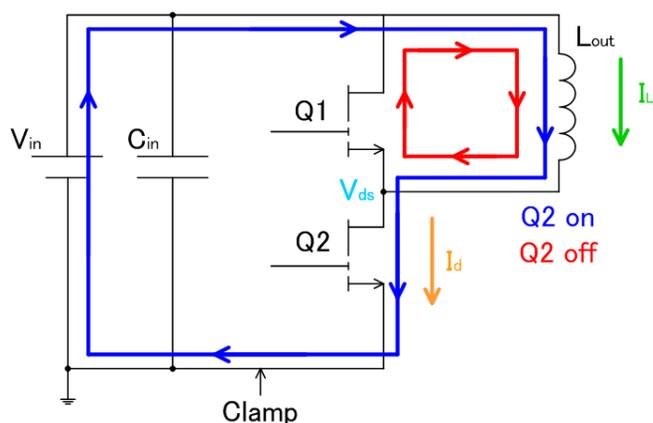


Industries: Power Electronics, Power Supply, Inverters; Categories: R&D, Testing

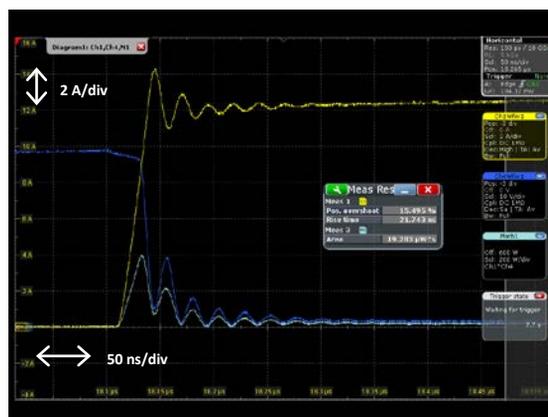
## Evaluating High-Speed Switching Devices

Turn ON/OFF Loss Measurement, di/dt Measurement, Overshoot & Ringing

- In the performance evaluation of high-speed switching devices such as GaN and SiC, a high-bandwidth current sensor that accurately captures the current waveform without being affected by switching noise is required.
- CT6711's performance is suitable for evaluation of switching loss since it has a wide frequency band of DC to 120 MHz and 2.9 ns rise time.
- The CT6711 is able to set three current ranges in order to match the level of the current being measured. In addition, the electromagnetically shielded sensor head is designed to reduce the affects of noise. This makes for a clean waveform with good S/N.
- Current sensing by shunt resistor creates a risk of shorting the measurement circuit when connecting a voltage sensing probe. The current probe is safe to use because of the clamp method (non-contact).



E.g. double pulse test for GaN device.



CH1 (yellow):  $I_d$ , turn on current

CH4 (blue):  $V_{ds}$ , turn on voltage

Math1 (cyan): Switching loss, CH1 x CH4



### Specifications

Output voltage ratio: 10 V/A, 1 V/A, 0.1 V/A

Effect of switching voltage: -120 dB at 100 kHz

Frequency band: 120 MHz

Rise time: less than 2.9 ns

### Products used

- Current Probe: CT6711 (HIOKI)
- Power Supply: 3269 (HIOKI)
- Oscilloscope: RTO1024 (Rohde & Schwarz)

All information correct as of February, 2020. All specifications are subject to change without notice.