

PMP5863 Test Report

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Operating Parameters

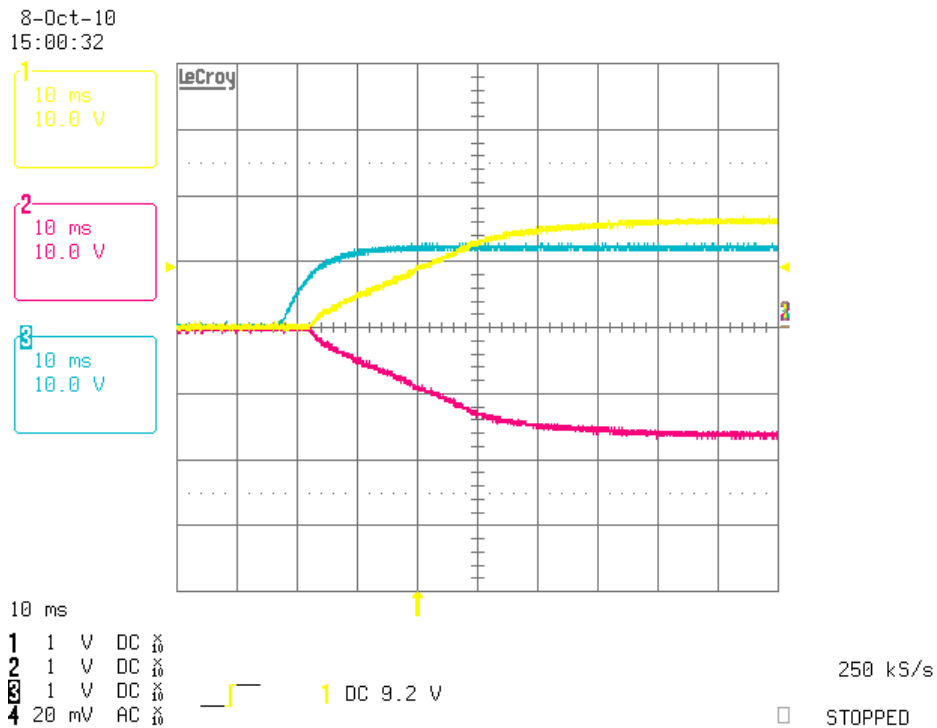
Parameter	Min	Typ	Max	Unit
V_{in}	9		30	V
V_{out1}	2.5		15	V
I_{out1}	0		150	mA
V_{out2}	-2.5		-15	V
I_{out2}	0		200	mA
$F_{switching}$		300		kHz

1 Performance Summary

Parameter	Test Conditions	Min	Typ	Max	Unit
Loop Bandwidth	$V_{in} = 12V, I_{out1} = 150mA, I_{out2} = 200mA$		2.931		kHz
Phase Margin	$V_{in} = 12V, I_{out1} = 150mA, I_{out2} = 200mA$		58.99		°
Output Voltage Ripple	$I_{out1} = 150mA, I_{out2} = 200mA$		13.2		mV
Maximum Efficiency			90.3		%
Load Regulation	$V_{in} = 12V, I_{out} = to$		0.5		%
Switching Frequency	$V_{in} = 12V, I_{out1} = 150mA, I_{out2} = 200mA$		280.7		kHz
LDO Noise	$V_{in} = 12V, I_{out1} = 150mA, I_{out2} = 200mA$		80		uVrms

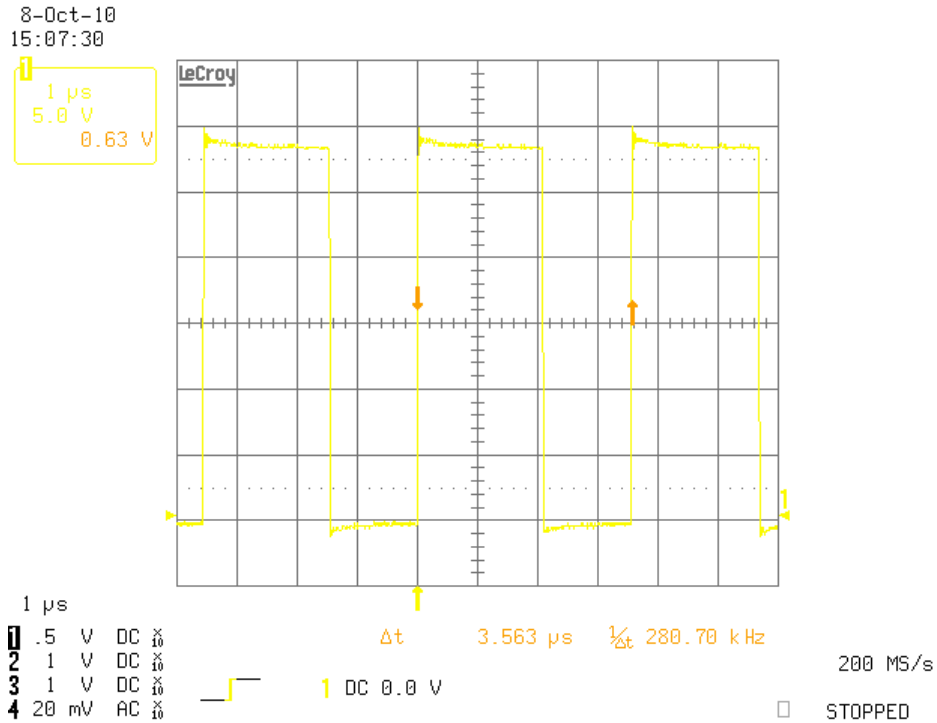
2 Start-up Waveform

$V_{in} = 12V, V_{out1} = 16V, V_{out2} = -16V, I_{out1} = 150mA, I_{out2} = 200mA$



3 Switch Node

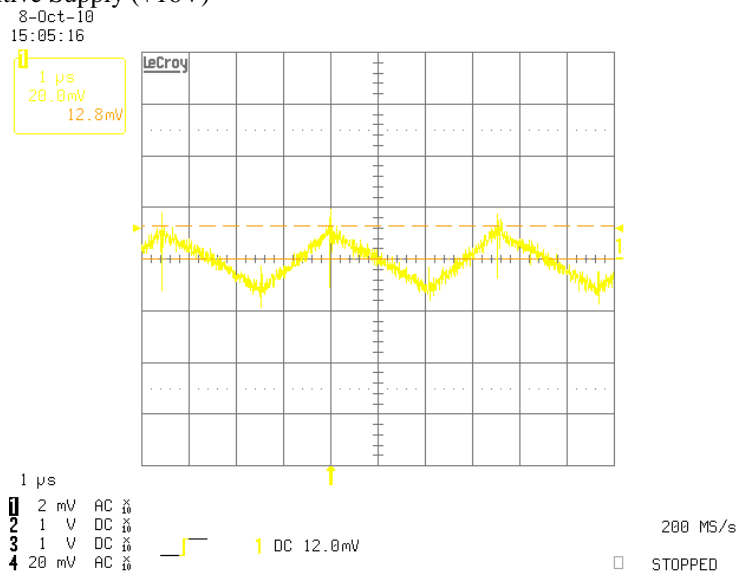
$V_{in} = 12V$, $V_{out1} = 16V$, $V_{out2} = -16V$, $I_{out1} = 150mA$, $I_{out2} = 200mA$



4 Output Voltage Ripple

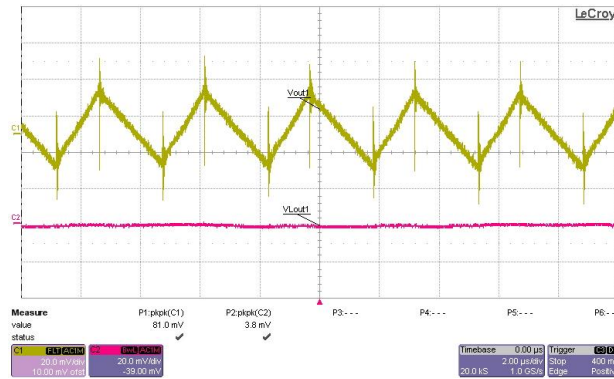
$V_{in} = 12V$, $V_{out1} = 16V$, $V_{out2} = -16V$, $I_{out1} = 150mA$, $I_{out2} = 200mA$

VOUT1 – Positive Supply (+16V)



$V_{in} = 12V$, $V_{out1} = 16V$, $V_{Lout1} = 15V$, $I_{out1} = 150mA$, $I_{out2} = 200mA$

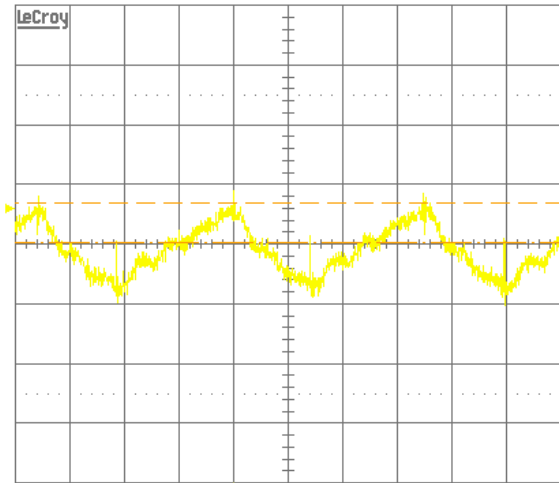
VOUT1 – Positive Supply (+16V)
VLOUT1 – Positive LDO Supply (+15V)



VOUT2 – Negative Supply (-16V)

8-Oct-10
 15:04:41

1 μ s
 20.0 mV
 13.2 mV



1 μ s
 2 mV AC \times
 2 1 V DC \times
 3 1 V DC \times
 4 20 mV AC \times



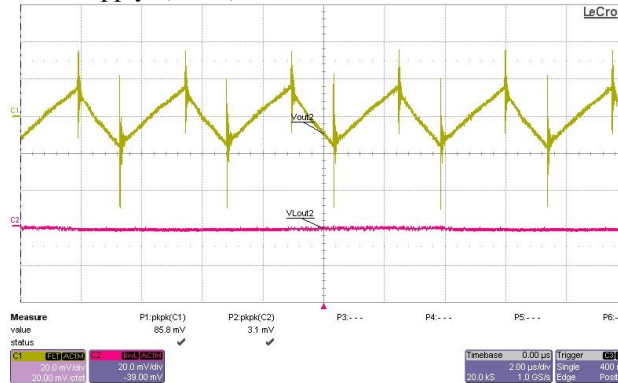
1 DC 12.0 mV

200 MS/s

STOPPED

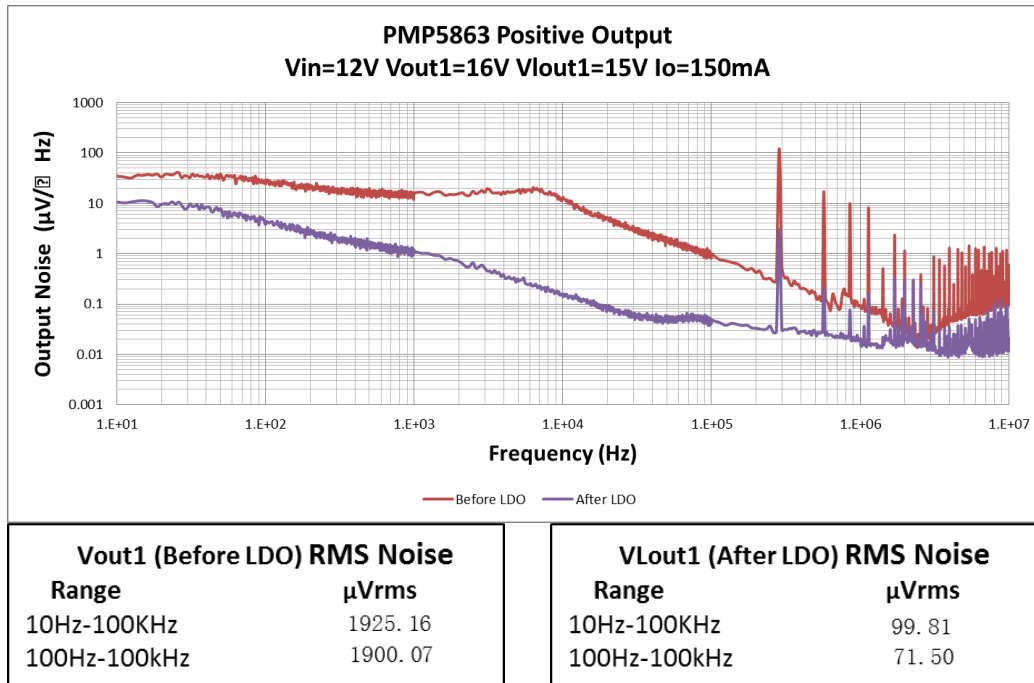
$V_{in} = 12V, V_{out1} = -16V, V_{Lout1} = -15V, I_{out1} = 150mA, I_{out2} = 200mA$

VOUT2 – Negative Supply (-16V)
VLOUT2 – Negative LDO Supply (-15V)

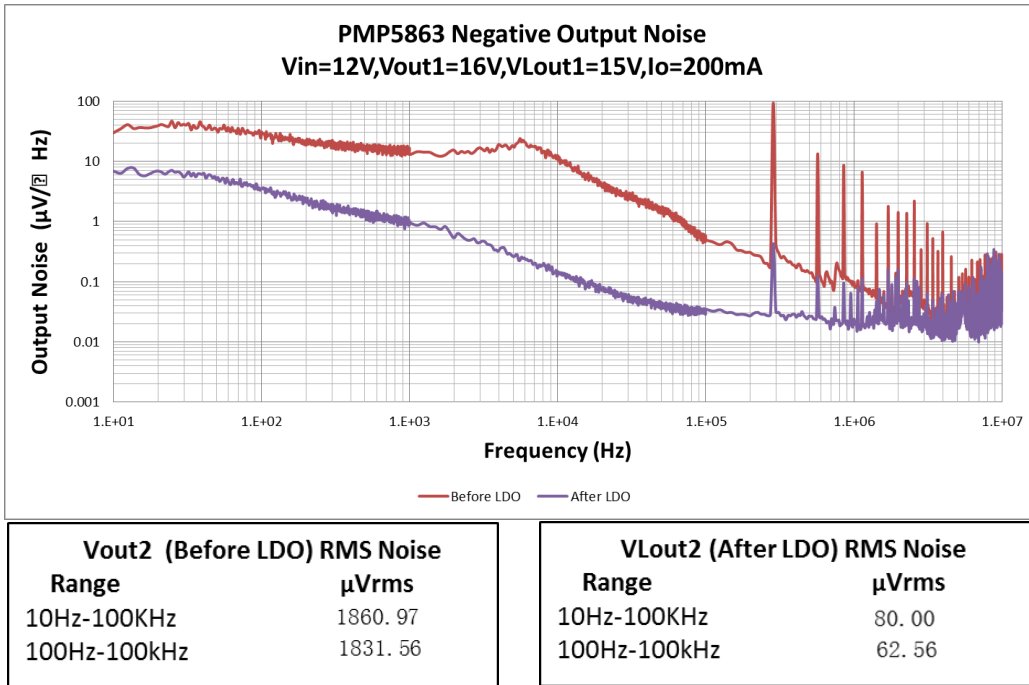


5 Output Noise

$V_{in} = 12V, V_{out1} = +16V, V_{Lout1} = 15V, I_{out1} = 150mA, I_{out2} = 200mA$



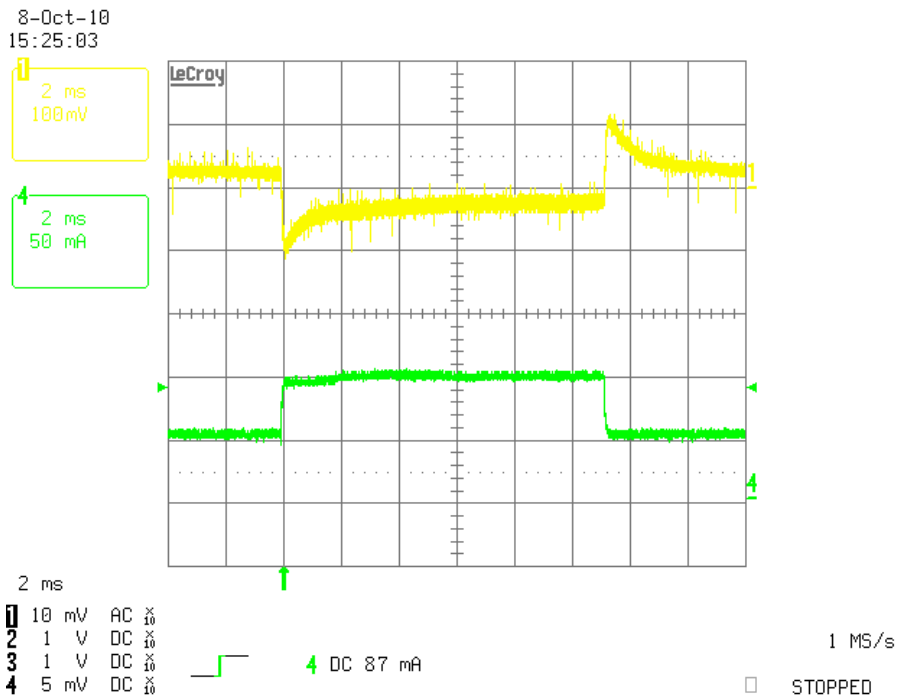
$V_{in} = 12V, V_{out2} = -16V, V_{Lout2} = -15V, I_{out1} = 150mA, I_{out2} = 200mA$



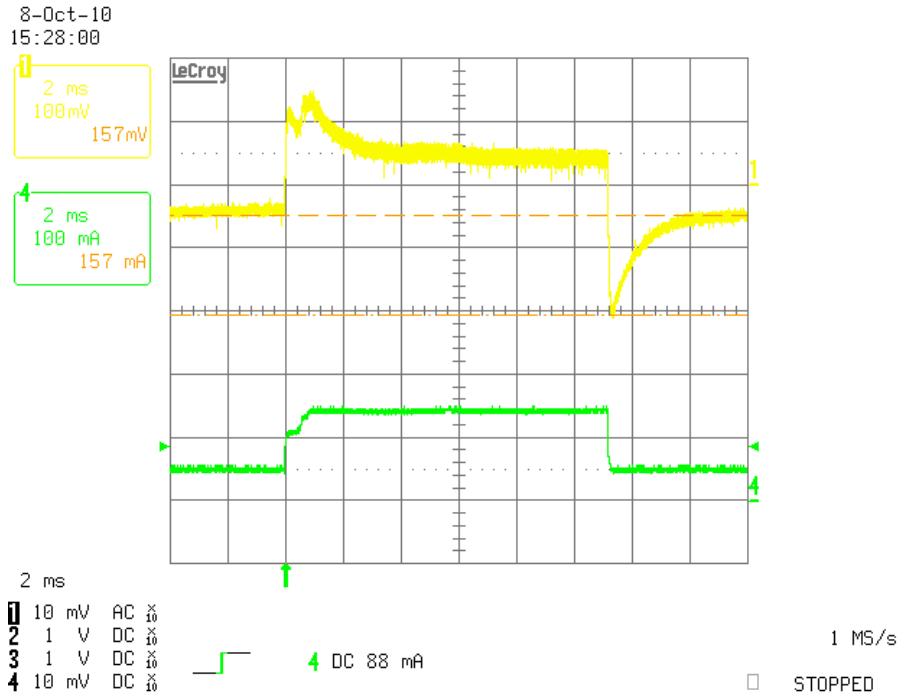
6 Load Transients

$V_{in} = 12V, V_{out1} = 16V, V_{out2} = -16V, I_{out1} = 50mA - 100mA, I_{out2} = 50mA - 150mA$

VOUT1 – Positive Supply (+16V)

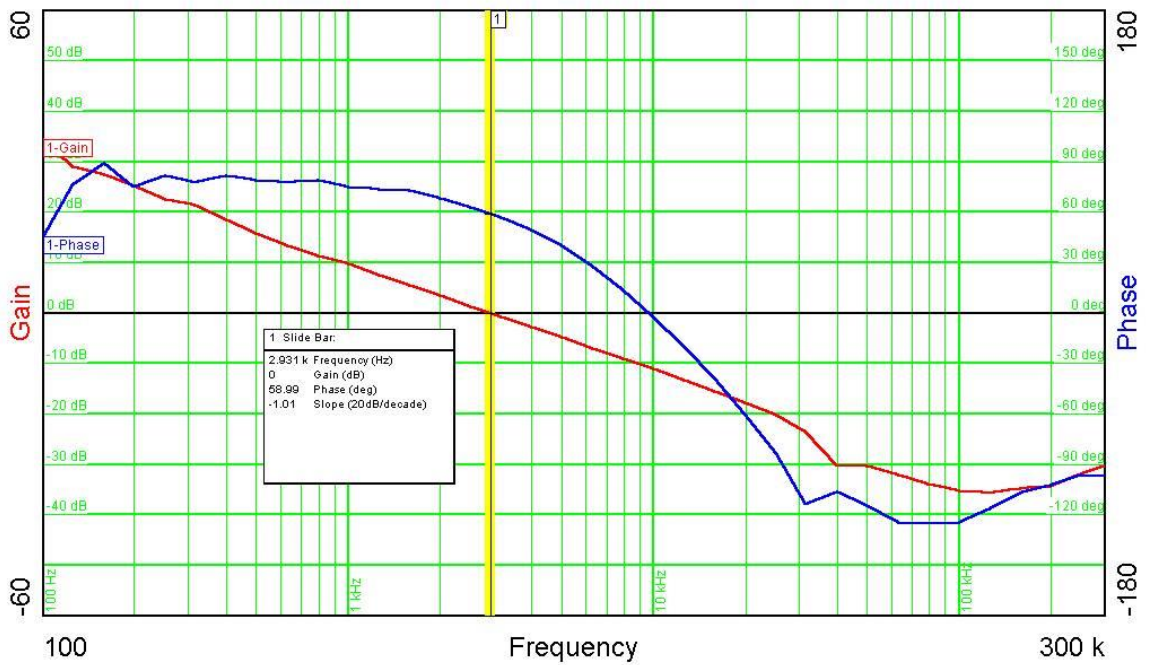


VOUT2 – Negative Supply (-16V)



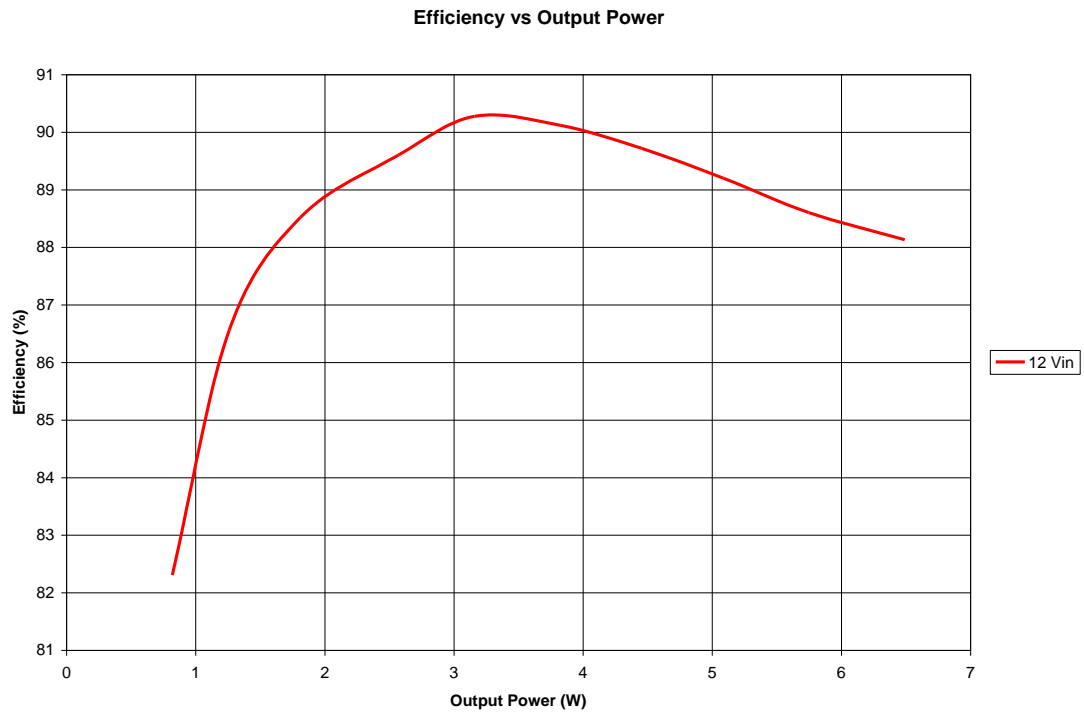
7 Loop Response

$V_{in} = 12V, V_{out1} = 16V, V_{out2} = -16V, I_{out1} = 150mA, I_{out2} = 200mA$



8 Efficiency

$V_{in} = 12V$, $V_{out1} = 16V$, $V_{out2} = -16V$, $I_{out1} = 0$ to $150mA$, $I_{out2} = 0$ to $200mA$



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