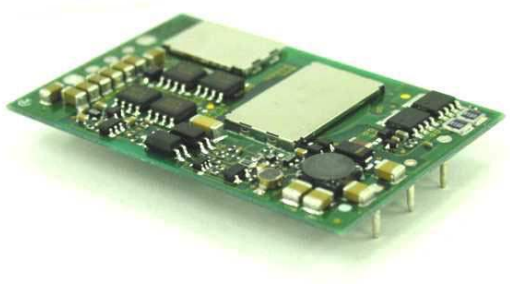
MPDKN00_S Series Isolated 50W Quarter Brick DC-DC Converter for Telecom Equipment

■Features

- Lowest Profile in the Industry (5.5mm Max.)
- High Efficiency (Up to 89%)
- Wide Input Voltage Range (36 to 75V)
- Trim Function Vout Range (-20 to +10% of Nominal)
- Input-Output Isolation (1.5kVdc)
- Open Frame (Forced Air Convection Cooling)
- Wide Operating Ambient Temp. (-40 to +85 degreeC)
- Over Current Protection
- Over Voltage Protection
- Over Temperature Protection
- On/Off Control (Negative Logic)
- Output Voltage Remote Sensing
- UL60950 Recognized
- Protection Function Latch Method



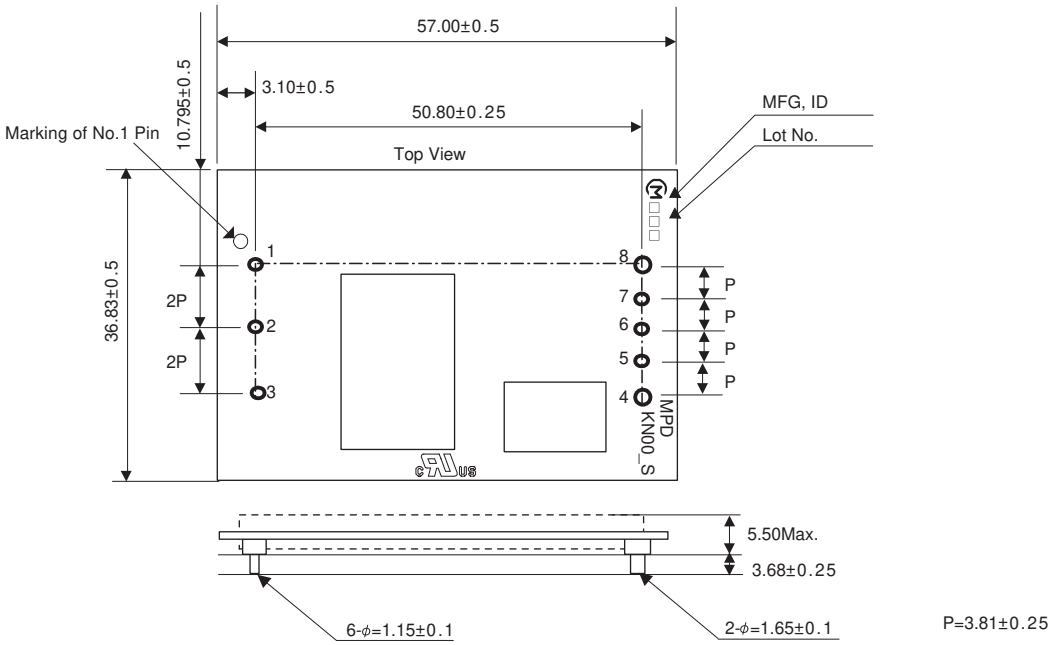
■Electrical Specifications

Item \ Model	MPDKN___S Series			
	004	006	007	008
Input Voltage Range	48V (36 to 75V)			
Nominal Output Voltage	1.8V	2.5V	3.3V	5V
Nominal Output Current	15A			10A
Nominal Output Wattage	27W	38W	50W	50W
Output Voltage Accuracy	±3% (Input Voltage Range 36 to 75V, Operation Temperature Range -40 to 85˚C)			
Efficiency (Typ.) Note 1	85%	87%	88%	89%
Output Ripple Noise Voltage (Max.)	100mVp-p (f_{BW}= 20MHz)			
Output Voltage Variable Range	-20 to +10%			
Protection	Over Voltage, Over Current, Over Temperature Protection			
Over Current Protection Value	103 to 160%			
Over Voltage Protection Value	120 to 140%			
Over Heat Protection Value	-			
Remote On/Off	Negative Logic			
Input-Output Isolation Voltage	1,500Vdc (1 minute)			
Safety Standard	UL60950 (US and Canada)			
Operation Temperature and Humidity Range	-40 to 85˚C, 20 to 85% (No Condensation, Power Derating)			
Storage Temperature and Humidity Range	-45 to 90˚C, 10 to 95% (No Condensation)			

Note 1: Nominal Input Voltage, Nominal Output Current

⚠Note • Please read rating and ⚠CAUTION (for strage, operating, rating, soldering, mounting and handling) in this catalog to prevent smoking and/or burning, etc.
• This catalog has only typical specifications because there is no space for detailed specifications. Therefore, please approve our product specifications or transact the approval sheet for product specifications before ordering.

■Dimensions



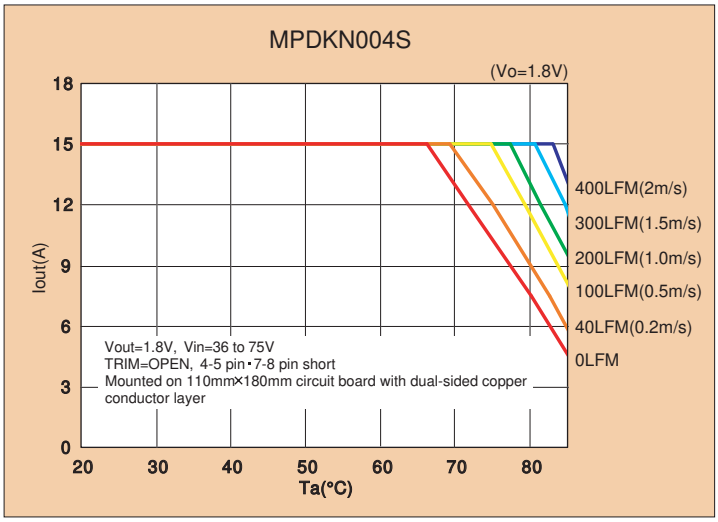
Pin Number and Function

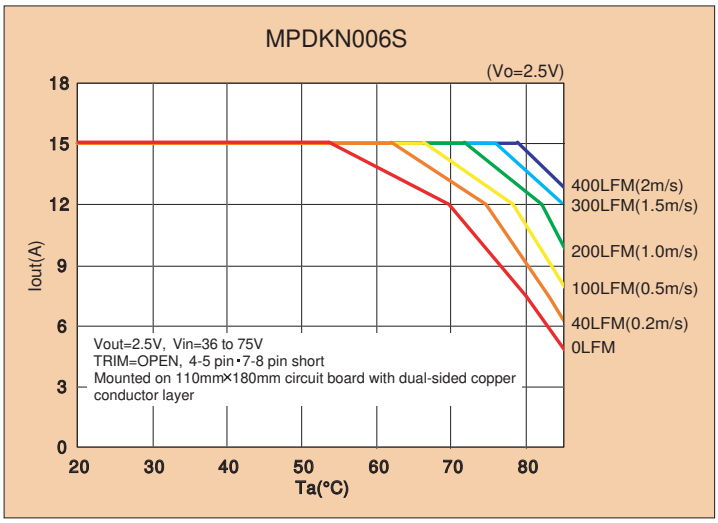
Pin No.	Pin Symbol	Function
1	Vin(+)	(+)Positive Input Voltage
2	On/Off	Remote On/Off
3	Vin(-)	(-)Negative Input Voltage
4	Vout(-)	(-)Negative Output Voltage
5	SENSE(-)	(-)Negative Remote Sense
6	TRIM	Output Voltage Trim
7	SENSE(+)	(+)Positive Remote Sense
8	Vout(+)	(+)Positive Output Voltage

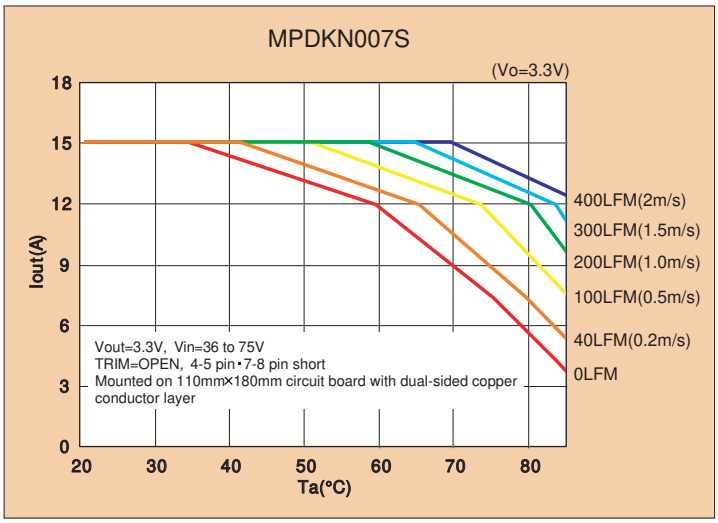
■Typical Power DeRating

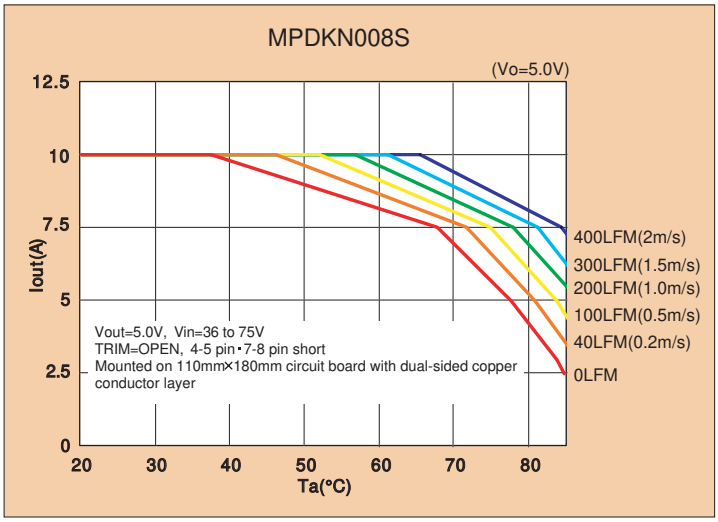
When using this product at the ambient air temperature of 30 degreeC or more, it should be used by the following temperature derating.

Temperature Derating Characteristic






MPDKN007S
(Vo=3.3V)
Iout(A)
18
15
12
9
6
3
0
20
30
40
50
60
70
80
Ta(°C)
400LFM(2m/s)
300LFM(1.5m/s)
200LFM(1.0m/s)
100LFM(0.5m/s)
40LFM(0.2m/s)
0LFM
Vout=3.3V, Vin=36 to 75V
TRIM=OPEN, 4-5 pin・7-8 pin short
Mounted on 110mm×180mm circuit board with dual-sided copper conductor layer


MPDKN008S
(Vo=5.0V)
Iout(A)
12.5
10
7.5
5
2.5
0
20
30
40
50
60
70
80
Ta(°C)
400LFM(2m/s)
300LFM(1.5m/s)
200LFM(1.0m/s)
100LFM(0.5m/s)
40LFM(0.2m/s)
0LFM
Vout=5.0V, Vin=36 to 75V
TRIM=OPEN, 4-5 pin・7-8 pin short
Mounted on 110mm×180mm circuit board with dual-sided copper conductor layer