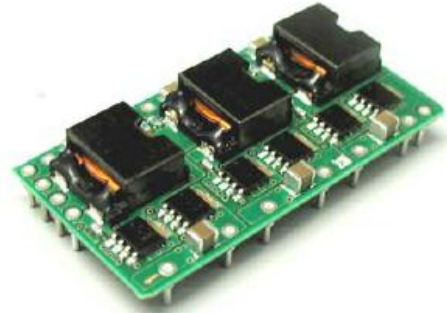


# DC-DC Converter Short Form

## MPDTH\*\*040WAS/WAH (50A/60A output POL-Alliance product)

### Features

- Point-of-Load Alliance product
- Up to 50A/60A output current
- Wide-Output Voltage Adjust (0.8-2.5V or 0.8-5.5V)
- High efficiency up to 93% or 95% TYP (@5Vin 2.5V/45Aout) or (@12Vin 3.3V/35Aout)
- Wide Operating Temp - 40 °C to + 85 °C
- Open frame TH or SMT termination
- Auto-Track™ Sequencing
- Margin Up/Down Controls
- Pre-Biased start-up
- Output Over-Current Protection
- Output Voltage Sense
- ON/OFF Inhibit
- Under-Voltage Lockout
- Safety Agency Approvals: UL/cUL 60950, EN60950, VDE

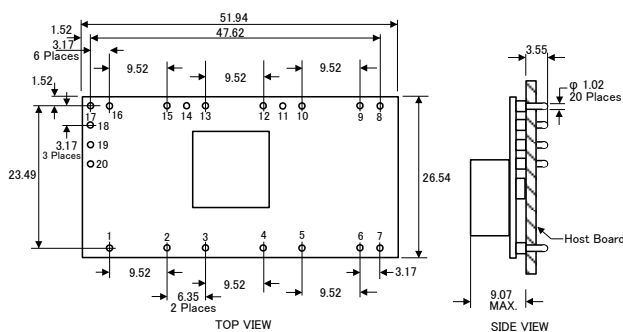
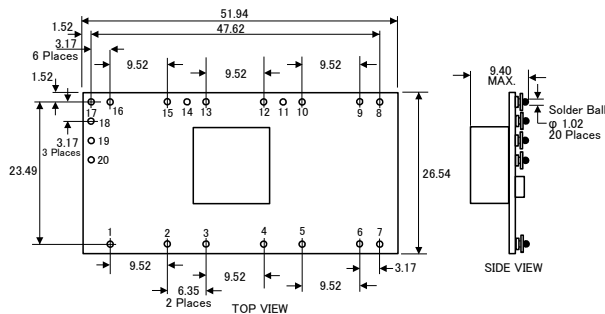


### Ordering Information

Input Voltage	Output Voltage	Output Current	Model Number
2.95V to 4.5V	0.8V to 1.65V	60A	MPDTH04040WA(S)/(H)
4.5V to 5.5V	0.8V to 2.5V	60A	MPDTH04040WA(S)/(H)
8V to 14V	0.8V to 5.5V	50A	MPDTH12040WA(S)/(H)

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

### Dimensions



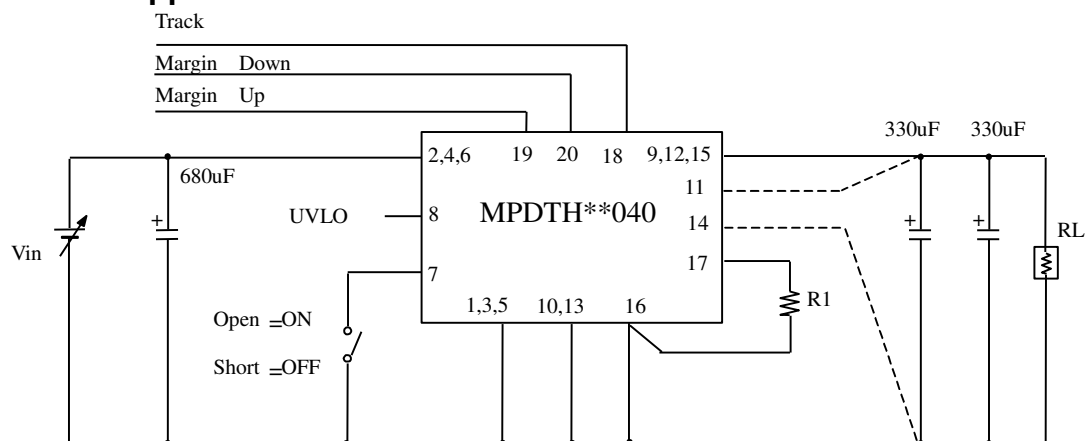
Pin No.	Signal	Pin No.	Signal
1.	GND	11.	+Sense
2.	Vin	12.	Vout
3.	GND	13.	GND
4.	Vin	14.	-Sense
5.	GND	15.	Vout
6.	Vin	16.	GND
7.	Inhibit	17.	VoAdjust
8.	UVLOprog	18.	Track
9.	Vout	19.	Margin Up
10.	GND	20.	Margin

Down

### 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

$$R1 = 10k \cdot \frac{0.8V}{V_{out} - 0.8V} - 2.49k \quad : \text{MPDTH04040}$$

$$R1 = 10k \cdot \frac{0.8V}{V_{out} - 0.8V} - 1.696k \quad : \text{MPDTH12040}$$

## General Specifications

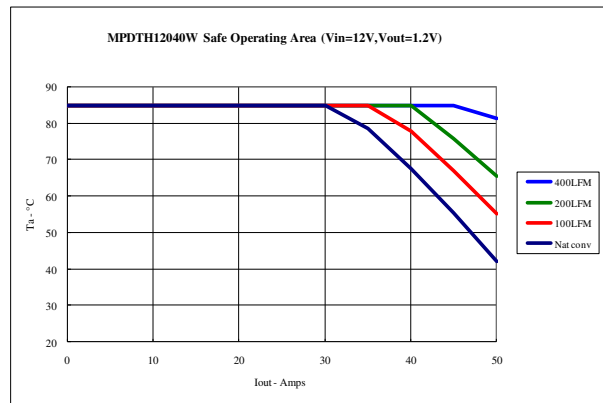
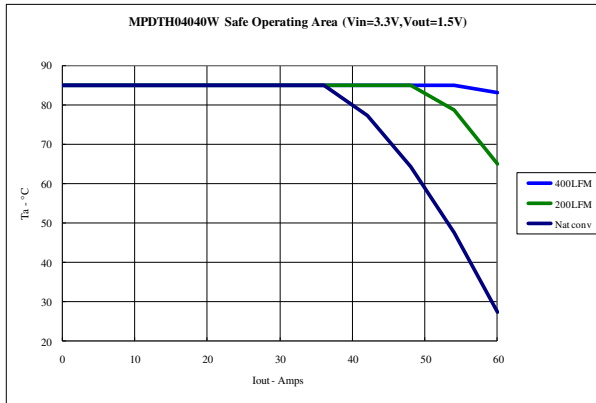
(Ta=25°C)

Item	Symbol	Condition	Parts Number	Min.	Typ.	Max.	Unit
Input voltage	Vin		MPDTH04040	2.95	—	5.5	V
			MPDTH12040	8.0	12.0	14.0	
Output voltage	Vout	Vin=2.95V to 4.5V	MPDTH04040	0.8	—	1.65	V
		Vin=4.5V to 5.5V		0.8	—	2.5	
		Vin=8.0V to 14.0V	MPDTH12040	0.8	—	5.5	
Total output variation	Regtot	Rset 1% tolerance, ±100ppm/°C		—	—	±3	%Vo
Output current	Iout	MPDTH04040		0	—	60	A
		MPDTH12040		0	—	50	
Ripple voltage	Vrip	Vin=5.0V, Vout=2.5V, Iout=60A		—	15	—	mVp-p
		Vin=12.0V, Vout=3.3V, Iout=50A		—	15	—	
Efficiency	Eff	Vin=5.0V, Vout=2.5V, Iout=45A		—	93	—	%
		Vin=12.0V, Vout=3.3V, Iout=35A		—	95	—	

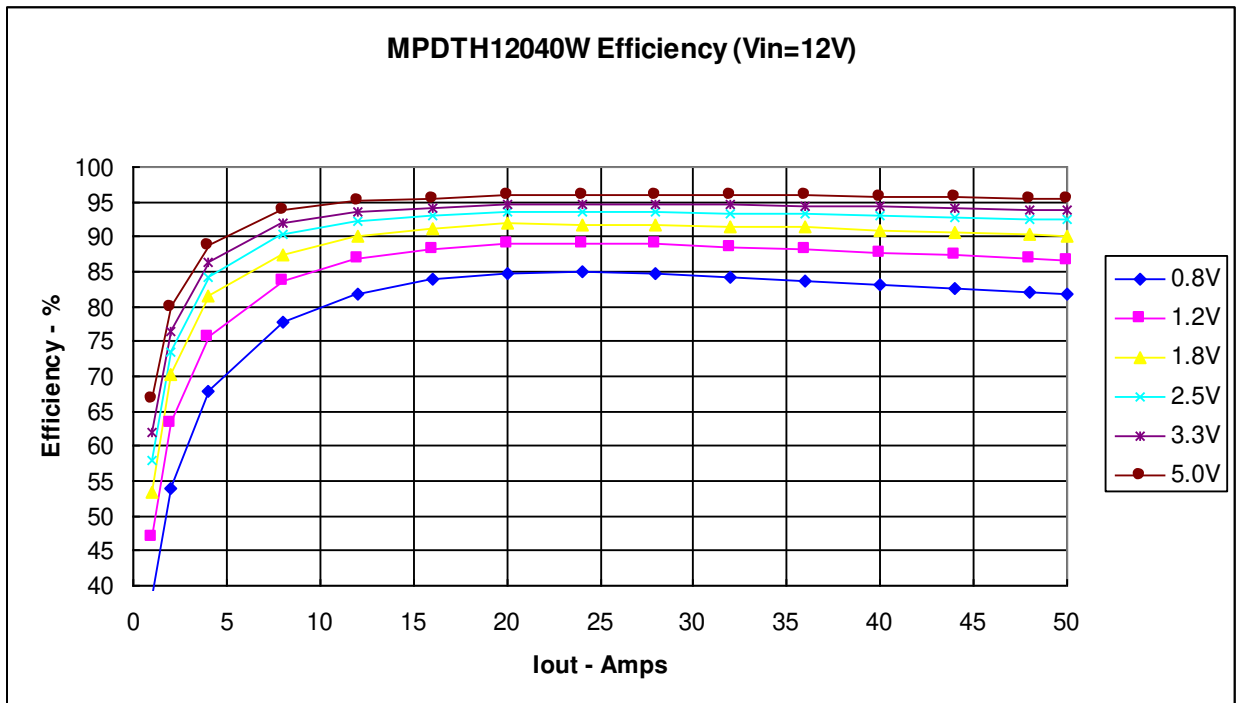
### Note:

1. This datasheet is downloaded from the website of Murata Manufacturing Co., Ltd. Therefore, its 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.

## Thermal Derating



## Conversion Efficiency



### 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.