

DC-DC Converter Short Form

MPDRX313S (Ultra High Speed Response POL)

Features

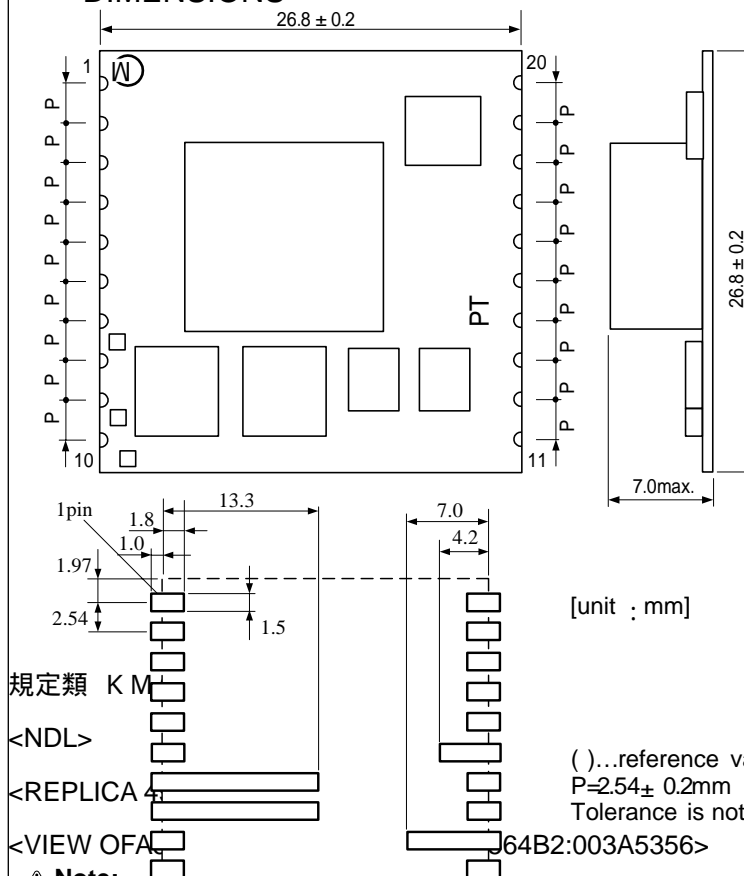
- Ultra High Speed Response
- Input range (4.5V to 5.5V), Wide output range (0.8V to 3.3V)
- 26A Output Current
- Wide operational temperature (-40°C to +85°C)
- ON/OFF / Output voltage sense / Over current function / 2 P-good function / Variable Start-up Speed function (by external capacitor)



GENERAL SPECIFICATIONS (Ta=25°C)

Item	Symbol	Condition	MIN.	TYP.	MAX.	UNIT	
Input Voltage	Vin		4.5	5.0	5.5	V	
Output Voltage Adjustable Range	Vout	F.T. pin = open	0.8	-	0.9	V	
		F.T. pin = short to GND	0.9	-	3.3		
Output Voltage tolerance	Vo tol	Over Io, Temperature range Vin=4.5~5.5V	Vo=0.8 ~ 0.9V	-2.5	-	+2.5	%
			Vo=0.9 ~ 3.3V	-2.0	-	+2.0	
Output Current	Iout		0	-	26	A	
Ripple Voltage	Vrpl	Vin=5V, BW=20MHz, Cout=200μF	-	20	-	mVpp	
Efficiency	EFF	Vin=5V, Vout=1.2V, Iout=20A	-	85.4	-	%	

DIMENSIONS



Pin No.	Symbol	Function
1	SENSE	Output Voltage sense
2,3,4	Vout	Output Voltage
5,6,7,8, 13,9,10	GND	GND
9	FT	Output Trim
10	VAR	Vout Adjustment
11,12	Vin	Input Voltage
17	SS	Soft Start
18	N.C.	Non Connect
19	POW-GOOD1	Power Good
20	POW-GOOD2	Power Good
16	ON/OFF	Remote ON/OFF

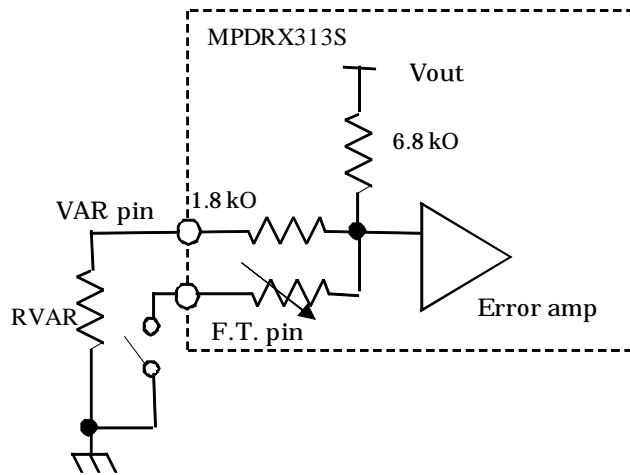
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△ Note:
<NOTE OF BEE4FCFA78EDT3-UN4925760B:0022A67E>

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- <HINT>CN=MMCAP100=JPO=MURATA<HINT>
<REPLICA 4> 規定類 K M GND

</NDL>

OUTPUT VOLTAGE ADJUSTMENT

(a) 0.8V $V_{out} < 0.9V$ (F.T. : open)

$$RVAR = \frac{5440}{V_{oadj}[V] - 0.8[V]} - 1800 [O]$$

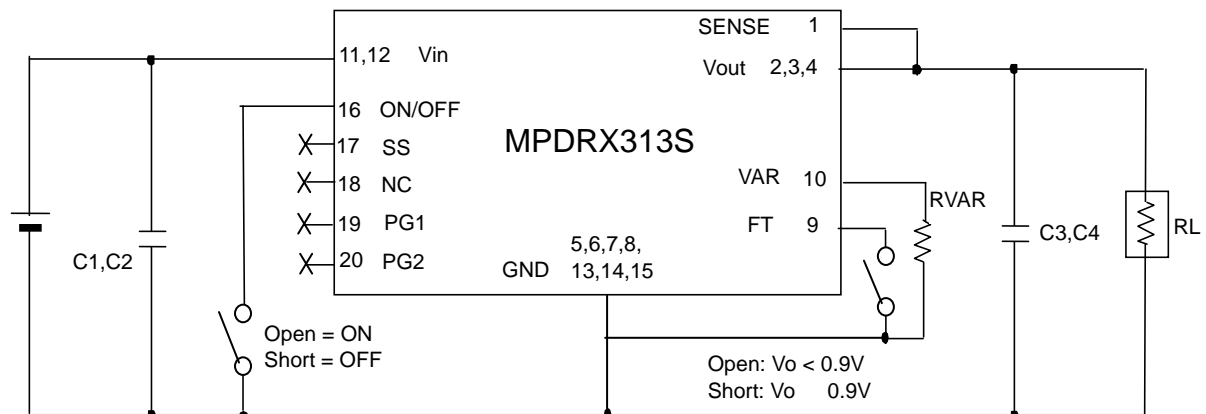
(b) 0.9V $V_{out} = 3.3V$ (F.T. : short to GND)

$$RVAR = \frac{5440}{V_{oadj}[V] - 0.9[V]} - 1800 [O]$$

<RVAR CALCULATION EXAMPLE>

Voadj [V]	Calculated RVAR []	RVAR Example []	F.T. pin
3.3	470	470	Short to GND
2.5	1600	1.6k	Short to GND
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

TEST CIRCUIT

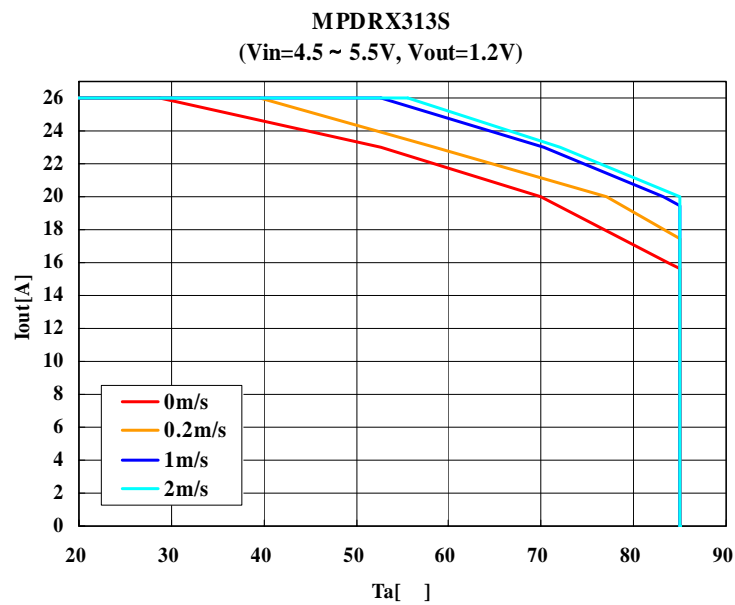
C1,C2 : 100 μ F / 10V Ceramic CapacitorC3,C4 : 100 μ F / 6.3V Ceramic Capacitor

Please make sure to place C1,C2,C3 and C4 nearby input and output terminal of DC-DC converter.

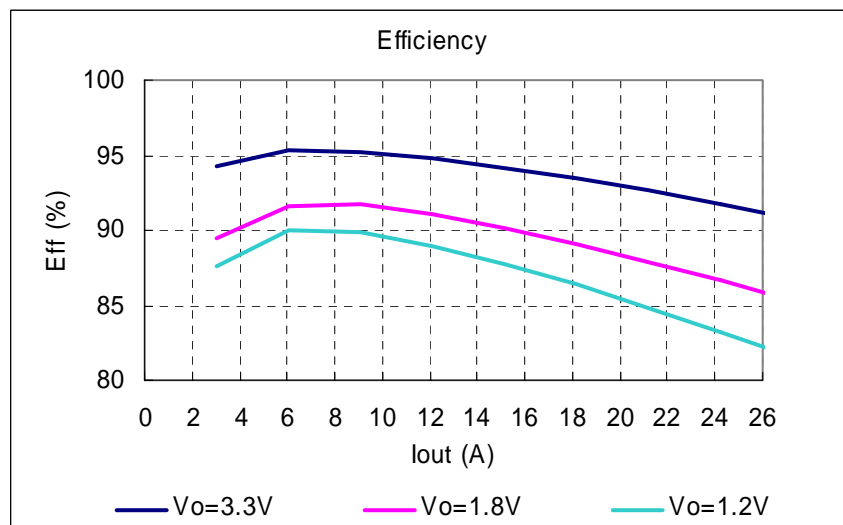
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THERMAL DERATING



EFFICIENCY

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