout Rated	Remote ON/OFF (Note 7)	
Short circuit protection	Continuous, automatics recovery	(Negative logic)	ON=Short or 0V < Vr < 1.2V, IIN=1mA max. OFF=Open or 3V < Vr < 15V, IIN=50µA max.
		(Positive logic)	ON=Open or 3V < Vr < 15V, IIN=50µA max. OFF=Short or 0V < Vr < 1.2V, IIN=1mA max.
		Input current of remote control pin	Nominal input -0.5mA ~ 0.5mA
		Remote off state input current	Nominal input 20mA
GENERAL SPECIFICATIONS		ENVIRONMENTAL SPECIFICATIONS	
Efficiency	See table	Operating base-plate temperature range (Note 8)	-40°C ~ +100°C
Isolation voltage	Input to Output 1600 VDC, min. 1minute Input(Output) to Case 1000 VDC, min. 1minute	Over temperature protection	+110°C
Isolation resistance	500VDC 10 ⁷ ohms, min.	Humidity max, Non-condensing	95%
Isolation capacitance	2500pF, max.	Storage temperature range	-55°C ~ +125°C
Switching frequency	300kHz±10%	Thermal shock	MIL-STD-810F
Safety approvals	IEC60950-1, UL60950-1, & EN60950-1	Vibration	MIL-STD-810F
Case material	Open with Aluminum base-plate	EMC CHARACTERISTICS	
Weight	63g (2.22oz)	EMI (Note 9)	EN55022 Class A, Class B
MTBF(Note 1)	MIL-HDBK-217F 3.593 x 10 ⁵ hrs	Radiated immunity	EN61000-4-3 10 V/m Perf. Criteria A
		Fast transient (Note 10)	EN61000-4-4 ± 2kV Perf. Criteria B
		Surge (Note 10)	EN61000-4-5 ± 1kV Perf. Criteria B
		Conducted immunity	EN61000-4-6 10 Vr.m.s Perf. Criteria A

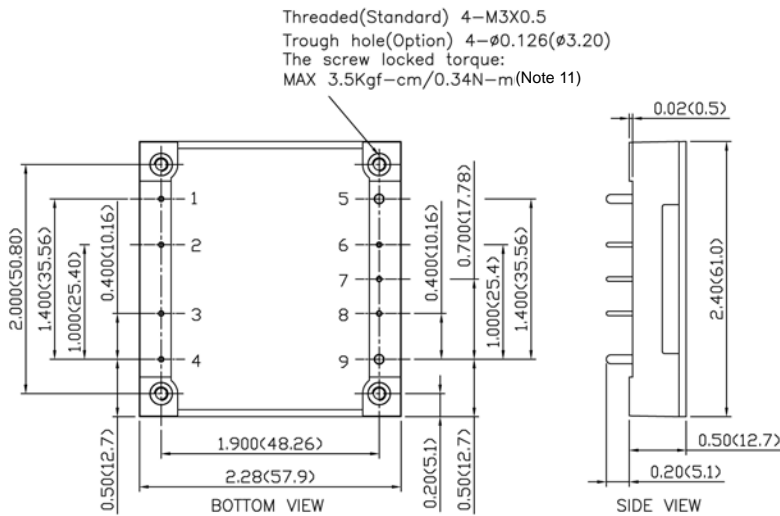
Model Number	Input Range	Output Voltage	Output Current		Line Regulation	Load Regulation	No load ⁽³⁾ Input Current	Eff ⁽⁴⁾ (%)
			Min. load	Full load				
HEC75~48S1P8	36 ~ 75 VDC	1.8 VDC	0mA	20 A	4 mV	6 mV	120mA	85
HEC75~48S2P5	36 ~ 75 VDC	2.5 VDC	0mA	20 A	5 mV	8 mV	90mA	87
HEC75~48S3P3	36 ~ 75 VDC	3.3 VDC	0mA	20 A	7 mV	10 mV	120mA	90
HEC75~48S05	36 ~ 75 VDC	5.0 VDC	0mA	15 A	10 mV	15 mV	130mA	90
HEC75~48S15	36 ~ 75 VDC	15 VDC	0mA	5 A	30 mV	45 mV	160mA	90

Note

1. MIL-HDBK-217F @Tc=70 °C, Full load.
2. The converter is provided by basic insulation.
3. Typical value at nominal input voltage and no load.
4. Typical value at nominal input voltage and full load.
5. Maximum output deviation is 10% inclusive of remote sense. If remote sense is not being used, the + SENSE should be connected to its corresponding +OUTPUT and likewise the -SENSE should be connected to its corresponding -OUTPUT.
6. Measured with a 1µF M/C and a 10µF T/C.
7. The negative / positive logic and pin length are optional. The pin voltage is referred to -Vin, Please see product options table.
8. Heat-sink is optional and P/N: 7G-0021A-F, 7G-0022A-F, 7G-0023A-F, 7G-0024A-F.
9. The HEC75 series standard module meets EN55022 Class A and Class B with external components.
For more detail information, please contact with P-DUKE.
10. 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.
11. CASE GROUNDING : When connect the case pin and four screw bolts to shield plane, the EMI could be reduced.

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



MECHANICAL DRAWING :


- All dimensions in Inch (mm)
Tolerance: X.XX±0.02 (X.X±0.5)
X.XXX±0.01 (X.XX±0.25)
- Pin pitch tolerance ±0.01(0.25)
- Pin dimension tolerance ±0.004 (0.1)

Remote On/Off and Pin Options	Suffix
Negative remote ON/OFF logic, 0.200" pin length (standard)	-
Negative remote ON/OFF logic, 0.145" pin length	-L
Positive remote ON/OFF logic, 0.200" pin length	-P
Positive remote ON/OFF logic, 0.145" pin length	-S

Example : HEC75-48S3P3-PHS

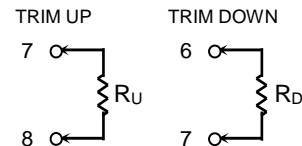
* The module can't equip heat-sink with TH option.

PIN CONNECTION

PIN	DEFINE	DIAMETER
1	-Vin	0.040 Inch (1.02mm)
2	Case	0.040 Inch (1.02mm)
3	Ctrl	0.040 Inch (1.02mm)
4	+Vin	0.040 Inch (1.02mm)
5	-Vout	0.080 Inch (2.03mm)
6	-Sense	0.040 Inch (1.02mm)
7	Trim	0.040 Inch (1.02mm)
8	+Sense	0.040 Inch (1.02mm)
9	+Vout	0.080 Inch (2.03mm)

EXTERNAL OUTPUT TRIMMING

Output can be externally trimmed by using the method shown below.



Heat-Sink and Mounting Hole Tread Options	Suffix
Without heat-sink	-
7G-0021A-F	-HS
7G-0022A-F	-HS1
7G-0023A-F	-HS2
7G-0024A-F	-HS3
Through hole (No thread)	-TH