BBI practices comparison Scenario 1: State of the art grounding 0 V fall time \approx 16 ns Rise time ≈ 65 ns -200 V Set-point voltage = -140 VS1 Max. abs. voltage = -291.8 V100 ns 0 s 50 ns 150 ns $-50 \, \mathrm{ns}$ 50 mA 0 A -50 mA **S1** RMS $I_{GND} = 25.45 \text{ mA}$ 50 ns 100 ns 150 ns 0 s -50 nsScenario 2: Ground bypass 0 V Fall time ≈ 16 ns Rise time \approx 65 ns -200 V Set-point voltage = -140 V Max. abs. voltage = -291.8 V-50 ns0 s 50 ns 100 ns 150 ns 0 A -100 mA RMS $I_{GND} = 46.03 \text{ mA}$ 150 ns -50 ns 0 s 50 ns 100 ns Scenario 3: Ground bypass and impedance matching 0 V Pulse width ≈ 20 ns Rise and fall time ≈ 16 ns -100 V Set-point voltage = -140 VMax. abs. voltage = -183.5 V 100 ns 150 ns -50 ns 0 s 50 ns 0 A -50 mA RMS $I_{GND} = 22.96 \text{ mA}$ 100 ns 150 ns 0 s 50 ns $-50 \, \mathrm{ns}$