

1 GENERAL DESCRIPTION

The ERP5534A is a highly integrated power solution for AMOLED Display application, which uses a single-inductor-bipolar-output (SIBO) converter and three linear low-dropout regulators (LDO) to generate two positive and one negative voltage outputs. It does not need an extra charge pump circuit to generate the negative voltage output so that external capacitors required by the charge pump circuit can be eliminated and the PCB space can be achieved with very small.

The output voltages can be adjusted by SWIRE pin. Compared with the scheme of generating negative voltage by a charge pump circuit, the best energy conversion efficiency can only be obtained near the negative voltage ratio provided by its charge pump circuit. This SIBO architecture can provide a stable high conversion efficiency throughout the entire negative voltage adjusting range. Therefore, this solution can provide the optimal negative voltage output value according to different brightness requirements to reduce the power consumption of the AMOLED display significantly. This is the best solution that can optimize the solution form factor as well as display power consumption.

With its input voltage range from 3.4V to 5.5V, ERP5534A is optimized for products powered by single-cell batteries with output currents up to 80mA. The ERP5534A is available in the WL-CSP-16B 1.64mm x 1.64mm package.

2 FEATURES

- Input Voltage Range: 3.4V to 5.5V
- Positive Output Voltage AVDD: 2.6V to 3.5V (Default is 3.3V±1%)
- Positive Output Voltage OVDD Range: 2.6V to 5.3V (Default is 3.3V±1%)
- Negative Output Voltage OVSS Range: -0.6V to -4.7V (Default is -3.3V±1%)
- Low Quiescent Current: 70μA
- AVDD Max. Loading is 20mA, OVDD and OVSS Max. loading is 100mA
- Low Output Ripple
- Built-in Internal Soft start
- UVLO, UVP, SCP, OCP, OTP, and SSP protection

3 APPLICATIONS

- Wearable AMOLED Product

4 ORDERING INFORMATION

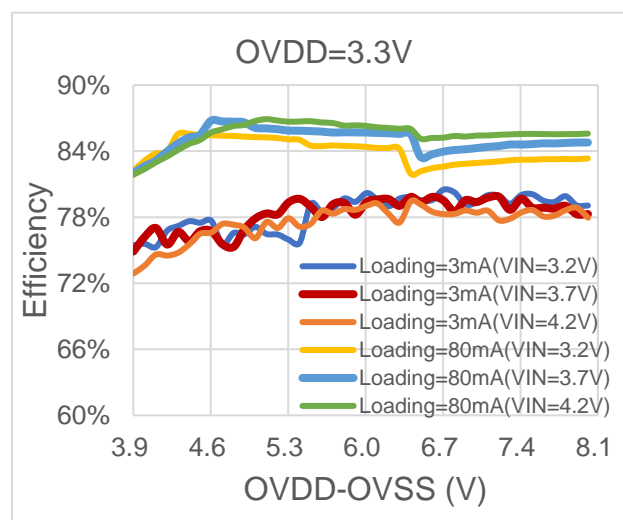
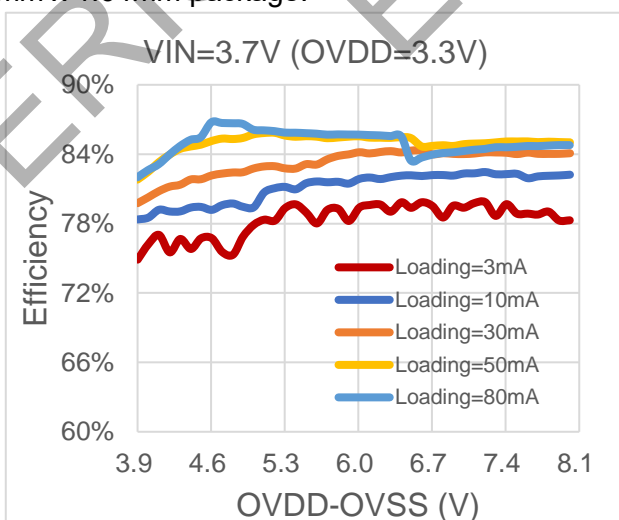
ERP5534AWCD

└ Package Type

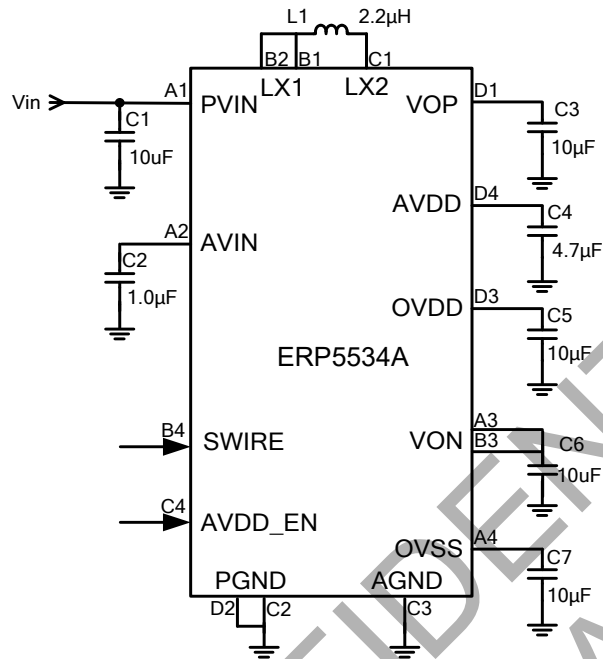
WSC: WLCSP-16B 1.64mmx1.64mm

Note:

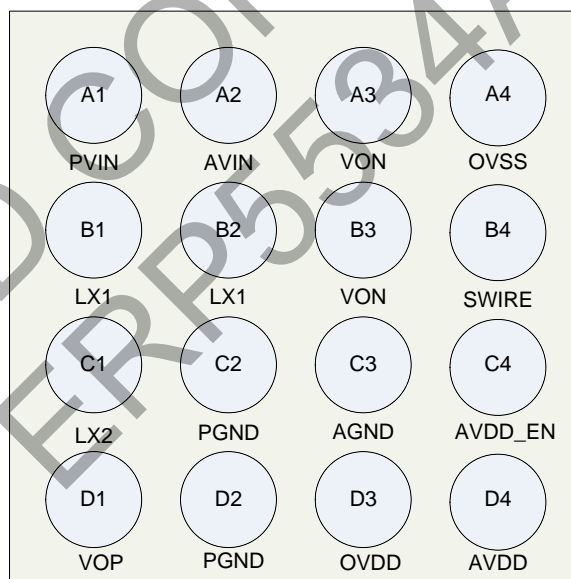
Erised products are RoHS compliant and compatible with the current requirements of IPC/JEDEC J-STD-020 Package Information.



5 APPLICATION CIRCUIT



6 PIN CONFIGURATION AND FUNCTION



Top View