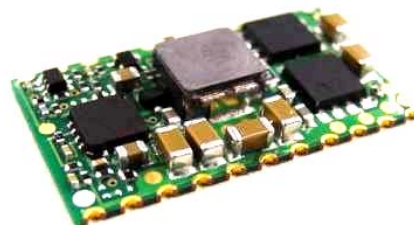


DC-DC Converter Short Form

MPDRX312S (Ultra High Speed Response POL)

■ Features

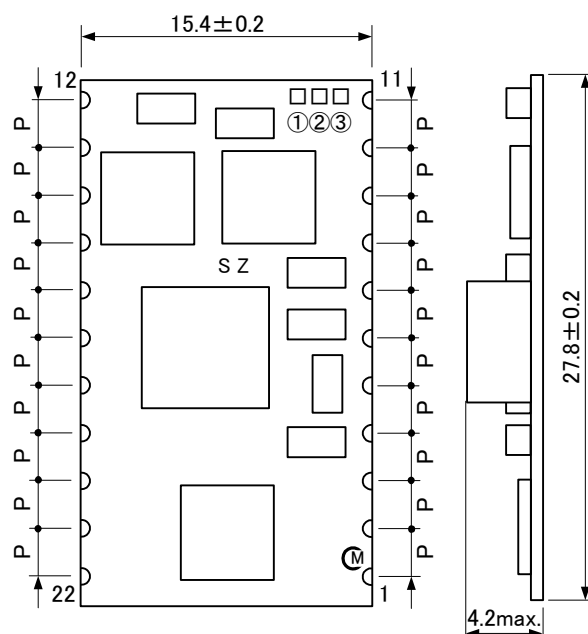
- Ultra High Speed Response
- Low profile (H<4.2mm) surface mount
- No adhesive is needed to mount on the reverse side of the user board
- Wide operational temperature (-40°C to +85°C)
- ON/OFF control function
- Over-current / Over-temperature protection



■ GENERAL SPECIFICATIONS (Ta=25°C)

Item	Symbol	Condition	MIN.	TYP.	MAX.	UNIT
Input voltage	Vin		3.0	5.0	5.5	V
Output voltage	Vout	F.T. pin = open	0.8	-	0.9	V
		F.T. pin = short to GND	0.9	-	1.8	V
Output current	Iout	See thermal derating curve	0	-	16	A
Ripple voltage	Vrip	BW=20MHz, Cout=100μF	-	15	100	mVpp
Efficiency	EFF	Vin=3.3V, Vout=1.8V, Iout=16A, Ta=25 °C	-	86.5	-	%

■ DIMENSIONS AND PIN ASSIGN



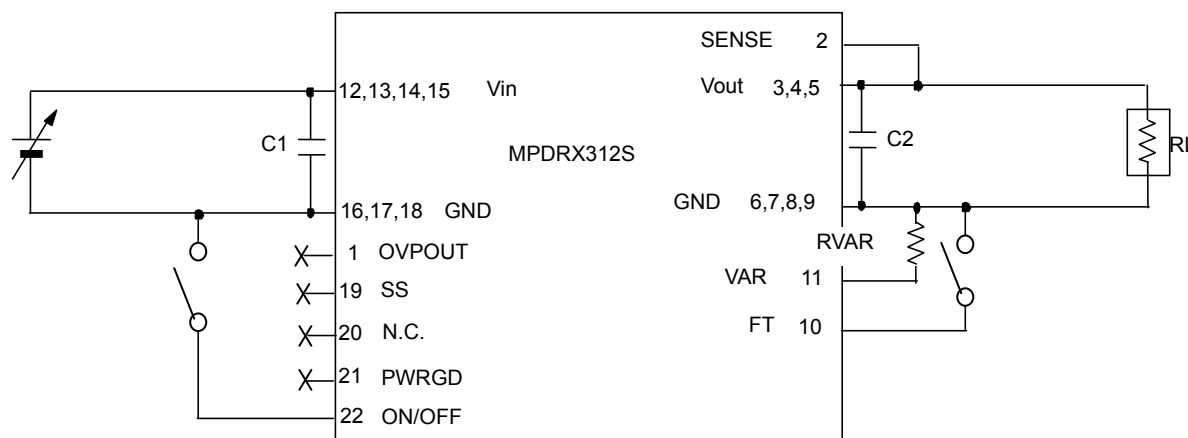
Pin No.	Symbol	Function
2	SENSE	Output voltage sense
3,4,5	Vout	Output
6,7,8,9,16,17,18	GND	GND
10	FT	Output trim
11	VAR	Output voltage adjustment
12,13,14,15	Vin	Input
1	OVPOUT	Output Over-voltage Alarm
19	SS	Soft Start
20	N.C.	
21	PWRGOOD	Power Good
22	ON/OFF	Remote ON/OFF

P=2.54 ±0.2mm
Tolerance is not accumulated.

⚠ 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.

■ TEST CIRCUIT



C1 : 100 μ F/6.3V Ceramic capacitor

C2 : 100 μ F/6.3V Ceramic capacitor

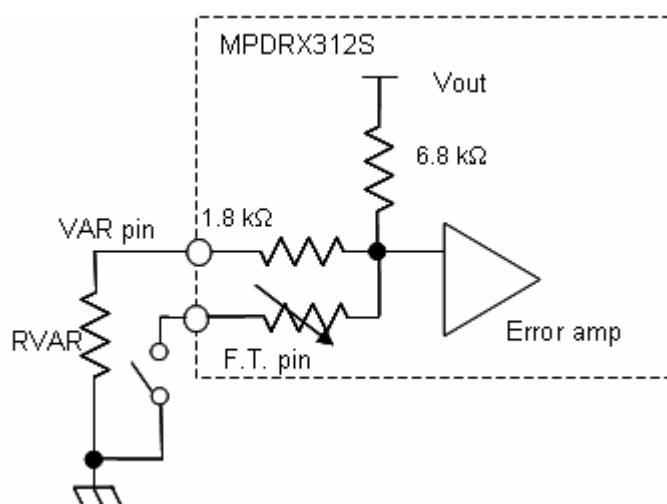
■ OUTPUT VOLTAGE ADJUSTMENT

(a) $0.8 \leq V_{out} < 0.9V$ (FT : OPEN)

$$RVAR = \frac{5440}{V_{adj}[V] - 0.8[V]} - 1800 \quad [\Omega]$$

(b) $0.9 \leq V_{out} \leq 1.8V$ (FT : SHORT to GND)

$$RVAR = \frac{5440}{V_{adj}[V] - 0.9[V]} - 1800 \quad [\Omega]$$

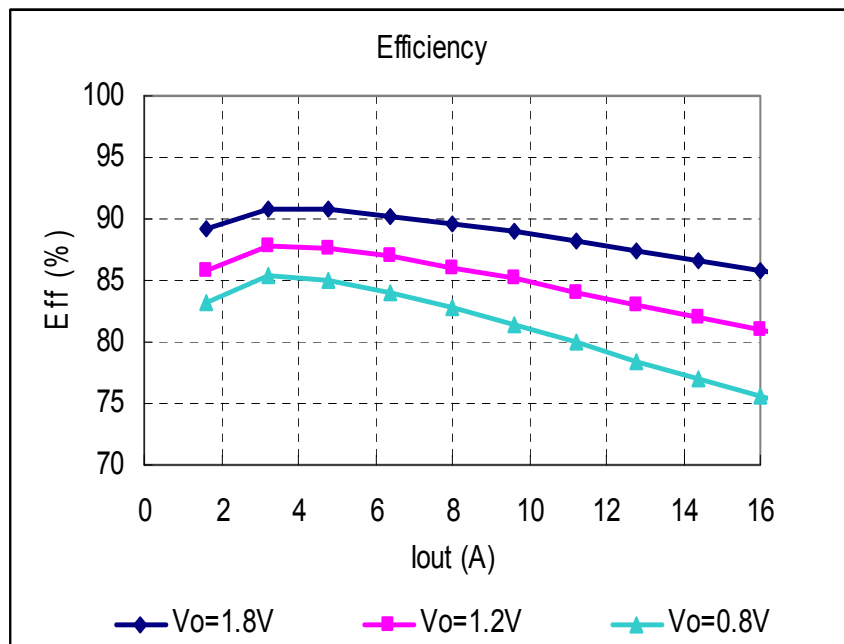


V _{adj} [V]	Calculated RVAR [Ω]	RVAR example [Ω]	F.T. pin
1.8	4240	3.9k+330	Short to GND
1.5	7270	6.8k+470	Short to GND
1.2	16330	16k+330	Short to GND
1.0	52600	47k+5.6k	Short to GND
0.9	∞	Open	Short to GND
0.8	∞	Open	Open

⚠ Note:

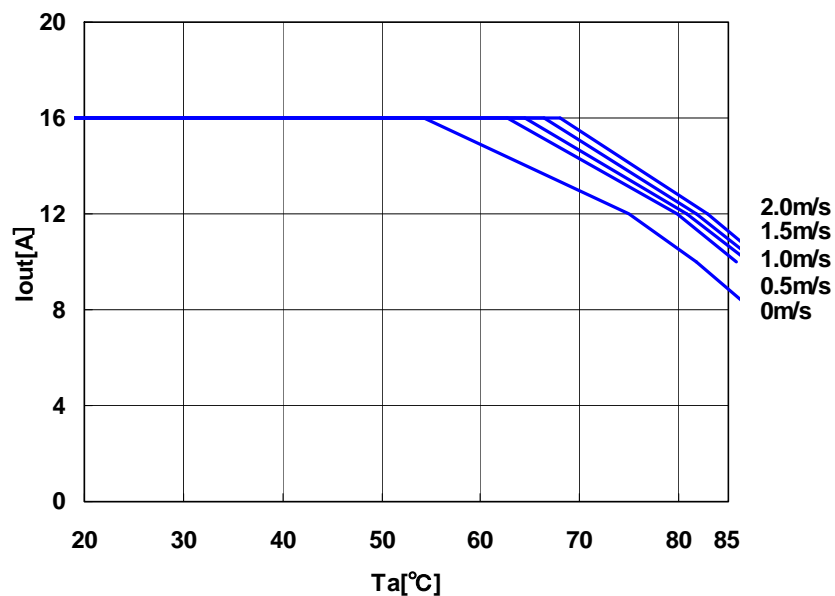
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■ EFFICIENCY CHARACTERISTICS



■ THERMAL DERATING

Thermal Derating
MPDRX312S



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