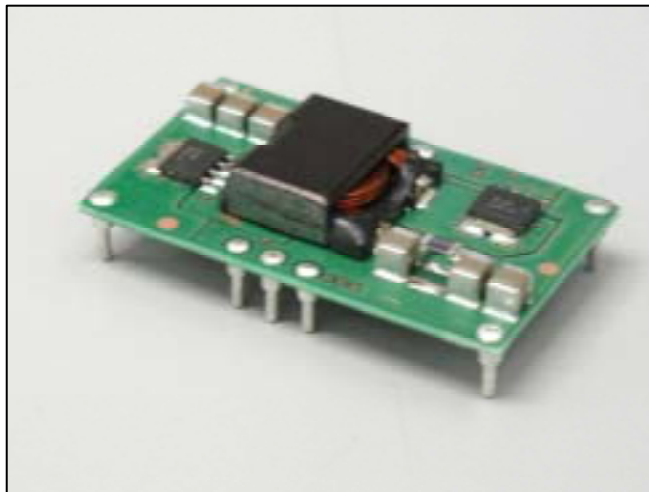


# DC-DC Converter Short Form

## MPDTH\*\*020WAS/WAH (22A output POL-Alliance product)

### ■ Features

- Point-of-Load Alliance product
- Up to 22A output current
- Wide-Output Voltage Adjust (0.8-5.5V)
- High efficiency up to 95% TYP  
(@5Vin 3.3V/14Aout)
- 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

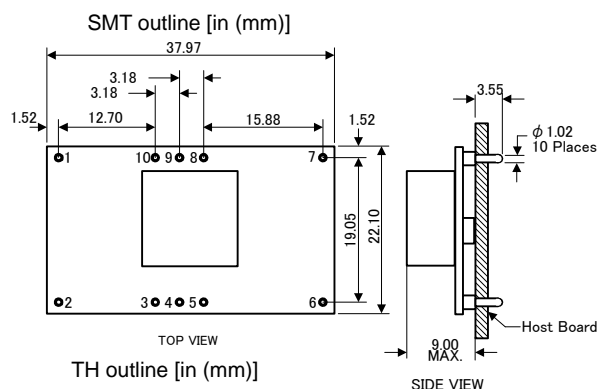
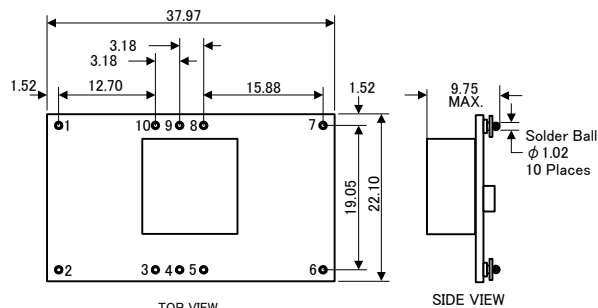


### ■ Ordering Information

Input Voltage	Output Voltage	Output Current	Model Number
3.0V to 3.6V	0.8V to 2.5V	22A	MPDTH03020WA(S)/(H)
4.5V to 5.5V	0.8V to 3.6V	22A	MPDTH05020WA(S)/(H)
10.8V to 13.2V	1.2V to 5.5V	18A	MPDTH12020WA(S)/(H)

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

### ■ Dimensions

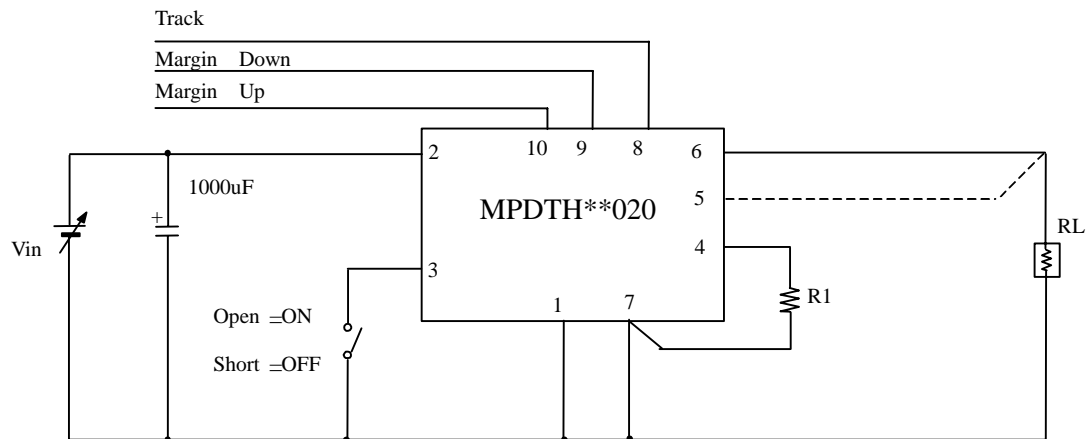


Pin No.	Signal	Pin No.	Signal
1.	GND	6.	Vout
2.	Vin	7.	GND
3.	Inhibit	8.	Track
4.	VoAdjus	9.	Margin Down
5.	VoSense	10.	Margin Up

### ⚠ 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.

## Standard Application



## Output Voltage Adjustment

$$R1 = 10k \cdot \frac{0.8V}{V_{out} - 0.8V} - 2.49k \quad : \text{MPDTH03020 / 05020}$$

$$R1 = 10k \cdot \frac{0.8V}{V_{out} - 1.2V} - 1.82k \quad : \text{MPDTH12020}$$

## General Specifications

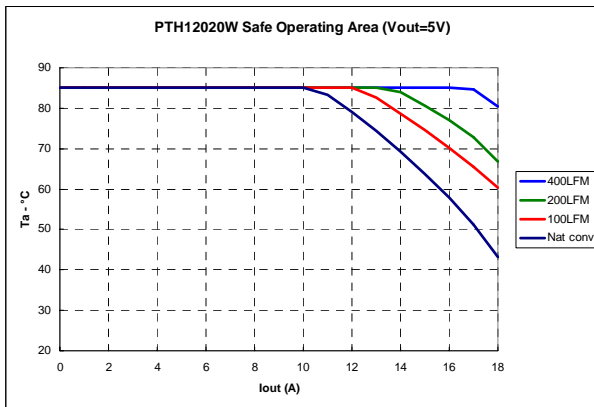
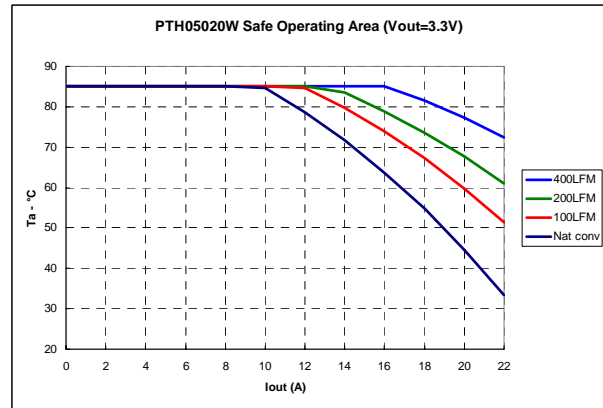
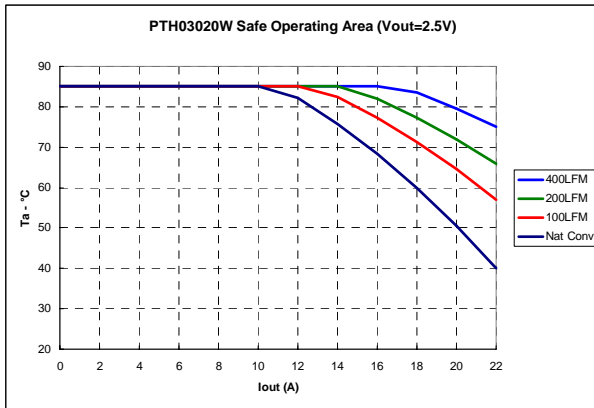
(Ta=25°C)

Item	Symbol	Condition	Parts Number	Min.	Typ.	Max.	Unit
Input voltage	Vin		MPDTH03020	2.95	3.3	3.65	V
			MPDTH05020	4.5	5.0	5.5	
			MPDTH12020	10.8	12.0	13.2	
Output voltage	Vout	Vin=2.95V to 3.65V	MPDTH03020	0.8		2.5	V
		Vin=4.5V to 5.5V	MPDTH05020	0.8		3.6	
		Vin=10.8V to 13.2V	MPDTH12020	1.2		5.5	
Total output variation	Regtot	Rset 1% tolerance, ±100ppm/°C				±3	% Vo
Output current	Iout	MPDTH03020, MPDTH05020		0		22	A
		MPDTH12020		0		18	
Ripple voltage	Vrip	Vin=3.3V, Vout=2V, Iout=22A			20		mVp-p
		Vin=5.0V, Vout=3.3V, Iout=22A			20		
		Vin=12.0V, Vout=3.3V, Iout=18A			33		
Efficiency	Eff	Vin=3.3V, Vout=2.5V, Iout=10A			95		%
		Vin=5.0V, Vout=3.3V, Iout=14A			95		
		Vin=12.0V, Vout=5.0V, Iout=12A			95		

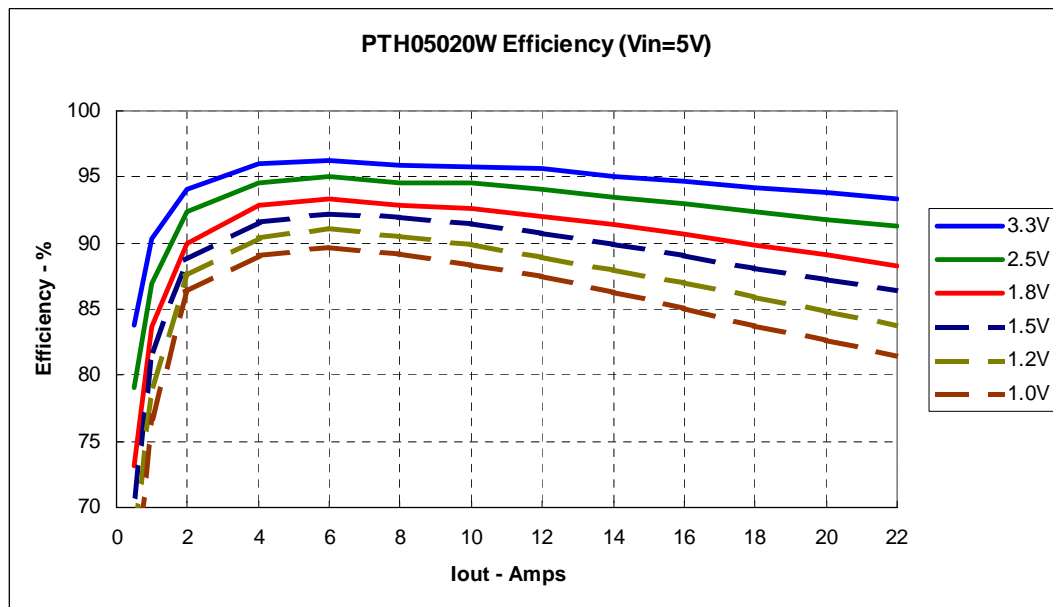
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## Thermal Derating



## Conversion Efficiency



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