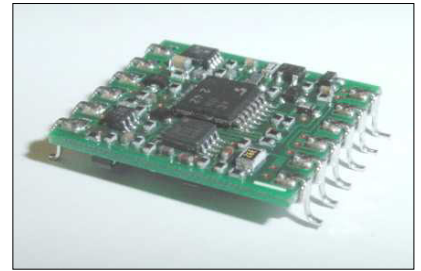


MPDTY102S (2A-POL DC-DC Converter [Non-isolated])

■ Features

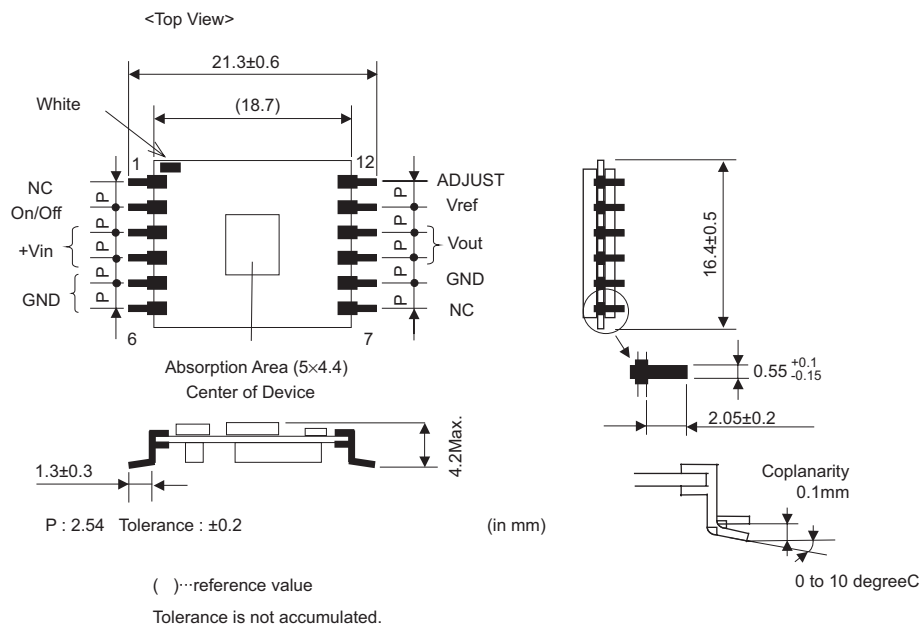
- No Derating (Air Flow Not Required)
- Smallest and Lowest Profile in the Industry
- High Efficiency (93% Typical)
- Wide Operating Temperature Range (-40 to +85 degreeC)
- Surface Mount
- On/Off Control Function
- Input Voltage Range : 2.97 to 5.5V
- Trim Function (Vout Range : 0.8 to 5.0V)
- Short Circuit Protection and Under Voltage Lockout Protection



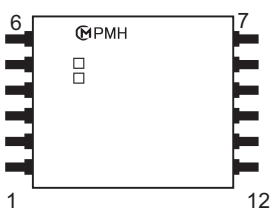
■ General Specifications (Ta=25 degreeC)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Input Voltage	Vin		2.97	3.3	5.5	V
Output Voltage	Vout		0.8		Vin-0.5	V
Output Current	Iout		0		2	A
Ripple Voltage	Vrip	Vin=3.3V, Vout=2.5V		30	50	mVpp
Efficiency	EFF	Vin=3.3V, Vout=2.5V Io=1A		93		%

■ Dimensions



<Bottom View>



Pin No.	Signal	Pin No.	Signal
1.	N.C.	7.	N.C. (connected to GND inside)
2.	On/Off	8.	GND
3.	Vin	9.	Vout
4.	Vin	10.	Vout
5.	GND	11.	Vref
6.	GND	12.	Adjust

▲Note • Please read rating and ▲CAUTION (for storage, operating, rating, soldering, mounting and handling) in this catalog to prevent smoking and/or burning, etc.

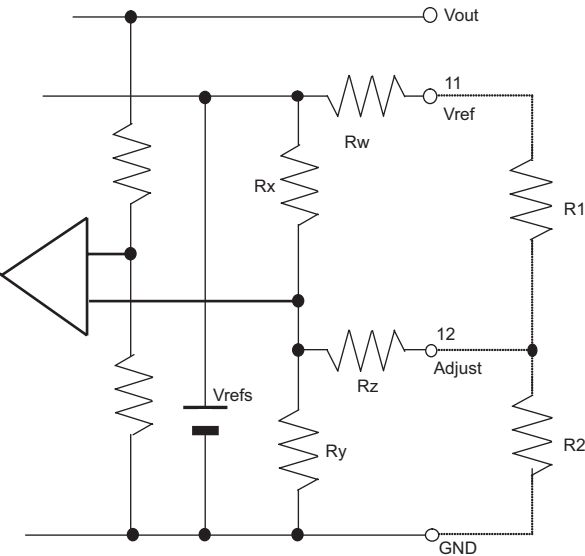
• This catalog has only typical specifications because there is no space for detailed specifications. Therefore, please approve our product specifications or transact the approval sheet for product specifications before ordering.



Murata Manufacturing Co., Ltd.

MPDTY102S (2A-POL DC-DC Converter [Non-isolated])

Output Voltage Adjustment



• When you increase the output voltage,

$$V_{out} = \frac{(R1+63.7) \times 2.5}{R1+31.7}$$

$$R1 = \frac{129-19.7 \times V_{out}}{V_{out}-2.5} - 12$$

• When you decrease the output voltage,

$$V_{out} = \frac{(R2+4.7) \times 2.5}{R2+19.7}$$

$$R2 = \frac{19.7 \times V_{out}-11.8}{2.5-V_{out}}$$

Unit:(V) (kΩ)

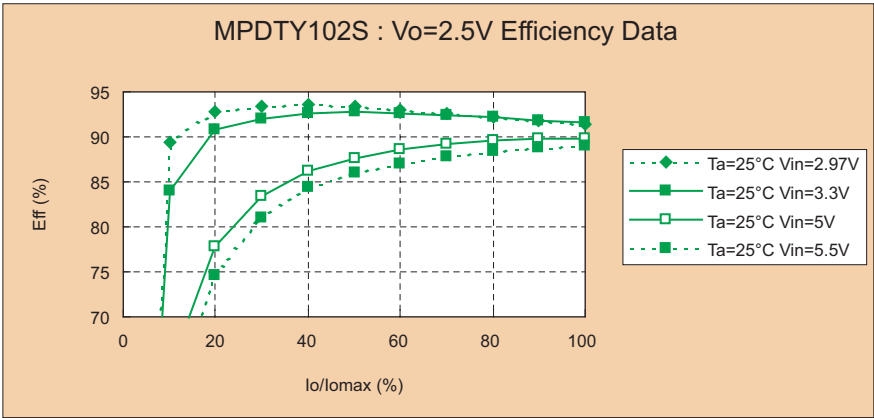
<R Calculation Example>

Vout (V)	R1 (kΩ)	R2 (kΩ)	Vout (V)	R1 (kΩ)	R2 (kΩ)
5	0.33	-	1.5	-	18
3.3	68+0.33	-	1.2	-	9.1
2.5	-	-	1.0	-	5.1+0.18
2.0	-	56	0.8	-	2.2+0.15
1.8	-	33+0.82		-	

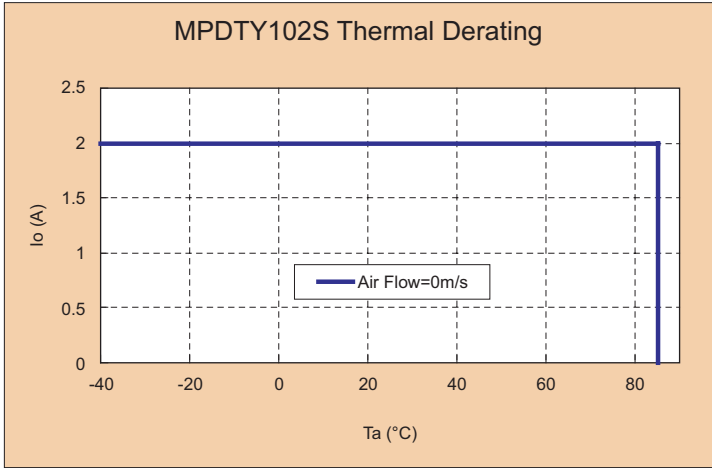
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MPDTY102S (2A-POL DC-DC Converter [Non-isolated])

■ Conversion Efficiency



■ Typical Power Derating



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