IP Data Sheet

16mA 4V Voltage Regulator

The TS_VR_4V00_X8 is a 4V voltage regulator capable of delivering up to 16mA. It is required for the supply of other TES IPs like TS_FS_9M70_X8, TS_VA_LNDC_X8, and TS_CS_20uA_X8.

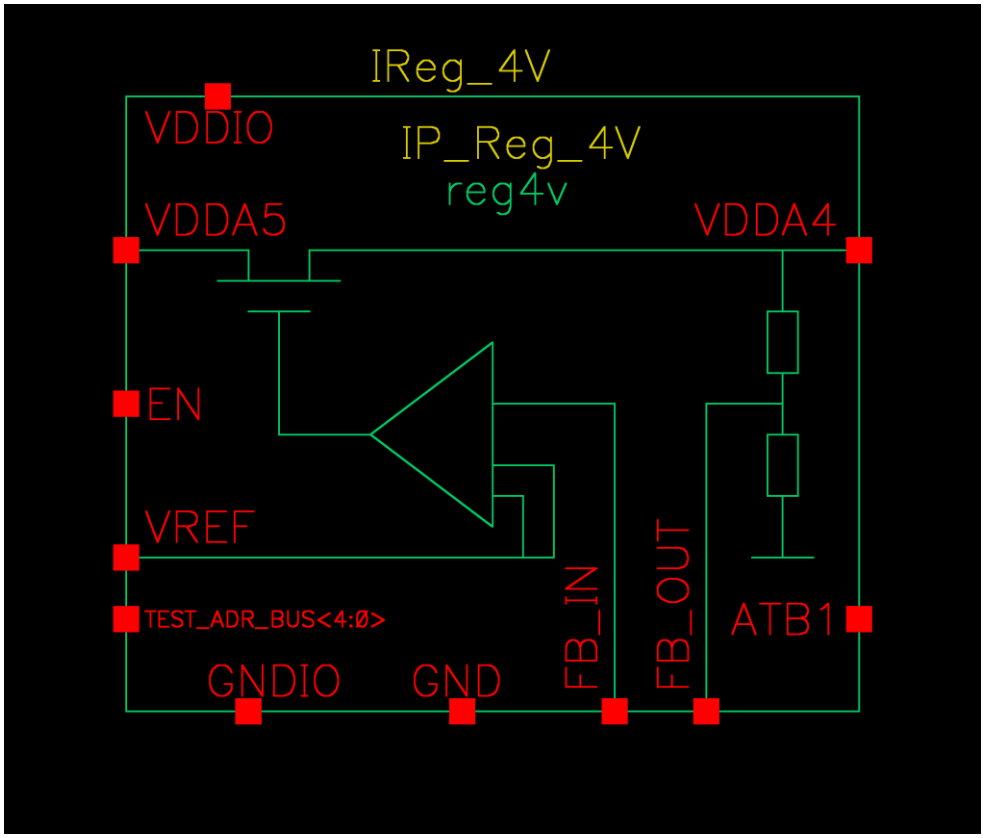
The TS_VR_4V00_X8 operates with one supply voltage, VDDA5, VDDIO (5V typical) and one precision reference voltage VREF (2.5V).

This IP supports analog-test-bus multiplexing on the ATB1 output under control of the 5-bit address input TEST_ADR_BUS<4:0>. When TEST_ADR_BUS<4:0>= HHHHL, the TS_VR_4V00_X8 sinks a 1.2µA-internal-bias-replicated current through ATB1 for off-chip measurement.

The TS_VR_4V00_X8 complies with 2kV electrostatic discharges on its analog terminals VDDA4 and ATB1.

The minimum continuous operation lifetime spans 100000 hours.

Technology: XFAB XT018 - 0.18µm HV SOI CMOS



Operating conditions

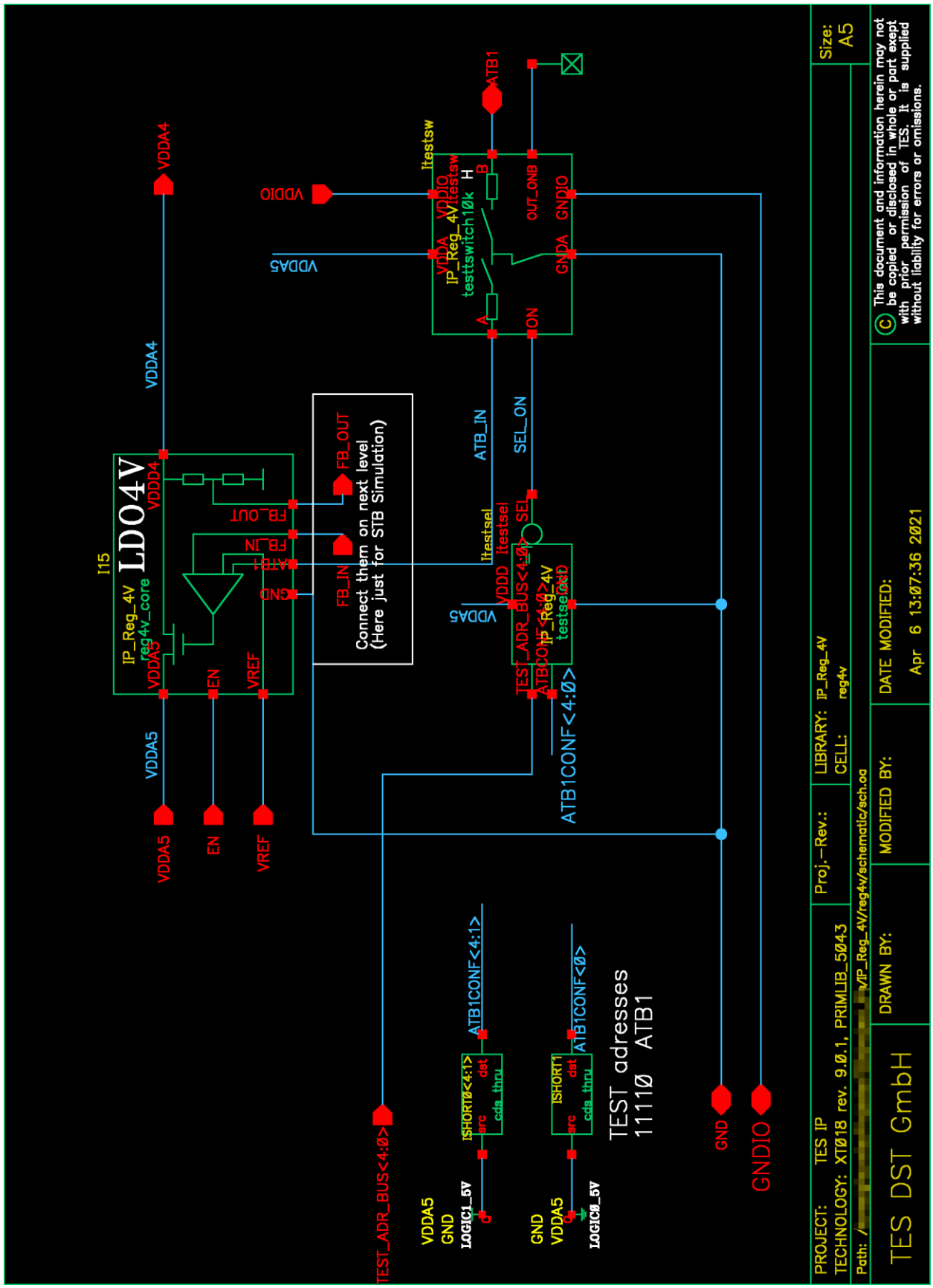
Parameters	Values
Junction temperature range	20°C to +80°C
Supply voltage	VDDA5, VDDIO: 4.9V to 5.1V
Reference voltage	VREF: 2.5V
Load current intensity	ILOAD: 16mA max
External load capacitor	CLOAD: 1.76µF to 2.64µF
EN, TEST_ADR_BUS<4:0> logic-high voltage level	VDDA5

Specification

Parameters	Values
Regulated output voltage	4.00V±0.05V
PSRR over frequencies from DC up to 10 MHz	20dB min
Operating power consumption with unloaded output	765µW max
Powerdown-mode current consumption Enable EN low	0.3nA max
Area	0.085mm²

FB_IN and FB_OUT must be interconnected.

BLOCK DIAGRAM



LAYOUT VIEW