DC-DC Converter Short Form

MPDRX307S, MPDRX308S (Ultra High Speed Response POL)

Features

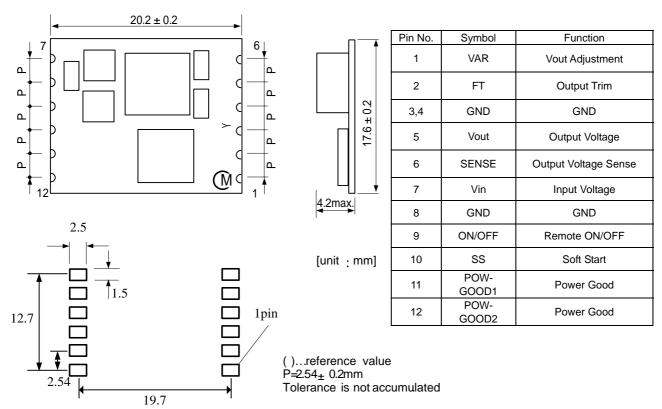
- Ultra High Speed Response
- Wide Input range (6.2V to 13.2V),
- Wide output range (0.8V to 1.65V / 1.6 to 3.63V)
- 6.5A Output Current
- Wide operational temperature (-40°C to +85°C)
- ON/OFF / Output voltage sense / Over Current function / 2 P-good function / Variable Start-up Speed function (by external capacitor)



GENERAL SPECIFICATIONS (Ta=25°C)

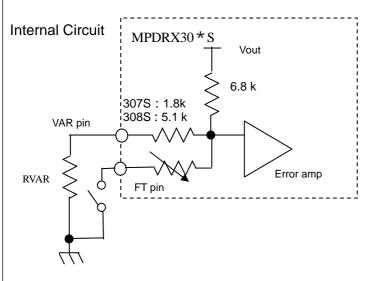
Item	Symbol	Condition	MIN.	TYP.	MAX.	UNIT
Input Voltage	Vin		6.2	-	13.2	V
Output Voltage Adjustable Range	Vout	MPDRX308S	0.8	-	1.65	V
		MPDRX307S	1.6	-	3.63	
Output Current	lout		0	-	6.5	Α
Ripple Voltage	Vrpl	Vin=9V, Vout=1.2V, Iout=5A	-	10	-	mVpp
		Vin=9V, Vout=3.3V, lout=5A		10		
Efficiency	EFF	Vin=9V, Vout=1.2V, Iout=5A	-	82	-	- %
		Vin=9V, Vout=3.3V, Iout=5A	-	91	-	

DIMENSIONS



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OUTPUT VOLTAGE ADJUSTMENT



MPDRX307S (FT-pin: SHORT to GND)

RVAR =
$$\frac{5440}{\text{Voadj[V]} \times 1.002 - 1.5[V]} - 1800 []$$

MPDRX308S

RVAR =
$$\frac{5440}{\text{Voadj[V]} \times 1.002 - 0.8[V]} - 5100 []$$

(b)0.95 Vout 1.65V (FT-pin: SHORT to GND)

RVAR =
$$\frac{5440}{\text{Voadi}[V] \times 1.002 - 0.95[V]} - 5100 \quad []$$

<RVAR CALCULATION EXAMPLE>

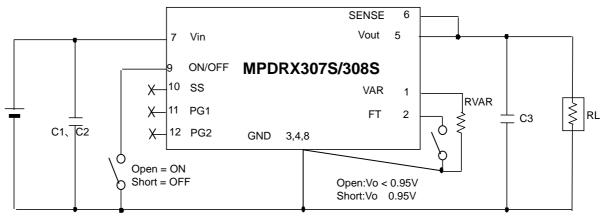
MPDRX307S

	_	
Voadj [V]	Calculated RVAR[]	FT pin (8pin)
3.63	745	Short to GND
3.3	1211	Short to GND
2.5	3613	Short to GND
1.8	16118	Short to GND
1.6	50913	Short to GND

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Voadj [V]	Calculated RVAR[]	FT pin			
		(8pin)			
1.65	2635	Short to GND			
1.5	4737	Short to GND			
1.2	16453	Short to GND			
1.0	99515	Short to GND			
0.95	2858058	Short to GND			
0.9	48338	Open			
0.8	3394900	Open			

TEST CIRCUIT

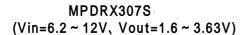


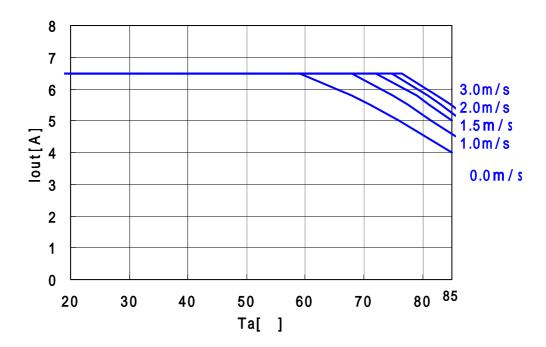
C1,C2: $10\mu F / 25V$ Ceramic Capacitor C3, : $100\mu F / 6.3V$ Ceramic Capacitor

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

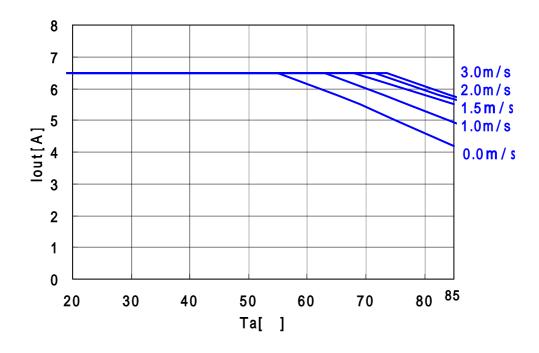
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THERMAL DERATING





MPDRX308S (Vin=6.2 ~ 12V, Vout=0.8 ~ 1.65V)



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