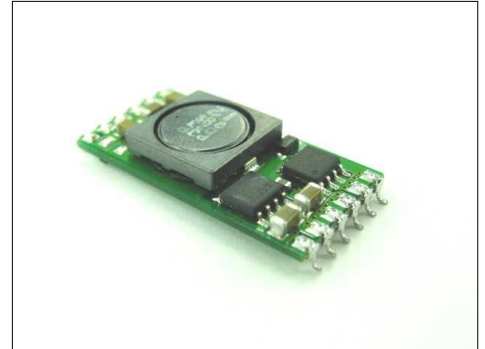


# MPDTY11/12 Series (6A-POL DC-DC Converter [Non-isolated])

## ■ Features

- Smallest and Lowest Profile in the Industry
- High Efficiency (93% Typical)
- Wide Operating Temperature Range  
(-40 to +85 degreeC)
- Surface Mount
- On/Off Control Function
- Wide Input Voltage Range:  
3.0 to 3.63V (MPDTY11\_S)  
4.5 to 5.5V (MPDTY12\_S)
- Trim Function  
Vout Range: 0.873 to 2.83V (MPDTY11\_S)  
Vout Range: 0.873 to 3.74V (MPDTY12\_S)
- Short Circuit Protection and Under Voltage Lockout Protection



## ■ General Specifications

(Ta=25 degreeC)

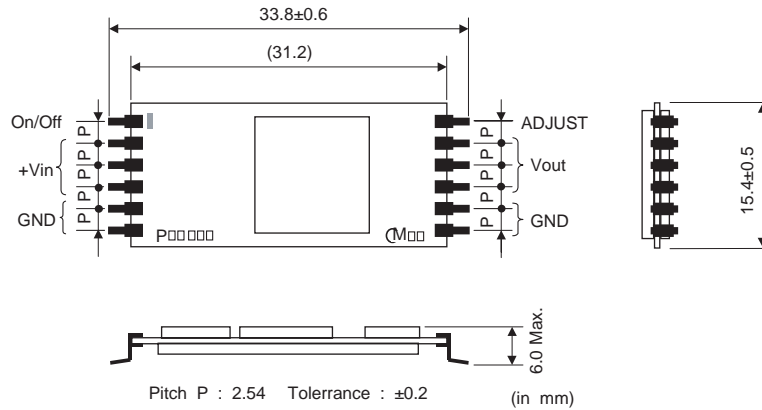
Item	Symbol	Condition	Parts Number	Min.	Typ.	Max.	Unit
Input Voltage	Vin		MPDTY12_S	4.5	5.0	5.5	V
			MPDTY11_S	3.0	3.3	3.63	
Output Voltage	Vout	Vin=+4.5 to +5.5V Iout=0 to 6A	MPDTY127S	3.2	3.3	3.4	V
			MPDTY126S	2.425	2.5	2.575	
			MPDTY125S	1.940	2.0	2.060	
			MPDTY124S	1.746	1.8	1.854	
			MPDTY123S	1.455	1.5	1.545	
			MPDTY122S	1.164	1.2	1.236	
			MPDTY121S	0.970	1.0	1.030	
		Vin=+3.0 to +3.6V Iout=0 to 6A	MPDTY116S	2.425	2.5	2.575	V
			MPDTY115S	1.940	2.0	2.060	
			MPDTY114S	1.746	1.8	1.854	
			MPDTY113S	1.455	1.5	1.545	
			MPDTY112S	1.164	1.2	1.236	
			MPDTY111S	0.970	1.0	1.030	
Adjustable Range	Vout (adj)	Vout<Vin-1.0V (MPDTY12_S) Vout<Vin-0.5V (MPDTY11_S)		-10		+10	%
Output Current	Iout			0		6	A
Ripple Voltage	Vrip	Vin=+5V, Iout=6A				100	mVp-p
		Vin=+3.3V, Iout=6A				80	
Efficiency	Eff	Vin=5.0V, Vout=3.3V, Iout=4A			93		%
		Vin=3.3V, Vout=2.5V, Iout=4A			93		%

▲Note • Please read rating and ▲CAUTION (for storage, 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.

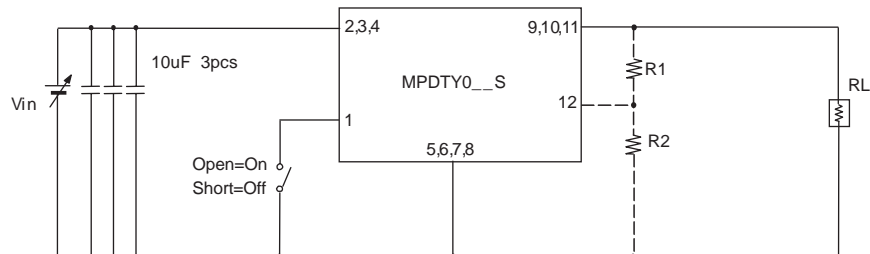
# MPDTY11/12 Series (6A-POL DC-DC Converter [Non-isolated])

## ■ Dimensions

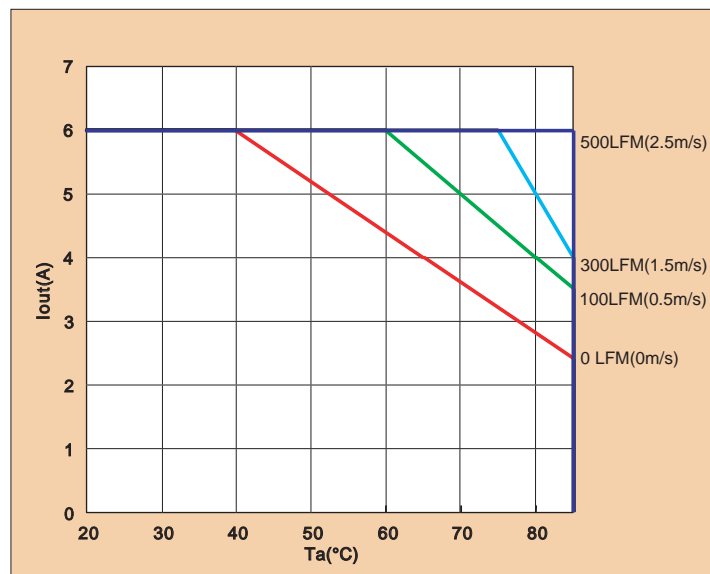


Pin No.	Signal	Pin No.	Signal
1.	ON/OFF	7.	GND
2.	Vin	8.	GND
3.	Vin	9.	Vout
4.	Vin	10.	Vout
5.	GND	11.	Vout
6.	GND	12.	ADJUST

## ■ TEST CIRCUIT



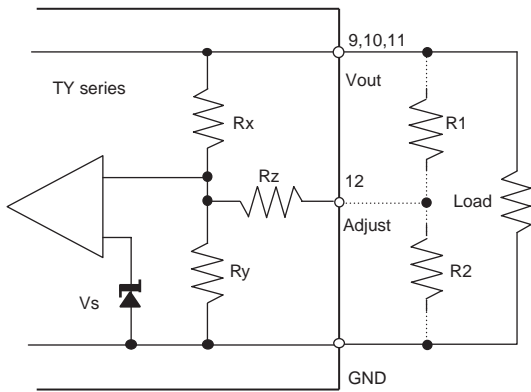
## ■ Typical Power Derating



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# MPDTY11/12 Series (6A-POL DC-DC Converter [Non-isolated])

## OUTPUT VOLTAGE ADJUSTMENT



To decrease output voltage

$$R1 = \frac{R_x \cdot R_y (V_{out} - V_s)}{R_x \cdot V_s - R_y (V_{out} - V_s)} - R_z$$

$$R2 = \text{Open}$$

To increase output voltage

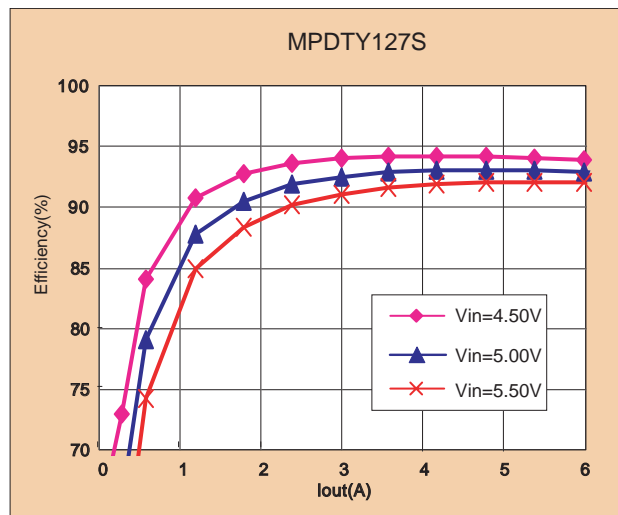
$$R1 = \text{Open}$$

$$R2 = \frac{R_x \cdot R_y \cdot V_s}{R_y (V_{out} - V_s) - R_x \cdot V_s} - R_z$$

<Internal Parameters of DC-DC Converter>

Product Name (MPDTY__S)		1_1S	1_2S	1_3S	1_4S	1_5S	1_6S	1_7S
Nominal Output Voltage	(V)	1.0	1.2	1.5	1.8	2.0	2.5	3.3
Rx	(KΩ)	4.7	3.6	4.7	4.7	5.6	6.8	8.2
Ry	(KΩ)	29.73	14.64	16.16	8.40	7.00	6.80	4.60
Rz	(KΩ)	1.0	1.0	2.2	5.6	10	15	18
Vs	(V)	0.864	0.963	1.162	1.154	1.111	1.250	1.186

## Conversion Efficiency



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