

# DC-DC Converter Short Form

## MPD6D11\*S (Isolated DC-DC Converter)

### ■ Features

- No De-Rating (@ 40LFM Natural Convection Air Flow)
- Smallest & Lowest Profile in the Industry • Surface Mount • Wide Input
- Current Sharing (Up to 10 devices in Parallel Operation)
- On/Off Control Function
- Wide Operating Temperature Range (-40 to +85°C)
- Input-Output Isolation (1.5kVdc for 1 minute)



### ■ FUNCTIONS

- Overcurrent Limit Inception
- Lowvoltage Protection
- Overvoltage Protection
- Remote On/Off
- Synchronized start and halt
- Alarm output
- EMI in accordance with CISPR22,Class A

### ■ GENERAL SPECIFICATIONS

Item	Model	MPD6D___S Series where ___ is in below cells							
		111	112	113	114	116	117	118	119
Input	Nominal Input Voltage	48V							
	Input Voltage Range	36 to 60V with Natural Air Convection 40LFM (0.2m/S)							
		36 to 75V with Forced Air Convection 100LFM (0.5m/S)							
	Turn-on Input Voltage	32 to 36V							
Output	Turn-on/off Hysteresis (Min.)	2V							
	Output Voltage	12.0V	1.2V	1.5V	1.8V	2.5V	3.3V	5.0V	5.2V
	Output Voltage Tolerance	+5%,-3%							
	Nominal Output Current	1.2A	5.2A	5.2A	4.5A	4.5A	4.5A	3A	3A
	Note1								
	Over current Limit Inception (Min.)	1.23A	5.35A	5.35A	4.63A	4.63A	4.63A	3.09A	3.09A
	Low voltage Protection(Max.)	90% of Nominal Output Voltage							
	Efficiency(typ) Note 2	86%	82%	84%	87%	88%	90%	90%	90%
	Output Ripple and Noise(Max.)	100	50	50	50	50	50	50	50
Isolation	mVp-p with $f_{BW}=100MHz$								
	Remote ON/OFF	ON :RC pin connected to -Vin or open OFF:RC pin connected to +Vin							
	Input - Output(Min.)	1500Vdc,1minute							
Environment	Operation Ambient Temperature	-40 to 85°C							
	Operating Humidity	20 to 85%(No condensation)							
	Storage Ambient Temperature	-45 to 90°C.							
	Storage Humidity	10 to 95%(No condensation)							

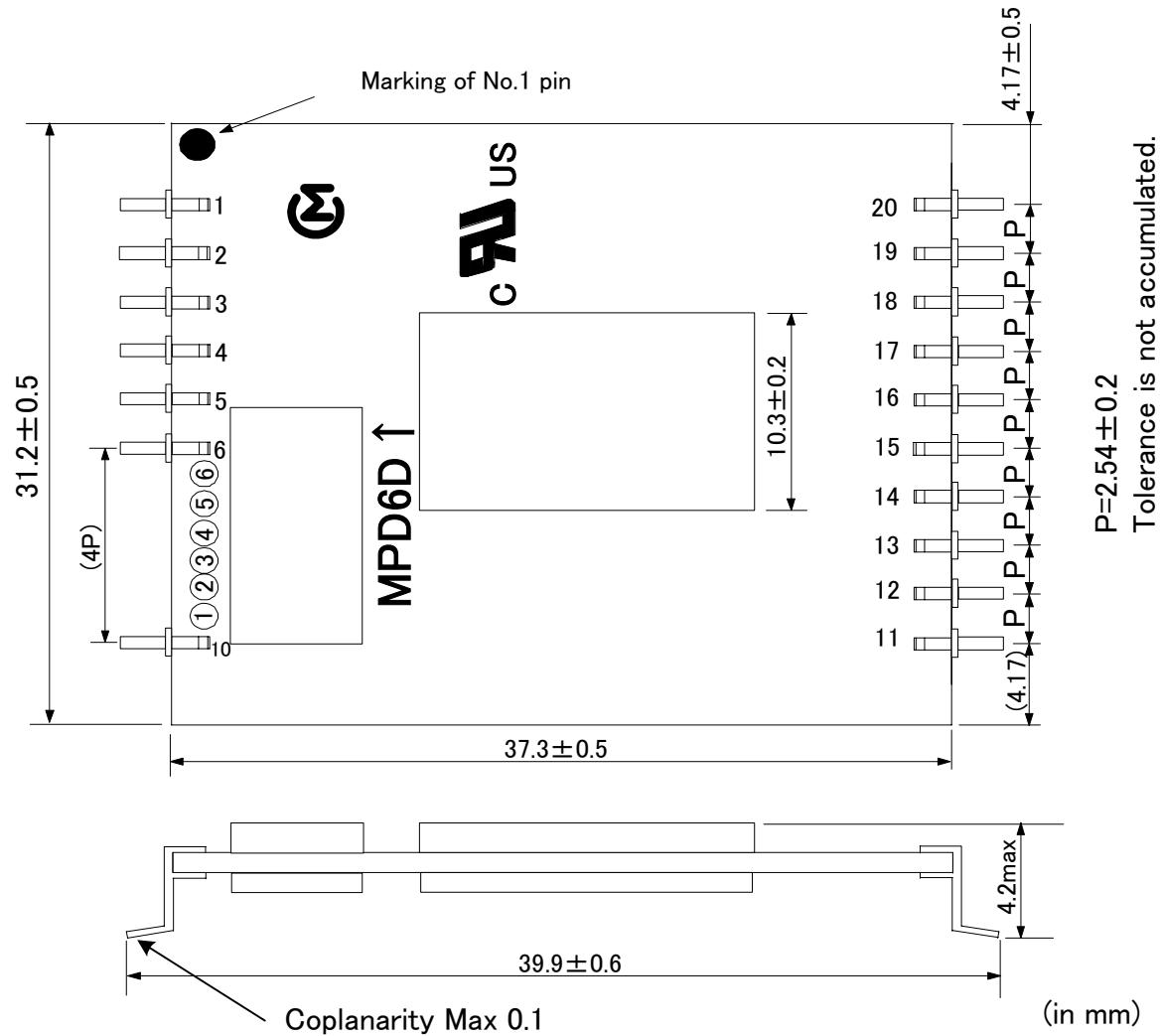
Note 1:With derated. Refer to Typical Power Derating of MPD6D111S.

Note 2:Vin=48V,Iout=Nominal output current

#### ⚠ Note:

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2. This datasheet 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 assignment

Pin No.	Designation	Function		
1,10,11,15,20	NC	Not Connected		Note1
2,3,4	+V out		+Output	
5,6	-V out		-Output	
12	ALM	Alarm		Note2
13	RC	Remote Control	On/Off	
14	PO	Parallel Operation		Note3
16,17	+ Vin	+ Input		
18,19	- Vin	- Input		

Note 1: Prevention against falling DC-DC converters from a underside of the motherboard, both side mounted type, during the secondary reflow.

Note 2: Any DC-DC converter halted by abnormality forces all DC-DC converters, which are connected ALM pins to the others for parallel and/or multiple operation.

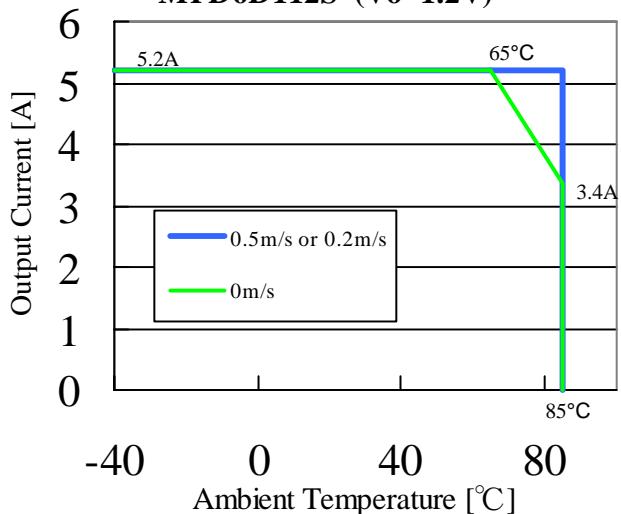
Note 3: DC-DC converters connected PO pins to the others can synchronize start timing for parallel and/or multiple operation.

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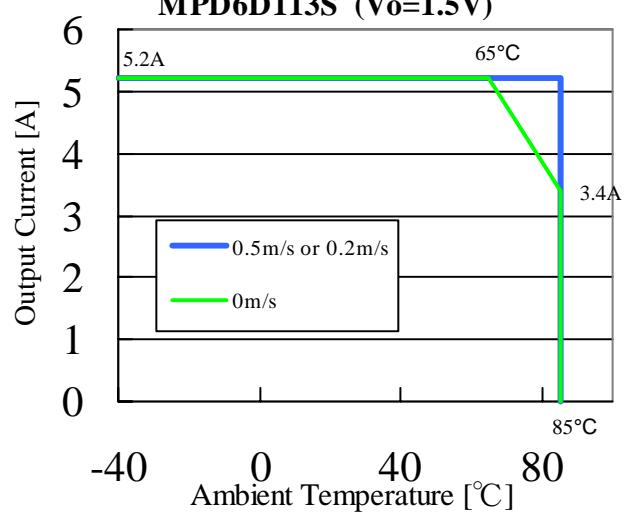
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■ Typical Power Derating <For Reference Only>

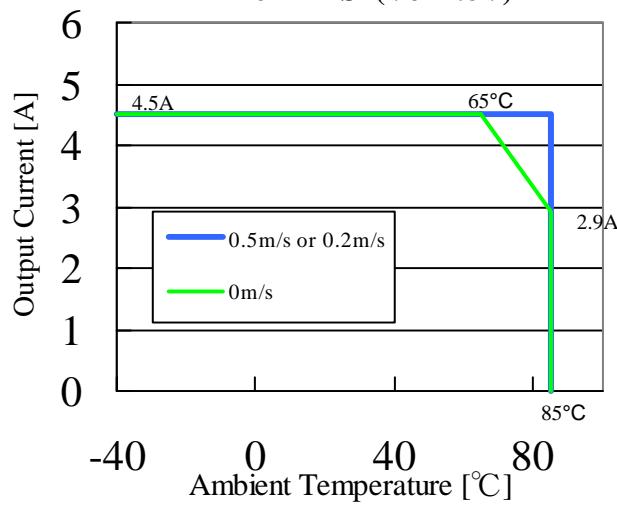
MPD6D112S (Vo=1.2V)



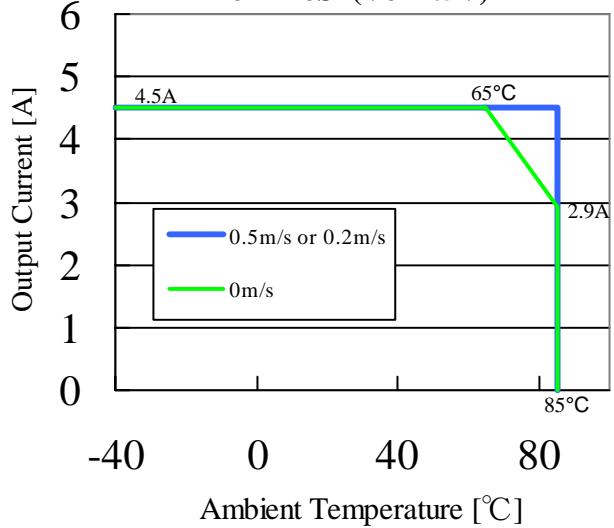
MPD6D113S (Vo=1.5V)



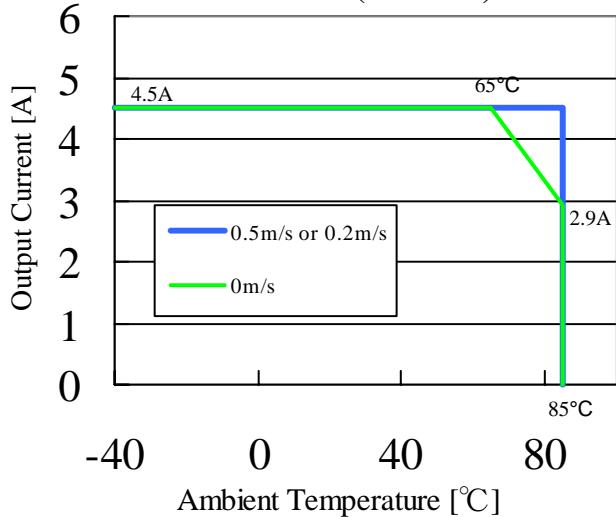
MPD6D114S (Vo=1.8V)



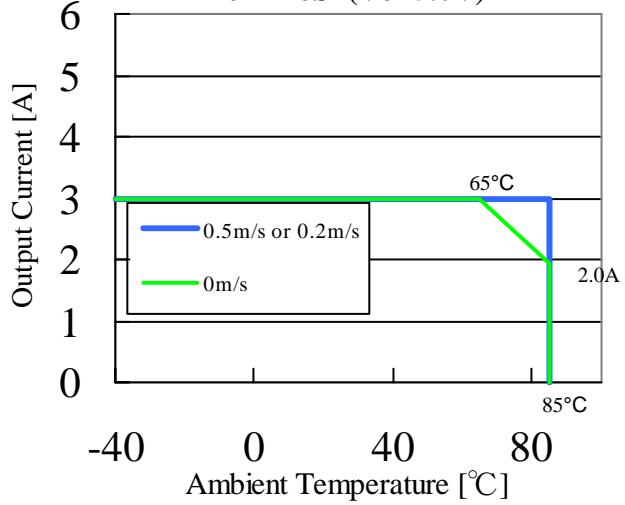
MPD6D116S (Vo=2.5V)



MPD6D117S (Vo=3.3V)

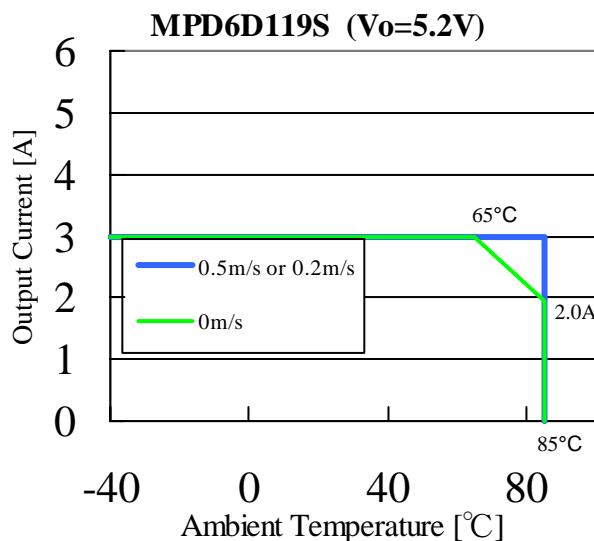


MPD6D118S (Vo=5.0V)

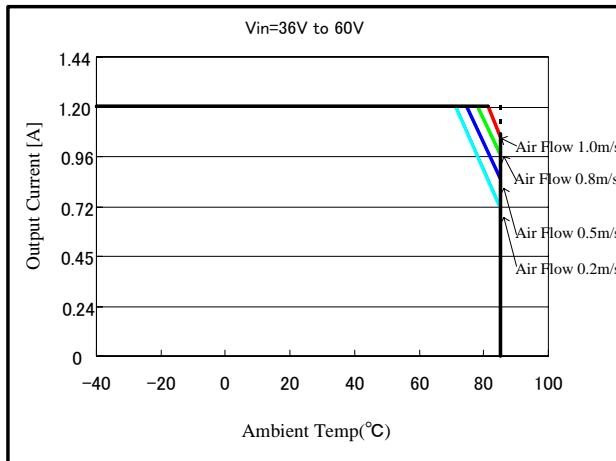


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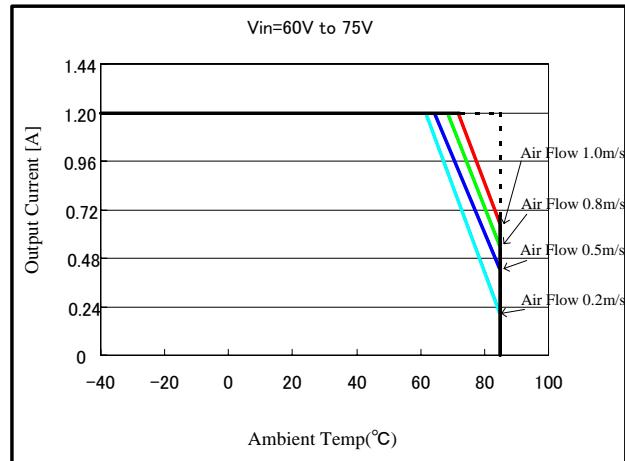
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MPD6D111S (Vo=12.0V) Vin=36 to 60V



MPD6D111S (Vo=12.0V) Vin=60 to 75V



## ■ Safety

UL60950 recognized, CE marking(LVD & EMC directive)



Product specification in this catalog are as of March 2004, and are subject to change or stop the supply without notice.

Please confirm the specification before ordering any product.

If there are any questions, please contact our sales representatives or engineers.

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