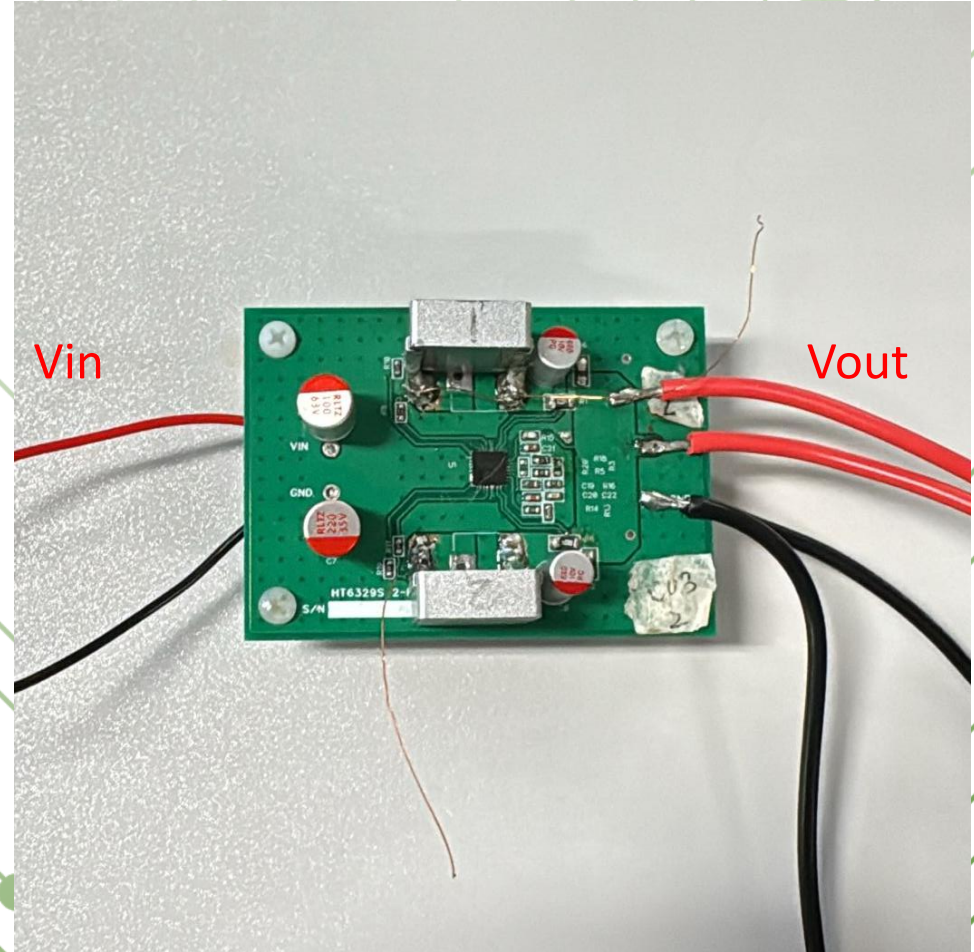




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Low-voltage High-current HT6329S multiphase DC-DC Demo Board

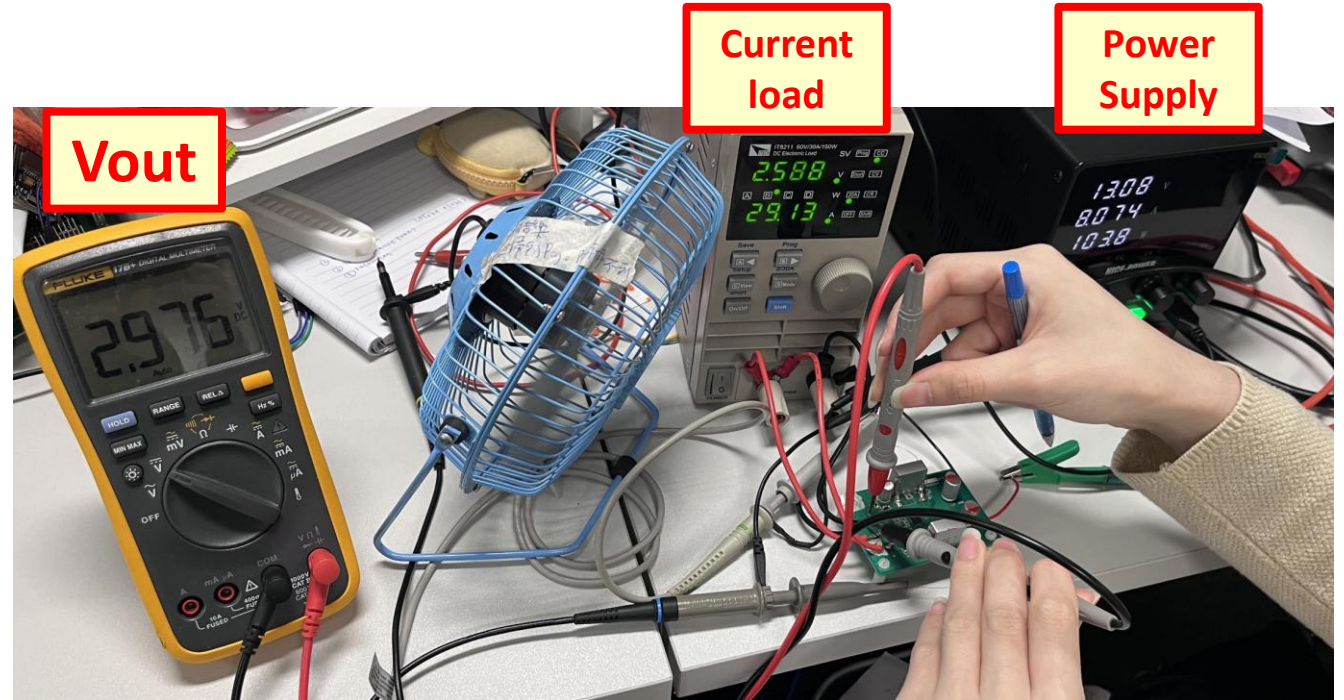
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Test setup

Configuration	
Inductor	2 x 4.7uH
Frequency	500kHz
Vin	12V
Vout	3V



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Switching waveform



Current load = 5A

Ch1 

Ch2 



Current load (Full Load) = 39A

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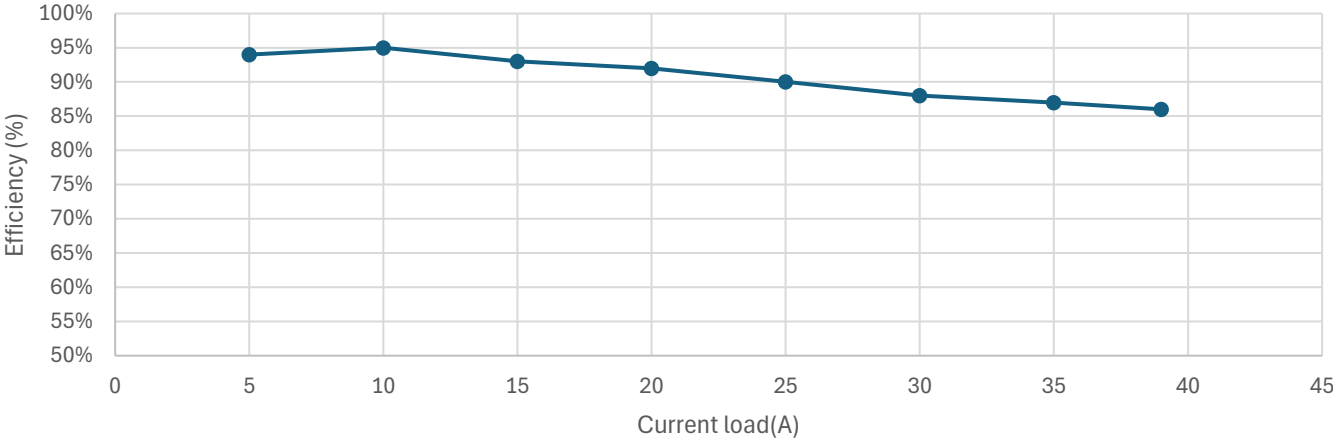
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Efficiency @ Vin = 12V

Input current (A)	Current load (A)	Efficiency
1.317	5	94.47%
2.624	10	94.58%
3.977	15	93.35%
5.407	20	91.52%
6.882	25	90.01%
8.426	30	88.03%
9.98	35	86.79%
11.2	39	86.18%

Efficiency vs Current Load



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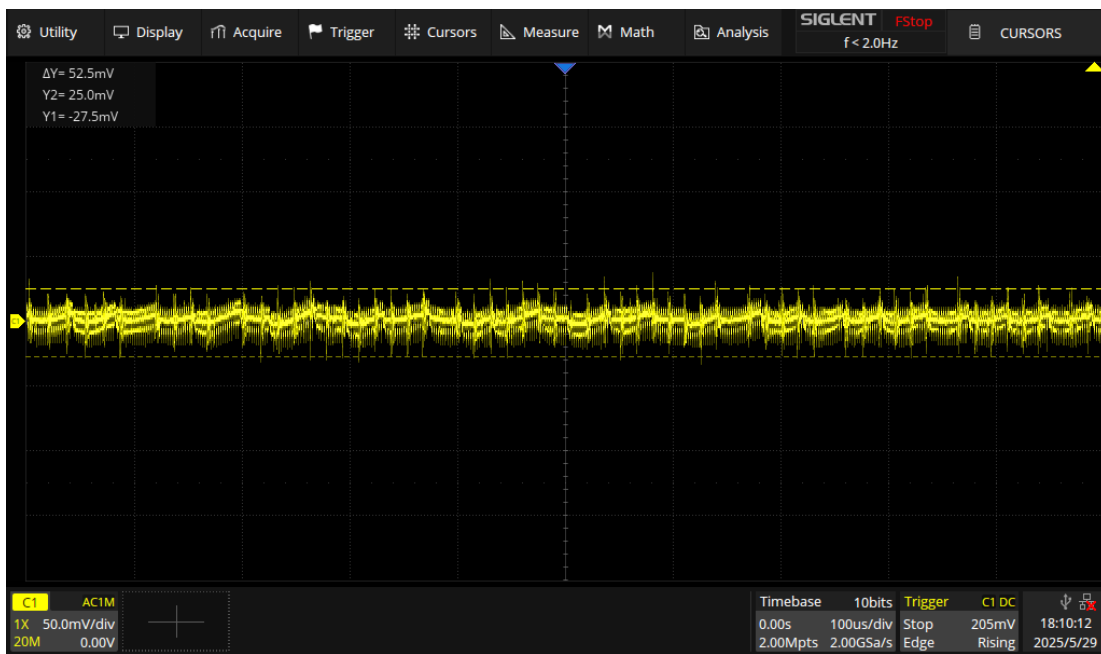
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Output Ripple



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$$I_{out} = 2A$$

$$V_{ripple-pp} = 52.5mV$$



$$I_{out} = 39A$$

$$V_{ripple-pp} = 120mV$$

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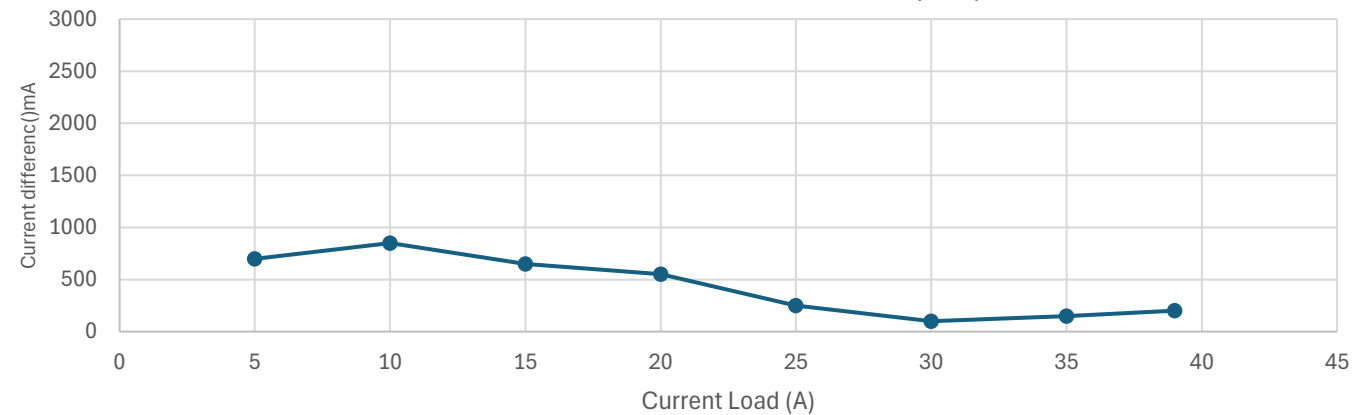
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Output Current Balancing

Current load (A)	Ch1 Rsense voltage (mV)	Ch2 Rsense voltage (mV)	Current difference of 2 channel (mA)
5	4.3	5.7	700
10	9.3	11	850
15	14.7	16	650
20	19.9	21	550
25	25.5	26	250
30	30.6	30.8	100
35	36.5	36.8	150
39	39.9	40.3	200

Current difference across 2 channel (mA)



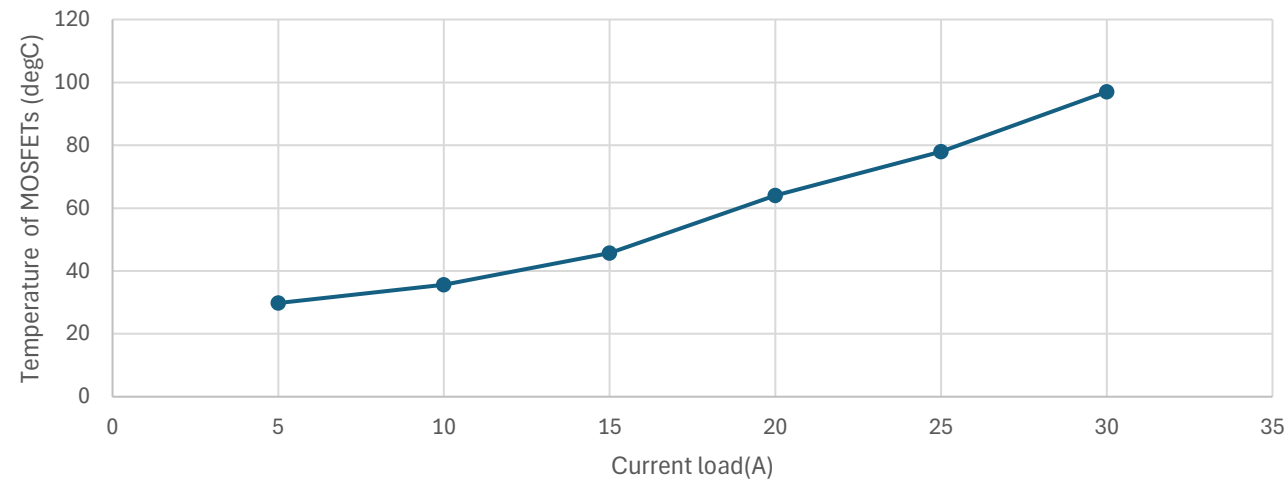
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Thermal Characteristics

Current load (A)	Highest temperature spot (degC) (at MOSFETs, operated after 30 seconds)
5	29.8
10	35.6
15	45.7
20	64
25	78
30	97

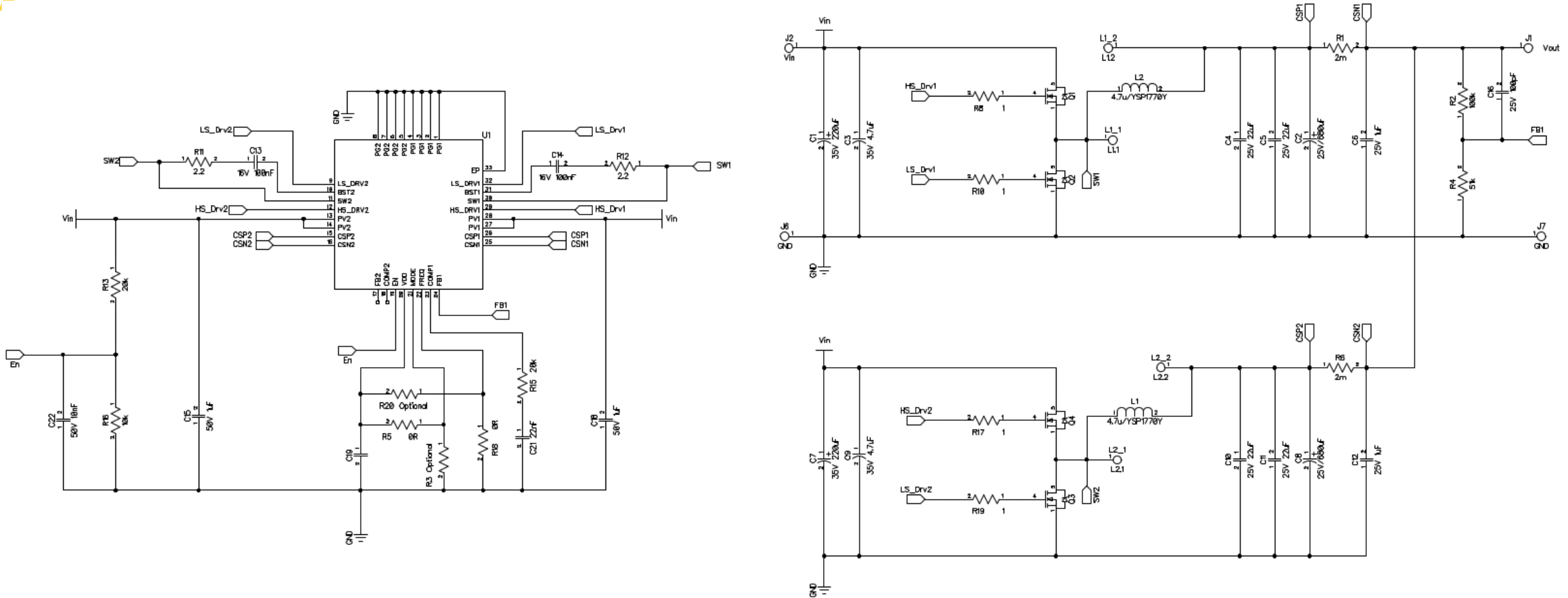
MOSFET Temperature vs Current load



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Schematic diagram



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