

Voltage

2015/7/15

1. Power supply

* Summary

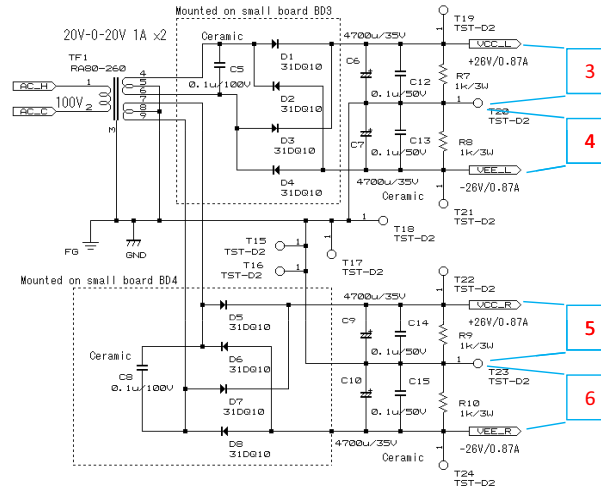
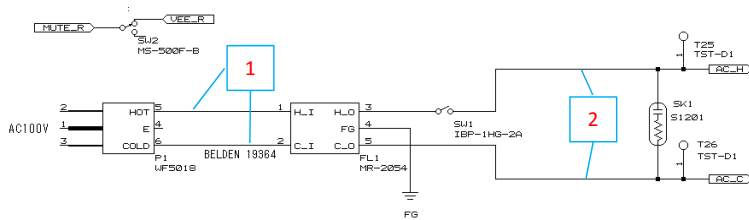
Measuring AC and DC voltage of power supply.
This measurement is carried out before Amp Boards are connected to power supply.

* Apparatus

DUT: MA-215 w/o Amp Boards
DMM: Sanwa PC710
Analog oscilloscope: Kikusui COS5100 + 1:10 probe

* Condition

All the plug and jacks are not connected but the power plug.
Amp Boards are not connected to power supply.
A power strip is used.



* Procedure

1. Attach the probes of oscilloscope to point-2 and -3.
Observe waveforms throughout measurement.
2. Connect the power plug w/ SW1 off. Leave MA-215 for at least 3 min.
Observe and make sure there is no problem.
3. Turn on SW1 and turn it off after 30 sec.
Check LEDs as soon as power is on.
Observe and smell. Turn off SW1 as quickly as possible if there is any problem.
Touch transformer and smoothing capacitors quickly to check overheat.
4. Turn on SW1 and measure voltage of point-1 through -6.

* Measured data

Voltage [V] date: 2015/7/15 T_A: 29.0 [deg]

Point	Voltage	Note
Point-1	102.1	AC [Vrms] w/ SW1 off
Point-1	102.2	AC [Vrms] w/ SW1 on
Point-2	101.9	AC [Vrms]
Point-3	29.89	DC [V]
Point-4	-30.06	DC [V]
Point-5	30.02	DC [V]
Point-6	-30.03	DC [V]

2. Amp Boards

* Summary

Measuring resistance of VCC and VEE on the Amp Boards w/ DMM and AMM.
This measurement is carried out before Amp Boards are connected to power supply.

* Apparatus

DUT: MA-215 w/o side panels
DMM: Sanwa PC710 + Thermo couple
Analog oscilloscope: Kikusui COS5100 + 1:10 probes
Oscilloscope: Pico Technology PicoScope 4262 + Lenovo ThinkPad X121e + 1:10 probes
Short plug: x2
Dummy load: 8 ohm x2

* Condition

Inputs are short to ground.
Dummy load is used.

* Procedure

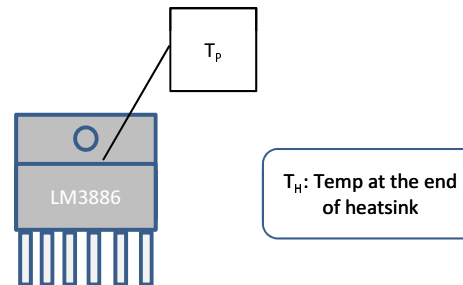
1. Connect analog oscilloscope to outputs.
2. Connect digital oscilloscope to VCC/VEE.
3. Turn on DUT.
Make sure DUT is not oscillating.
4. Measure DC voltage of VCC and VEE.
5. Observe and save waveforms of VCC/VEE at power on/off
6. Measure temperature of IC and heatsink (Ch-R only).

* Measured data

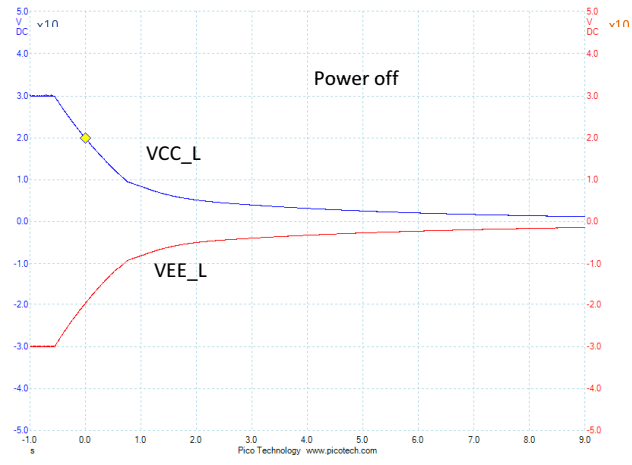
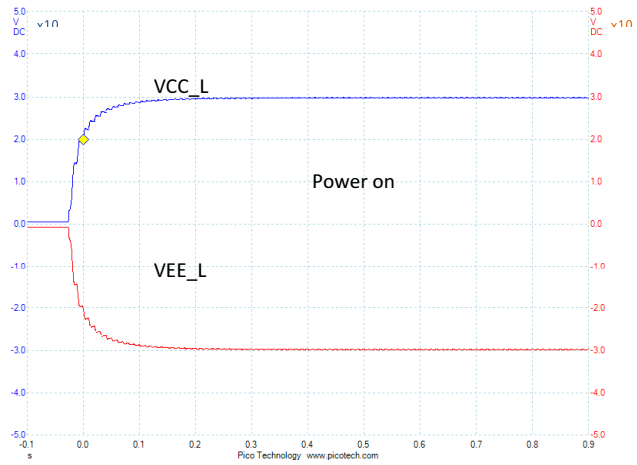
Voltage [V] date: 2015/7/17 T_A: 28 [deg C]

Point	Voltage	Note
VCC of BD1	29.7 [V]	
VEE of BD1	-29.5 [V]	
VCC of BD2	29.8 [V]	
VEE of BD2	-29.7 [V]	T _P =55[deg], T _H =46[deg]

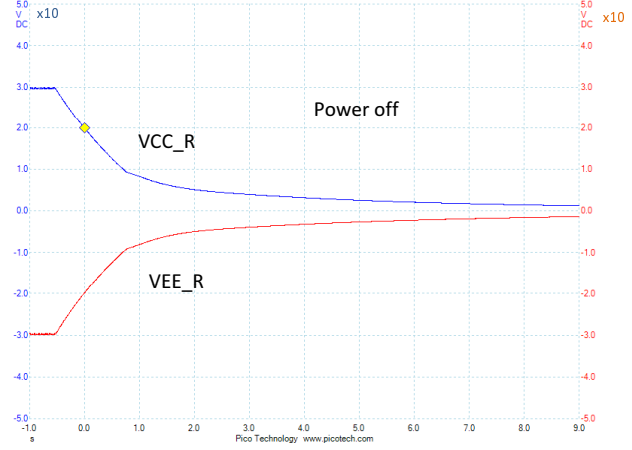
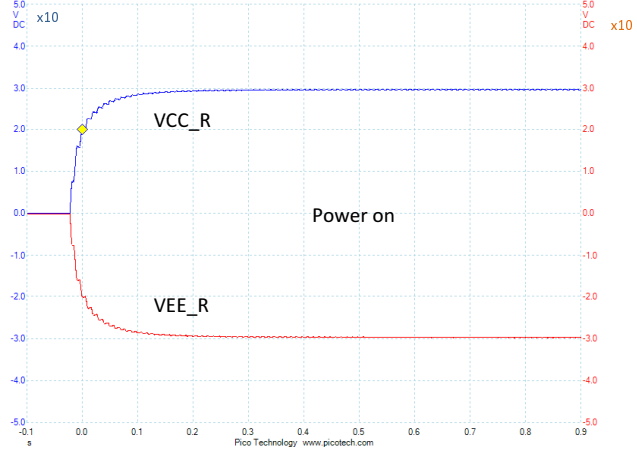
Mains: 103.7 [V]



Waveforms
ch-L



ch-R



Temperature

Point	Temperature	Note
T _P	55 [deg C]	After 10-min. running
T _H	46 [deg C]	After 10-min. running

END OF THIS SHEET