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Characteristic Curves

0.6

0.5

Vin= 4.5V

Vin= 5V

Vin= 7∖



MPU02

Application Note: Characteristic Curves 03/21/2022





Efficiency Versus Output Load







Efficiency Versus Input Voltage.



Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



P-DUKE TECHNOLOGY CO., LTD. www.pduke.com







03/21/2022





Efficiency Versus Output Load

0.6 Vin= 4.5V 0.5 Vin= 5V 0.4 0.3 0.3 0.3 0.2 0.2 0.1 0 30 20 40 50 60 70 80 90 100 10 % of FULL LOAD







Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load









All test conditions are at 25°C. The figures are identical for MPU02-05S12



Efficiency Versus Output Load





Efficiency Versus Input Voltage.



Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load









All test conditions are at 25°C. The figures are identical for MPU02-05S15



Efficiency Versus Output Load





Efficiency Versus Input Voltage.



Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load







100

105

90



1 DEVIATION(%) 0.5 0 -0.5 -1 -1.5 40 50 60 % of FULL LOAD 0 10 20 30 70 80 90 100

Vout Deviation vs. Output Load









All test conditions are at 25°C. The figures are identical for MPU02-12S05



Efficiency Versus Output Load









Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load









All test conditions are at 25°C. The figures are identical for MPU02-12S12



Efficiency Versus Output Load





Efficiency Versus Input Voltage.



Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load









All test conditions are at 25°C. The figures are identical for MPU02-12S15



Efficiency Versus Output Load

0.6 Vin= 9.6V 0.5 Vin= 12V POWER LOSS (W) 2.0 CSS (W) 2.0 CSS (W) /in= 14 4\ 0.1 0 10 20 30 50 60 90 100 70 80 40 % of FULL LOAD







Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load









30

40

50

% of FULL LOAD

Vout Deviation vs. Output Load

60

70

80

90

100

-0.5

-1

-1.5 0

10 20









All test conditions are at 25°C. The figures are identical for MPU02-15S05



Efficiency Versus Output Load

0.6 Vin= 12V 0.5 Vin= 15V 0.4 NOMER LOSS (M) 18\ 0.1 0 20 50 60 70 80 90 100 10 30 40 % of FULL LOAD







Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load









All test conditions are at 25°C. The figures are identical for MPU02-15S12



Efficiency Versus Output Load





Efficiency Versus Input Voltage.



Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load







03/21/2022



All test conditions are at 25°C. The figures are identical for MPU02-15S15



Efficiency Versus Output Load









Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load









All test conditions are at 25°C. The figures are identical for MPU02-24S3P3



Efficiency Versus Output Load









Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load







03/21/2022



All test conditions are at 25°C. The figures are identical for MPU02-24S05



Efficiency Versus Output Load









Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load







Characteristic Curves (Continued)

All test conditions are at 25°C. The figures are identical for MPU02-24S12



Efficiency Versus Output Load









Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load







100

90

80

70

60

50

40

100

90

80

10

20

EFFICIENCY(%)

All test conditions are at 25°C. The figures are identical for MPU02-24S15

MPU02 Application Note: Characteristic Curves 03/21/2022

70

80

100

90

100

105



20

0

Characteristic Curves (Continued)

EFFICIENCY(%) 70 60 100% of FULL 50% of FULL 50 5% of FULL 40 19.2 20.3 21.3 22.4 23.5 24.5 25.6 26.7 27.7 28.8 INPUT VOLTAGE (V)





NATURAL CONVECTION



Vout Deviation vs. Output Load









All test conditions are at 25°C. The figures are identical for MPU02-05D05



Efficiency Versus Output Load





Efficiency Versus Input Voltage.



Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load









Efficiency Versus Input Voltage.

Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)











All test conditions are at 25°C. The figures are identical for MPU02-05D15



Efficiency Versus Output Load









Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load









All test conditions are at 25°C. The figures are identical for MPU02-12D05



Efficiency Versus Output Load









Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load







50

40

10

20

30

40

50

Efficiency Versus Output Load

% of FULL LOAD

60

70

MPU02 Application Note: Characteristic Curves 03/21/2022



Vin= 9.6V

Vin= 12V Vin= 14.4V

90

100

80

Characteristic Curves (Continued)



Power Dissipation Versus Output Load







Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load







100









Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load









All test conditions are at 25°C. The figures are identical for MPU02-15D05



Efficiency Versus Output Load









Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load









All test conditions are at 25°C. The figures are identical for MPU02-15D12



Efficiency Versus Output Load









Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load







03/21/2022



All test conditions are at 25°C. The figures are identical for MPU02-15D15



Efficiency Versus Output Load









Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load







Characteristic Curves (Continued)

All test conditions are at 25°C. The figures are identical for MPU02-24D05



Efficiency Versus Output Load





Efficiency Versus Input Voltage.



Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load







03/21/2022



Efficiency Versus Input Voltage.



60

70

80

100

90

100

105

Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load







Characteristic Curves (Continued)

All test conditions are at 25°C. The figures are identical for MPU02-24D15



Efficiency Versus Output Load









Derating Output Load Versus Ambient Temperature and Airflow Vin(nom)



Vout Deviation vs. Output Load



