

# DC-DC Converter Short Form

## MPDRX104S (Ultra High Speed Response POL)

### ■ Features

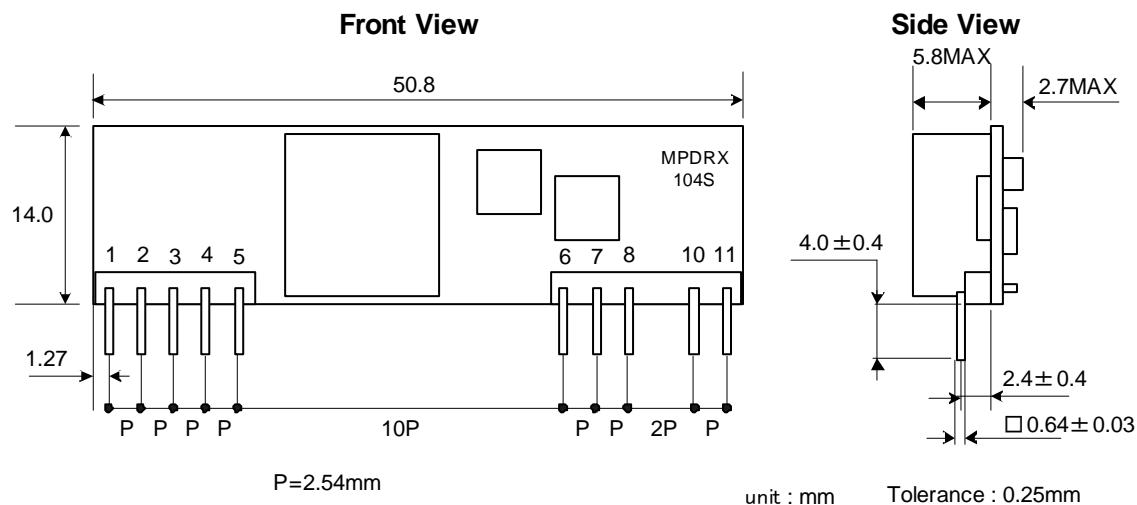
- 12V Input Voltage
- 12Amp. Output Current
- Ultra High Speed Response
- Wide Output Voltage (1.5-3.3V)
- On/Off Control Function
- Short Circuit Protection
- Over Temperature Protection
- SIP Type



### ■ GENERAL SPECIFICATIONS (Ta=25°C)

Item	Symbol	Condition	MIN.	TYP.	MAX.	UNIT
Input Voltage	Vin		10.8	12.0	13.2	V
Rising UVLO	UVLO-r		9.3	10.0	10.8	V
Falling UVLO	UVLO-f		9.0	9.5	10.3	V
Output Voltage	Vout	Vin=12V	1.50		3.30	V
Output Current	Iout		0		12	A
Ripple Voltage	Vrip	Vin=12V, Vo=3.3V, Io=12A.		15		mVpp
Efficiency	EFF	Vin=12V, Vo=3.3V, Io=12A.		88		%

### ■ DIMENSIONS AND PIN ASSIGN

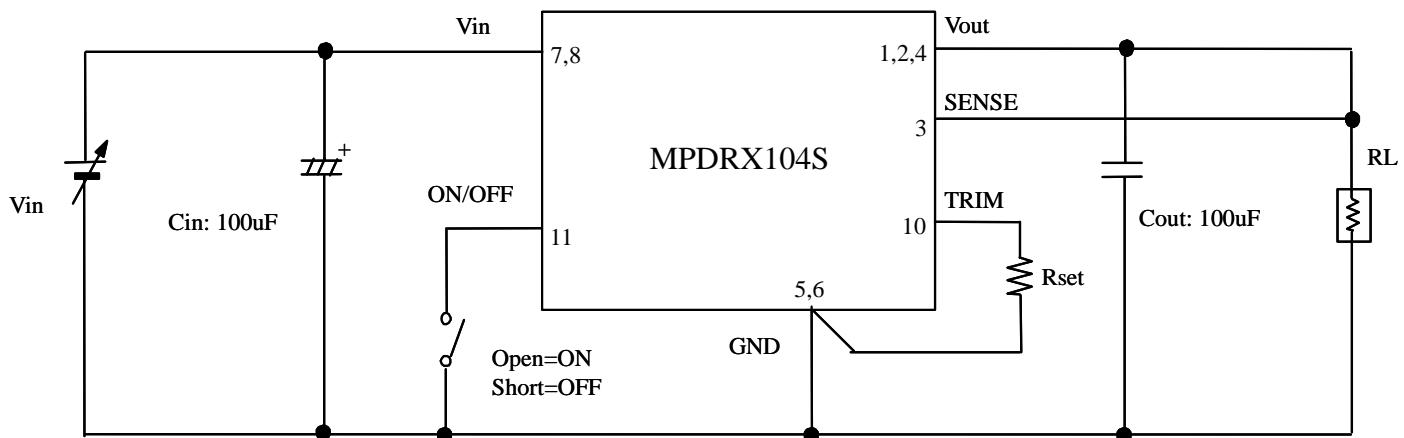


Pin No.	Signal	Pin No.	Signal
1,2,4.	Vout	7,8.	Vin
3.	SENSE	10.	TRIM
5,6.	GND	11.	ON/OFF

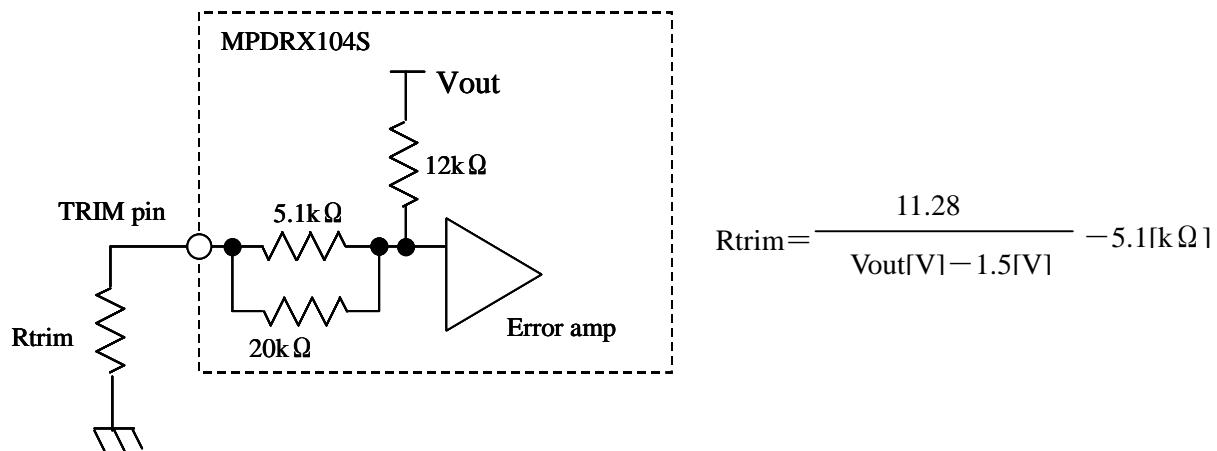
#### ⚠ Note:

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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.

## ■ TEST CIRCUIT



## ■ OUTPUT VOLTAGE ADJUSTMENT



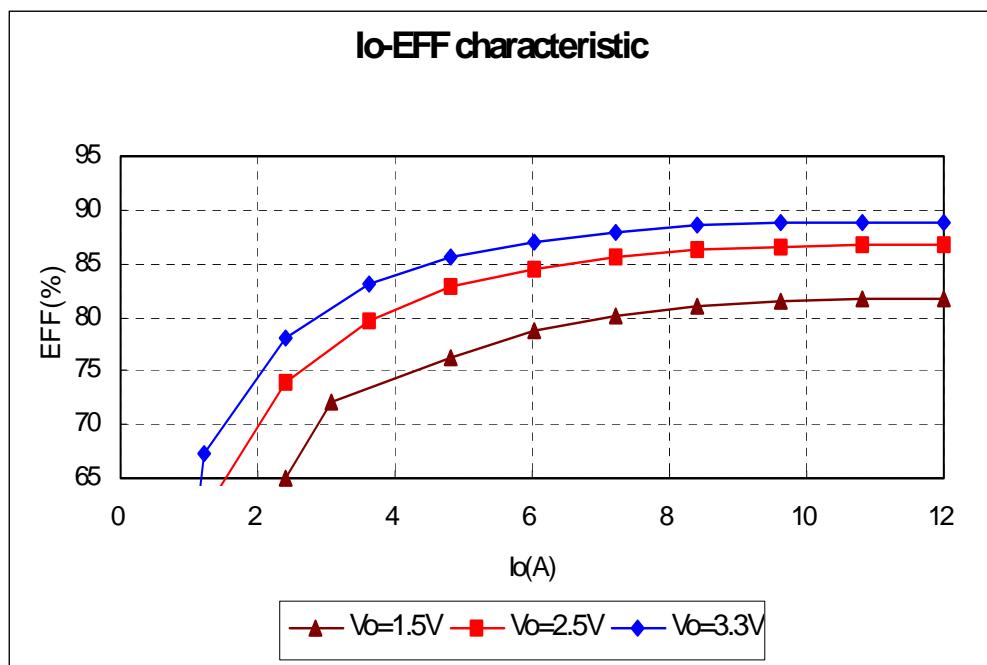
### <RTRIM CALCULATION EXAMPLE>

Vout(V)	Calculated Rtrim(ohm)	Rtrim example(ohm)
3.3	1170	1.0k+160
2.5	6180	5.6k+560
2.0	17500	16k+1.5k
1.8	32500	30k+2.4k
1.5	$\infty$	Open

**! Note:**

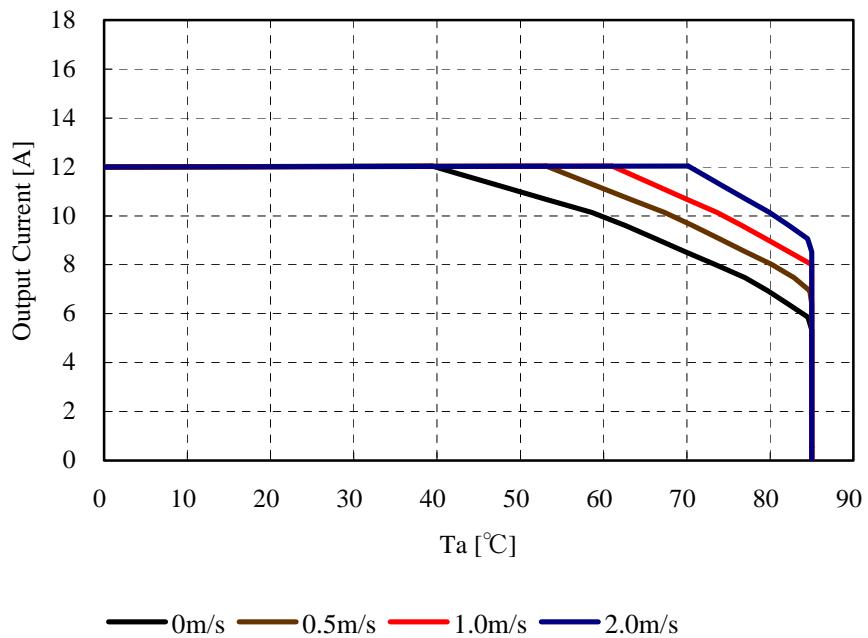
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## ■ EFFICIENCY CHARACTERISTICS



## ■ THERMAL DERATING

MPDRX104S Thermal Derating  
[ Vin=12V , Vout=3.3V ]

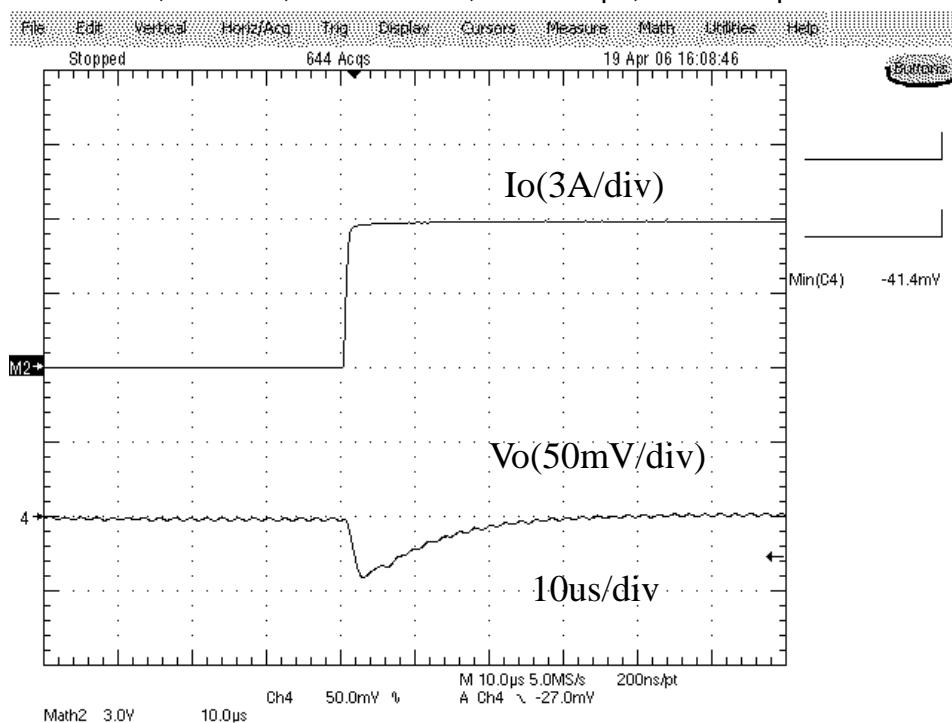


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## ■ THERMAL DERATING

$V_{in}=12V$ ,  $V_o=3.3V$ ,  $I_o=6A$  to  $12A$ ,  $di/dt=2A/\mu s$ ,  $C_{out}=100\mu F$



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