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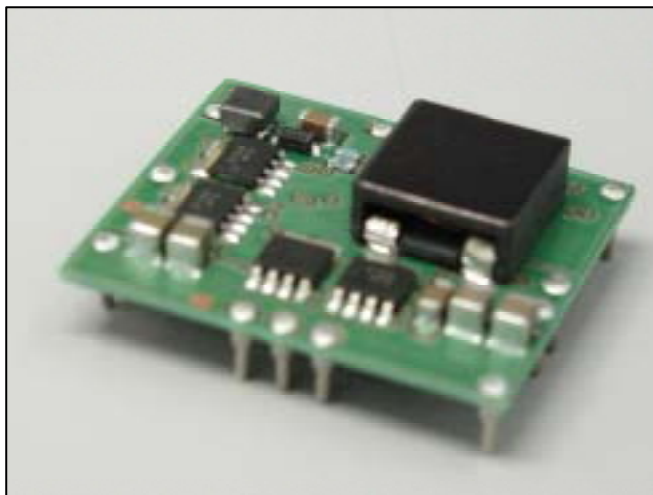
[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)

# DC-DC Converter Short Form

## MPDTH\*\*030WAS/WAH (30A output POL-Alliance product)

### ■ Features

- Point-of-Load Alliance product
- Up to 30A output current
- Wide-Output Voltage Adjust (0.8-5.5V)
- High efficiency up to 94% TYP (@5Vin 3.3V/20Aout)
- Wide Operating Temp - 40 °C to + 85 °C
- Open frame TH or SMT termination
- Auto-Track TM Sequencing
- Margin Up/Down Controls
- Pre-Biased start-up
- Output Over-Current Protection
- Output Voltage Sense
- ON/OFF Inhibit
- Under-Voltage Lockout

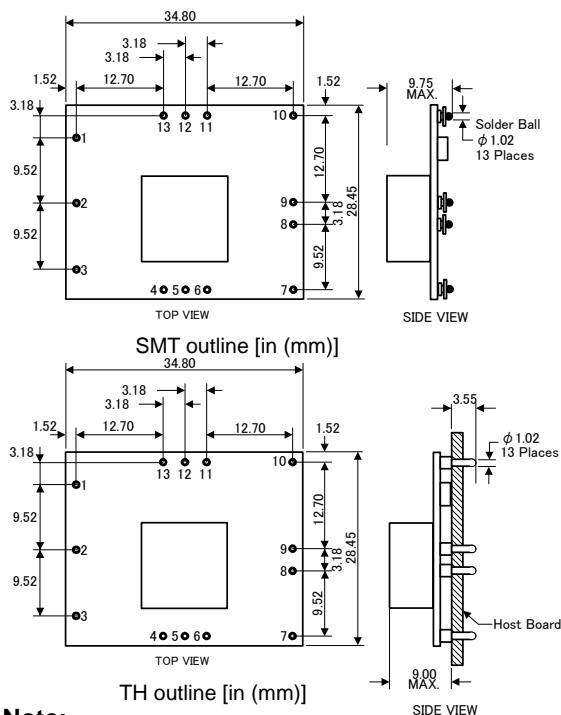


### ■ Ordering Information

Input Voltage	Output Voltage	Output Current	Model Number
3.0V to 3.6V	0.8V to 2.5V	30A	MPDTH03030WA(S)/(H)
4.5V to 5.5V	0.8V to 3.6V	30A	MPDTH05030WA(S)/(H)
10.8V to 13.2V	1.2V to 5.5V	26A	MPDTH12030WA(S)/(H)

OPTIONS: "WAS" -- SMT termination, "WAH" – TH termination

### ■ Dimensions

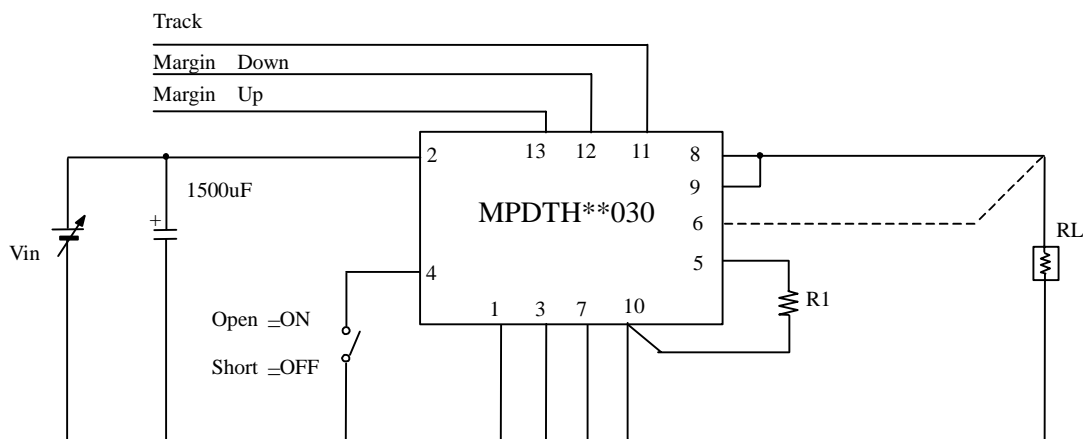


Pin No.	Signal	Pin No.	Signal
1.	GND	8.	Vout
2.	Vin	9.	Vout
3.	Inhibit	10.	GND
4.	Inhibit	11.	Track
5.	VoAdjust	12.	Margin Down
6.	VoSense	13.	Margin Up
7.	GND		

### ⚠ Note:

1. This datasheet is downloaded from the website of Murata Manufacturing co., ltd. Therefore, it's specifications are subject to change or our products in it may be discontinued without advance notice. Please check with our sales representatives or product engineers before ordering.
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.

### Standard Application



### Output Voltage Adjustment

$$R1 = 10k \cdot \frac{0.8V}{V_{out} - 0.8V} - 2.49k \quad : \text{MPDTH03030 / 05030}$$

$$R1 = 10k \cdot \frac{0.8V}{V_{out} - 1.2V} - 1.82k \quad : \text{MPDTH12030}$$

### General Specifications

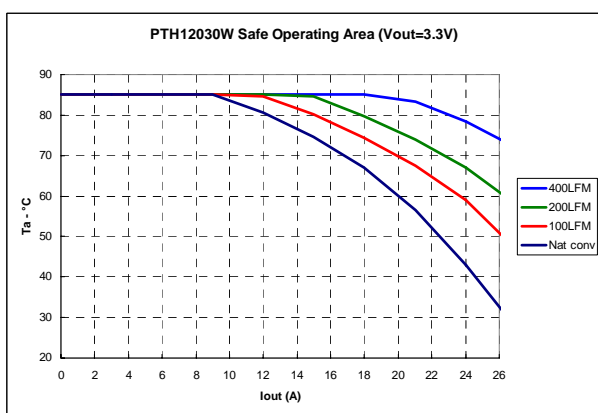
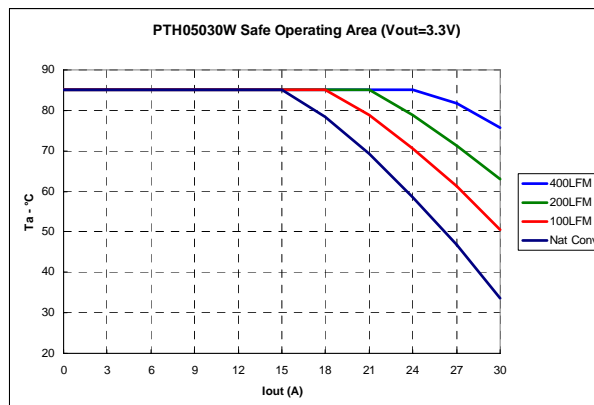
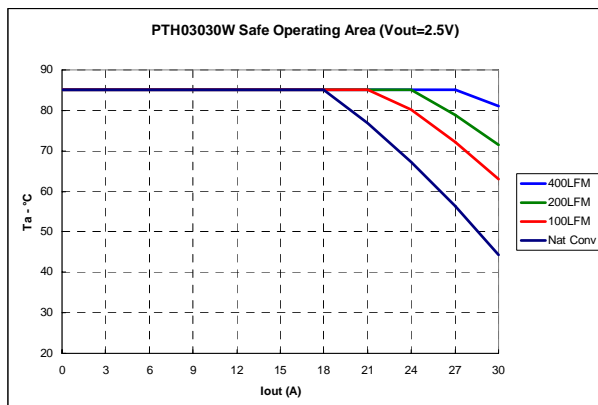
(Ta=25°C)

Item	Symbol	Condition	Parts Number	Min.	Typ.	Max.	Unit
Input voltage	Vin		MPDTH03030	2.95	3.3	3.65	V
			MPDTH05030	4.5	5.0	5.5	
			MPDTH12030	10.8	12.0	13.2	
Output voltage	Vout	Vin=2.95V to 3.65V	MPDTH03030	0.8		2.5	V
		Vin=4.5V to 5.5V	MPDTH05030	0.8		3.6	
		Vin=10.8V to 13.2V	MPDTH12030	1.2		5.5	
Total output variation	Regtot	Rset 1% tolerance, ±100ppm/°C				±3	%Vo
Output current	Iout	MPDTH03030, MPDTH05030		0		30	A
		MPDTH12030		0		26	
Ripple voltage	Vrip	Vin=3.3V, Vout=2V, Iout=30A			30		mVp-p
		Vin=5.0V, Vout=3.3V, Iout=30A			40		
		Vin=12.0V, Vout=3.3V, Iout=26A			25		
Efficiency	Eff	Vin=3.3V, Vout=2.5V, Iout=20A			93		%
		Vin=5.0V, Vout=3.3V, Iout=20A			94		
		Vin=12.0V, Vout=5.0V, Iout=18A			94.5		

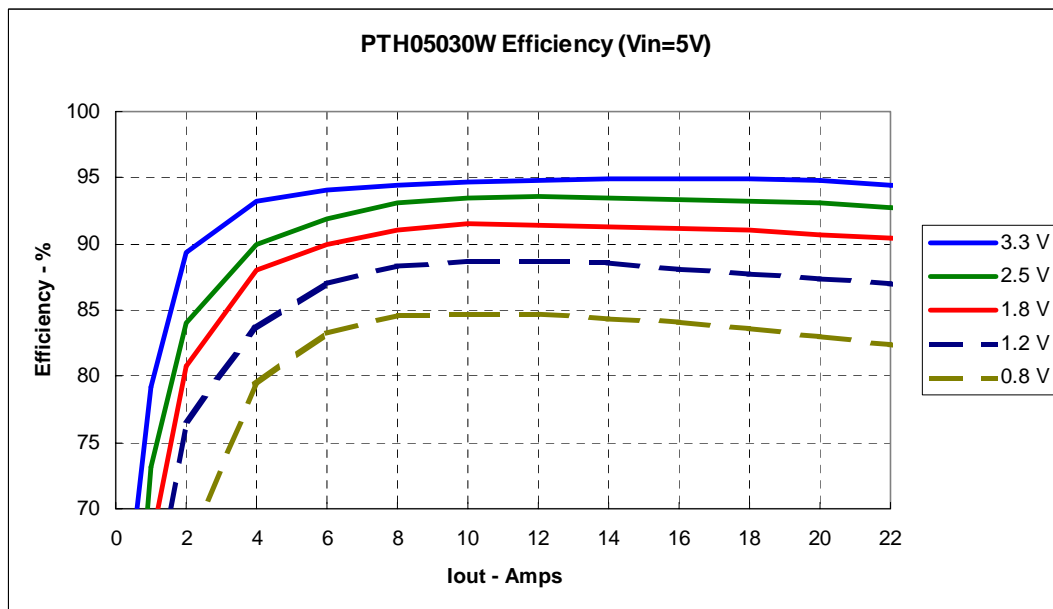
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■ Thermal Derating



■ Conversion Efficiency



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