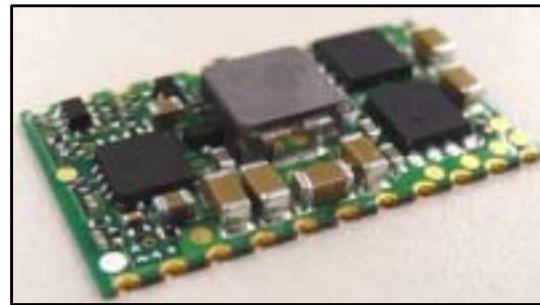


DC-DC Converter Short Form

MPDTY31*S (Low profile / Wide output range / 16A output POL)

■ Features

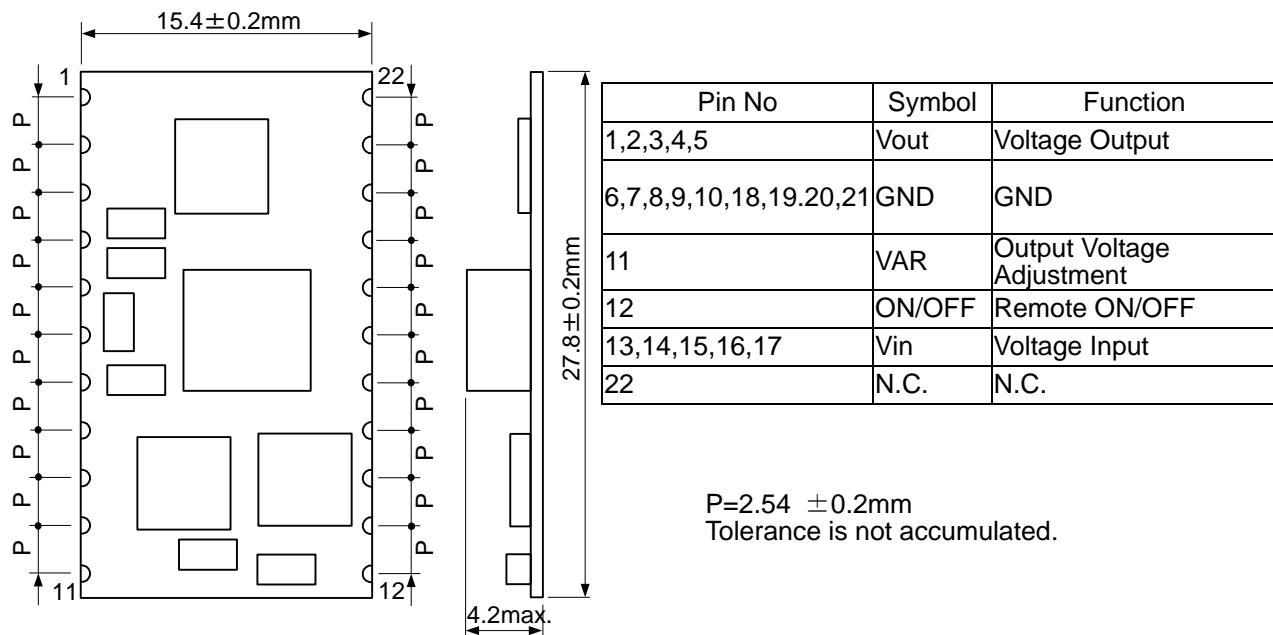
- Low profile (H<4.2mm) surface mount
- No adhesive is needed to mount on the reverse side of the user board
- No external output capacitor is needed
- Wide operational temperature (-40°C to +85°C)
- High efficiency up to 94%
- ON/OFF control function
- Over-current / Over-temperature protection



■ GENERAL SPECIFICATIONS (Ta=-40 °C to +85°C)

Item	Symbol	Condition	MIN.	TYP.	MAX.	UNIT
Input Voltage	Vin	MPDTY311S	4.5	5.0	5.5	V
		MPDTY312S	3.0	3.3	3.6	
Output Voltage	Vout	MPDTY311S	0.8	-	3.3	V
		MPDTY312S	0.8	-	2.5	
Output Current	Iout	See Thermal Derating Curve	0	-	16	A
Ripple Voltage	Vrip	BW=20MHz, Over Vo, Io range	-	15	50	mVpp
Efficiency	EFF	Vin =3.3V, Vout=2.5V, Iout= 10A, Ta=25°C	-	94	-	%

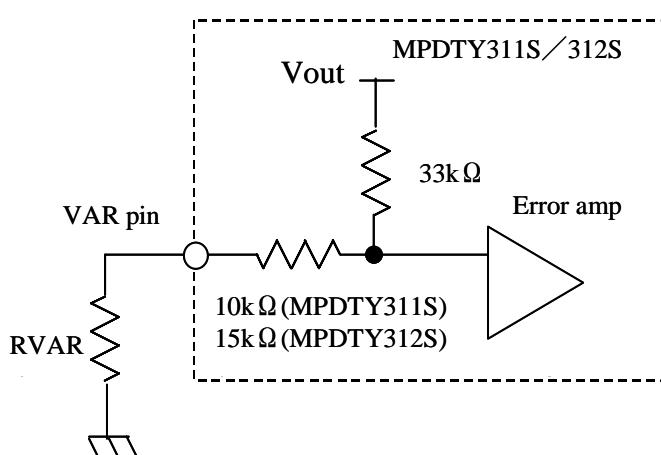
■ DIMENSIONS PIN DESCRIPTIONS



⚠ 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.

■ OUTPUT VOLTAGE ADJUSTMENT



MPDTY311S

$$RVAR = \frac{26.4}{V_{adj}[V] - 0.8[V]} - 10[k\Omega]$$

MPDTY312S

$$RVAR = \frac{26.4}{V_{adj}[V] - 0.8[V]} - 15[k\Omega]$$

<RTRIM CALCULATION EXAMPLE> MPDTY311S

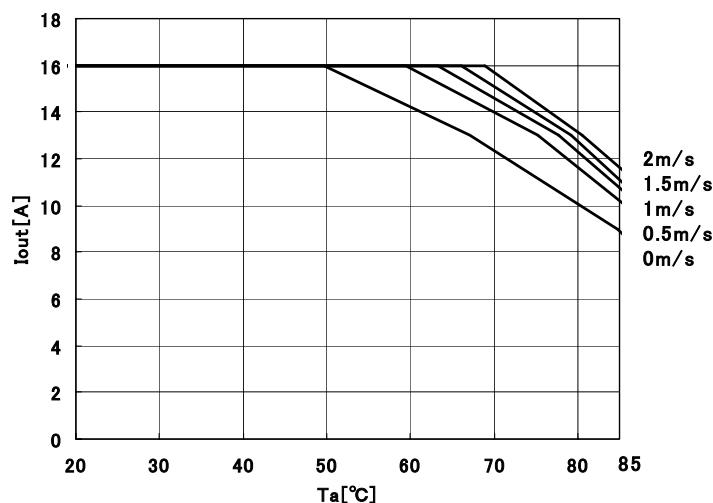
V _{adj} [V]	Calculated RVAR [ohm]	RVAR example [ohm]
3.3	560	560
2.5	5529.4	5.1k + 430Ω
2	12000	12k
1.8	16400	16k + 390Ω
1.5	27714.3	27k + 680Ω
1.2	56000	56k
1	122000	120k + 2k
0.8	∞	Open

MPDTY312S

V _{adj} [V]	Calculated RVAR [ohm]	RVAR example [ohm]
2.5	529.4	510
2	7000	6.8k + 200Ω
1.8	11400	11k + 390Ω
1.5	22714	22k + 680Ω
1.2	51000	51k
1	117000	100k + 18k
0.8	∞	Open

■ OUTPUT VOLTAGE ADJUSTMENT

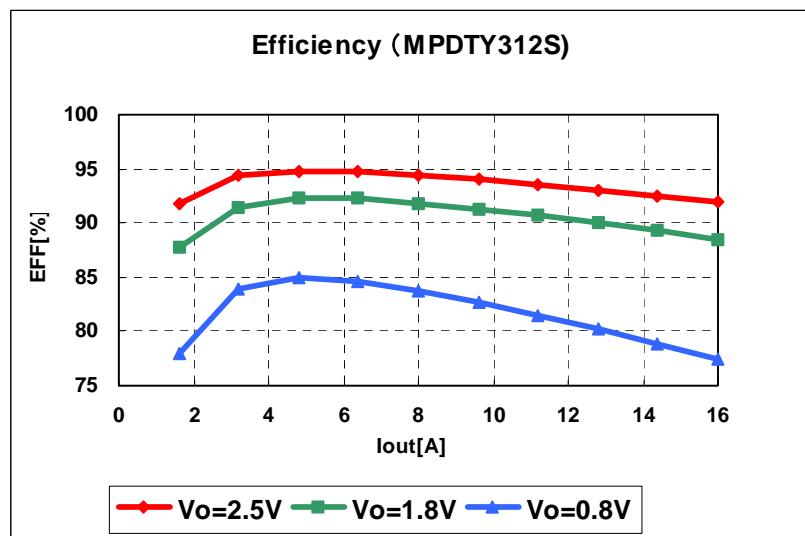
Thermal Derating (MPDTY312S)



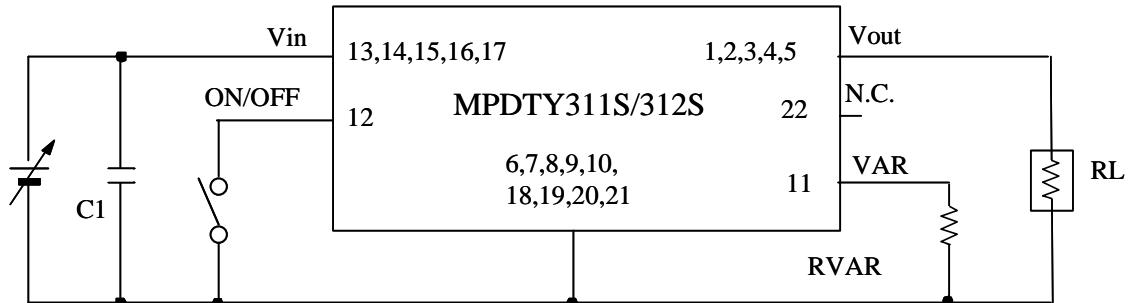
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■ EFFICIENCY



■ TEST CIRCUIT



C1 : 100 μ F/6.3V Ceramic capacitor

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