Tchnical inquiry DC/DC Converter LMZM23600V3SILR

I took the waveforms of normal-operation and Abnormal-operation.

Normal refer to figure.1 Abnormal refer to figure.2 Abnormal2 refer to figure.3

Condition Vin: 6Vdc Output: 3.3V

Load: nearly zero

Mode PFM mode (MODE=0V)

Point refer to below

Consumption figure.1 3.5 mA

figure.2 7 mA figure.3 42 mA

DC resistance (Measuring instrument: Digital tester)

figure.1 0.45 ohm figure.3 0.39 ohm

Inquiry

Q1 Is Figure.2 normal or faulty?

Q2 Where is the broken part?

I think the built-in inductor is in short mode.

Q3 Can you predict the cause of the failure?

If the inductor is in short mode, I think it is due to overheating, not overcurrent.

Please, best regards.













