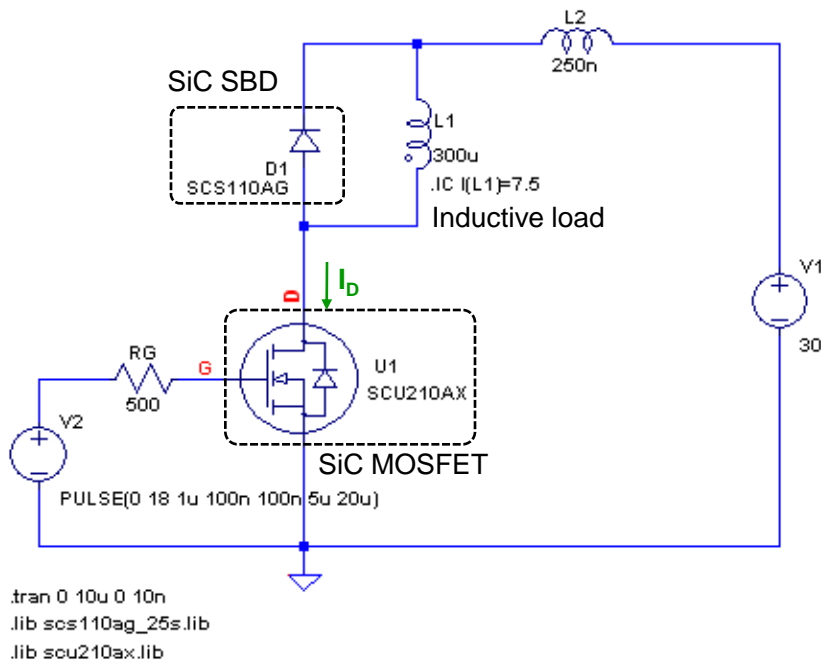
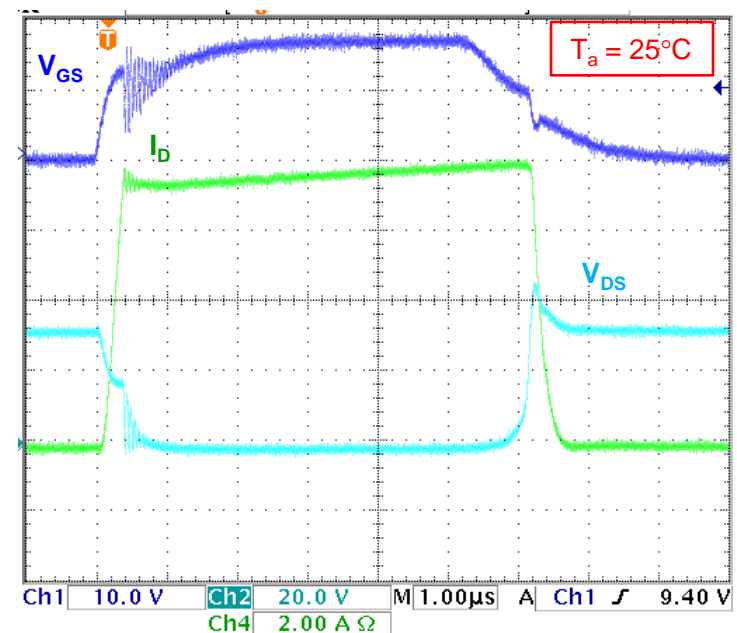


1. Measurement: SiC Device Switching Waveforms
2. Simulation: SiC Device Switching Waveforms,  $T_a=125^{\circ}\text{C}$  [LTspice]
3. Simulation: Power Losses in SiC Devices,  $T_a=125^{\circ}\text{C}$  [LTspice]
4. Measurement: Si Device Switching Waveforms
5. Simulation: Si Device Switching Waveforms,  $T_a=125^{\circ}\text{C}$  [LTspice]
6. Simulation: Power Losses in Si Devices,  $T_a=125^{\circ}\text{C}$  [LTspice]
7. Performance Comparison
  - A. Simulation Folder Index
  - B. Library Files and Symbol Files Location

# 1.Measurement: SiC Device Switching Waveforms

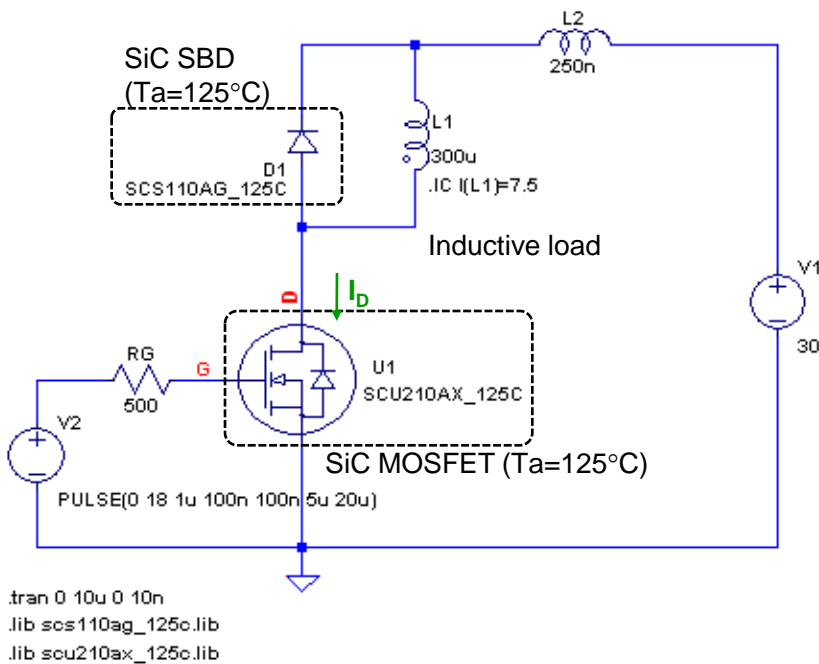


**Test Circuit**

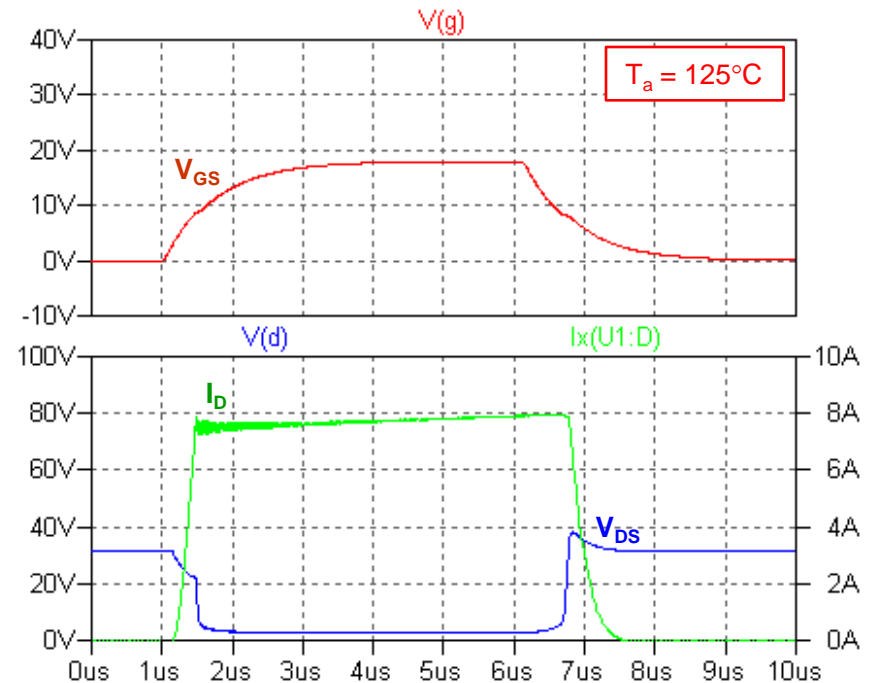


**Measurement Waveform**

## 2.Simulation: SiC Device Switching Waveforms, $T_a=125^{\circ}\text{C}$

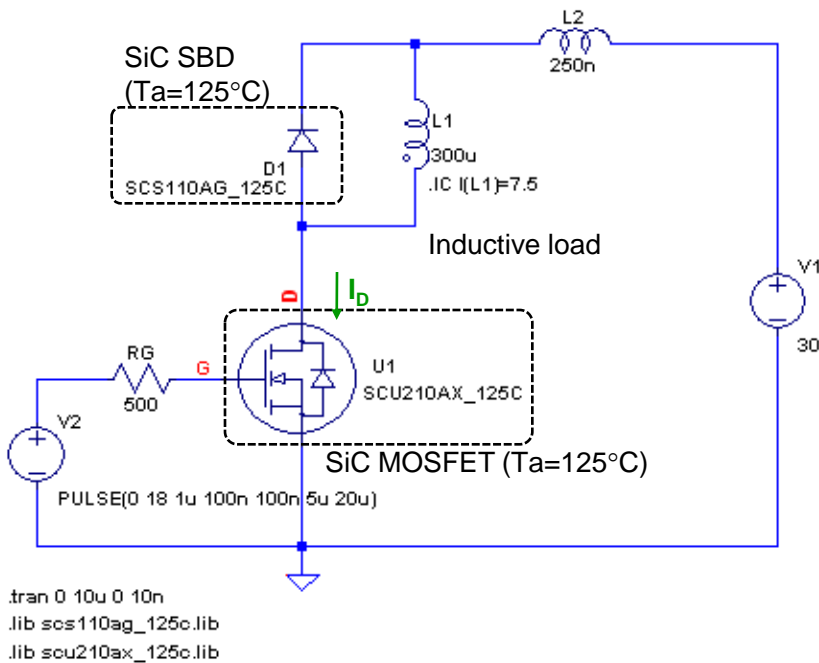


Simulation Circuit

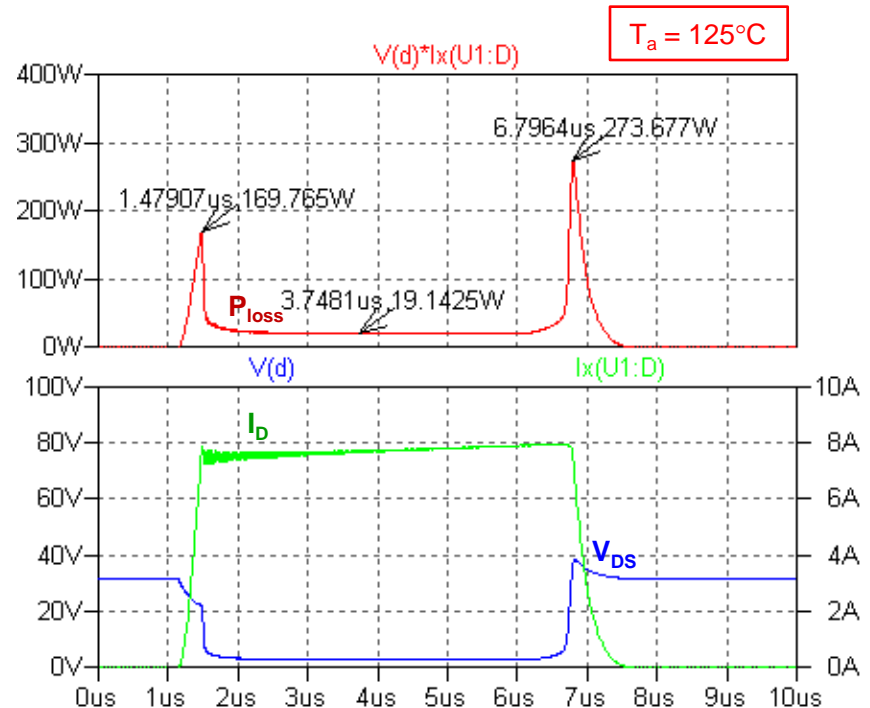


Simulation Waveform

# 3.Simulation: Power Losses in SiC Devices, $T_a=125^{\circ}\text{C}$

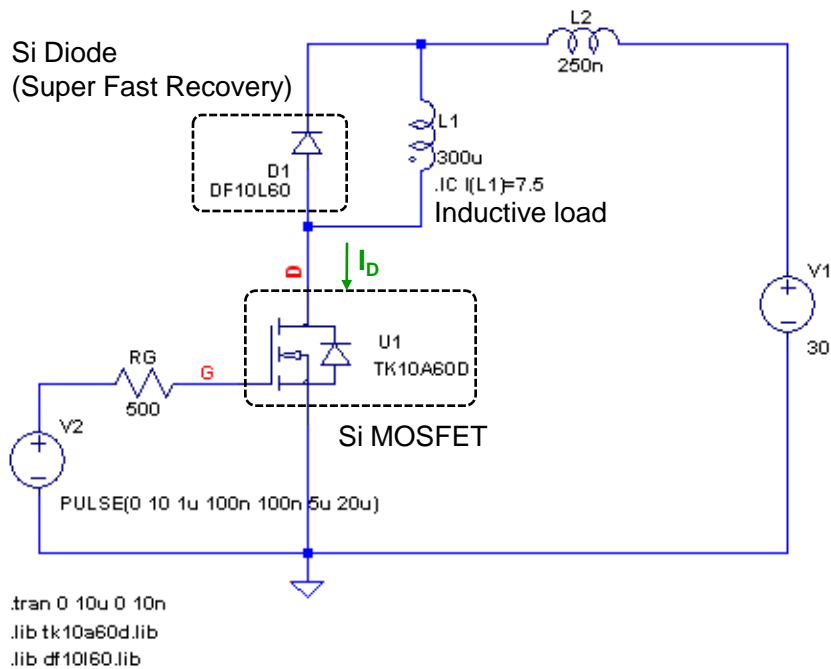


Simulation Circuit

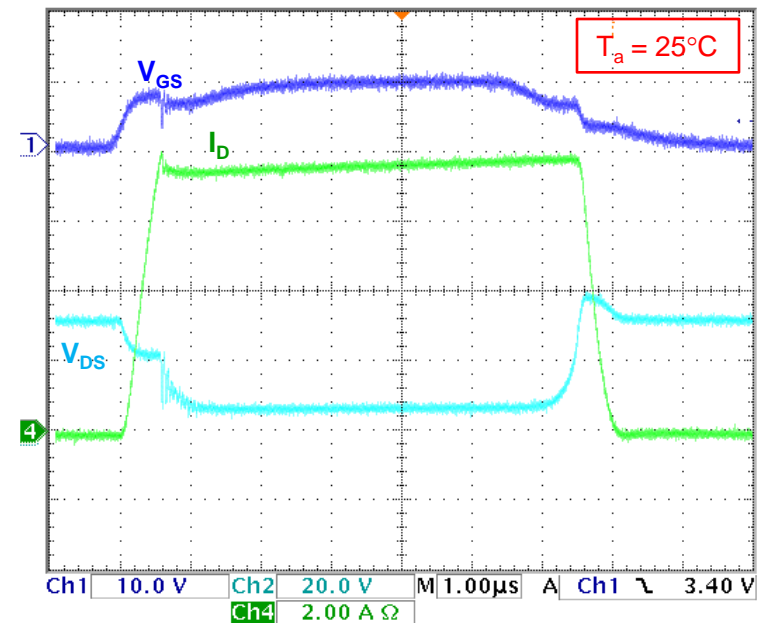


Simulation Waveform

# 4.Measurement: Si Device Switching Waveforms

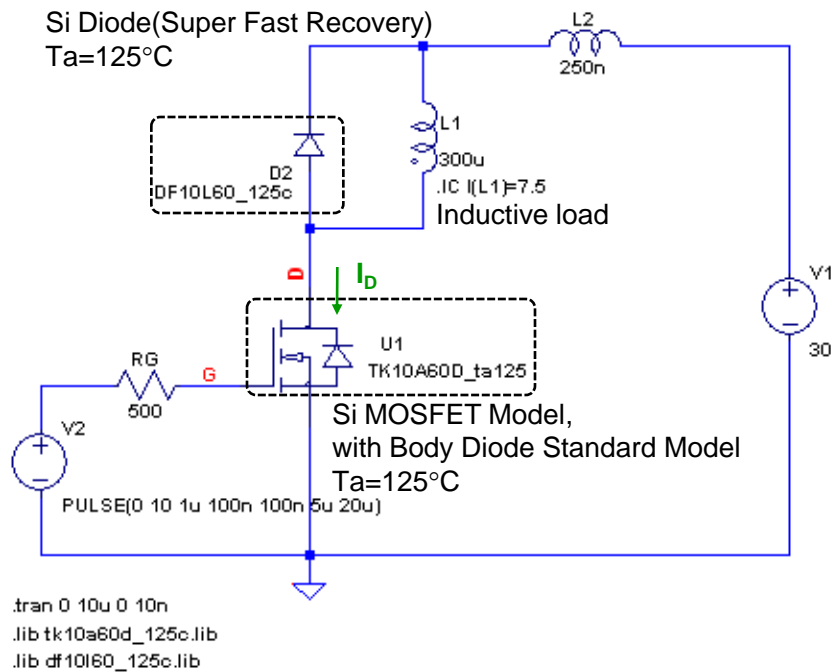


**Test Circuit**

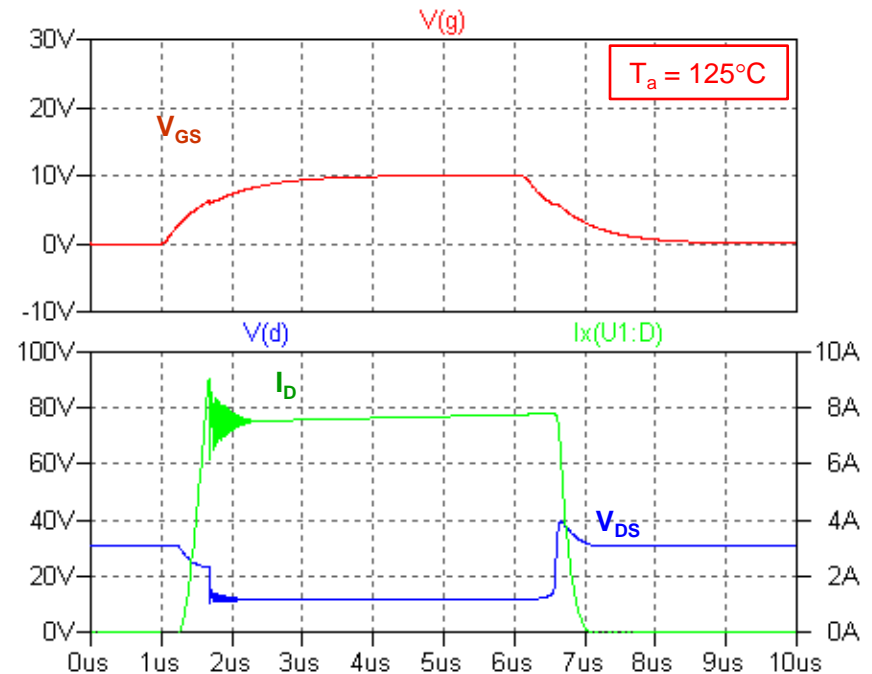


**Measurement Waveform**

# 5.Simulation: Si Device Switching Waveforms, $T_a=125^{\circ}\text{C}$



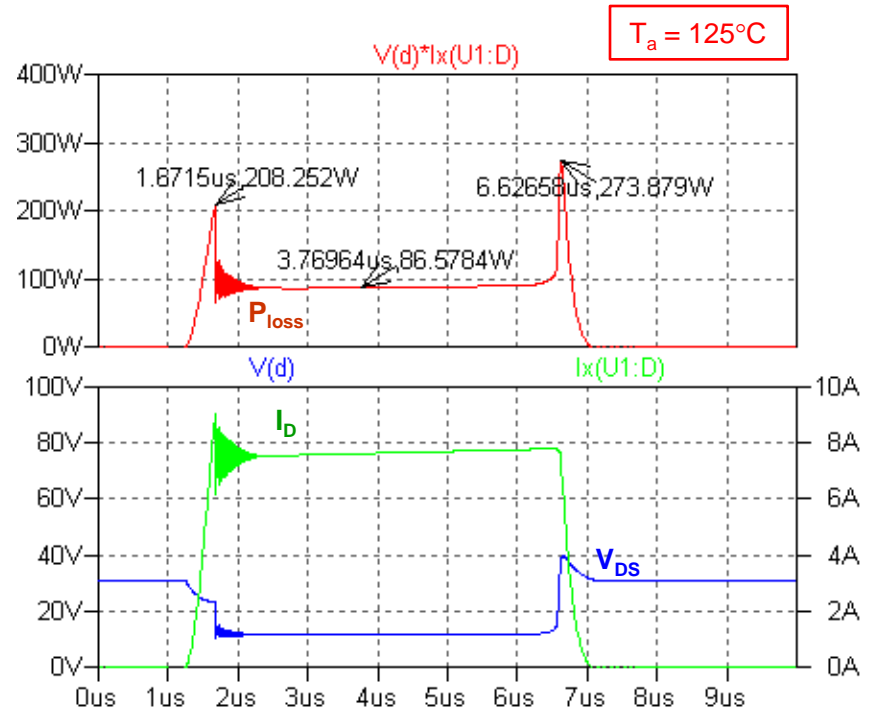
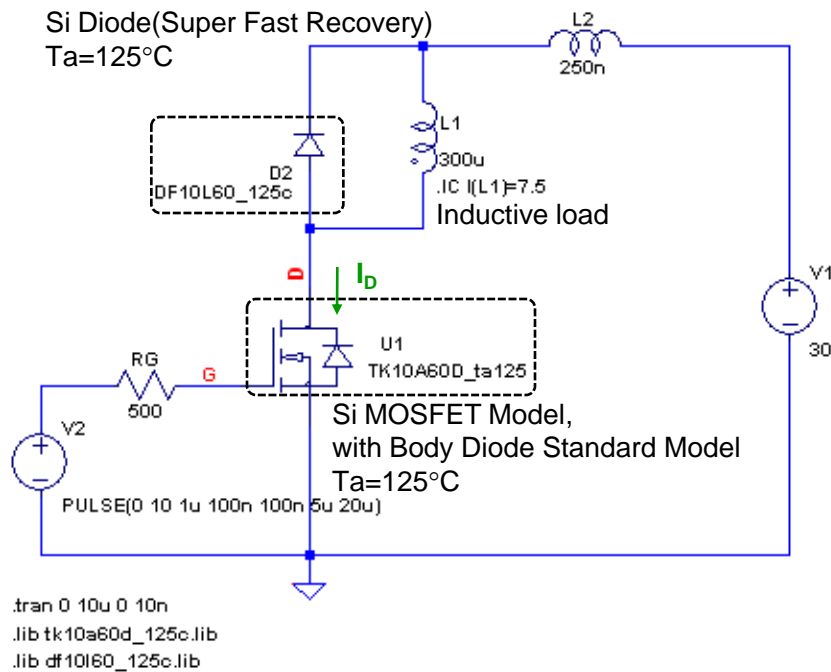
Simulation Circuit



Simulation Waveform

\*SPICE Default Integration Method using Gear

# 6.Simulation: Power Losses in Si Devices, $T_a=125^{\circ}\text{C}$



## 7. Performance Comparison

	<b>P<sub>ON,PEAK</sub> (W)</b>	<b>P<sub>CONDUCTIVE</sub> (W)</b>	<b>P<sub>OFF,PEAK</sub> (W)</b>
Si Devices	208.25	86.58	273.88
SiC Devices	169.77	19.14	273.68
Loss Reduction	18.5%	77.9%	0.1%



# A. Simulation Folder

Topic	Folder
Simulation: SiC Device Switching Waveforms, Ta=125°C	SiC_Sw_125c[LT]
Simulation: Power Losses in SiC Devices, Ta=125°C	
Simulation: Si Device Switching Waveforms, Ta=125°C	Si_Sw_125c[LT]
Simulation: Power Losses in Si Devices, Ta=125°C	

## B. Library Files and Symbol Files Location

...\Sw\_Loss\_Eval\_125c[LT]\Lib

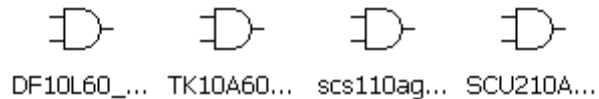
C:\Program Files\LTC\LTspiceIV\lib\

### LIB File



C:\Program Files\LTC\LTspiceIV\lib\sub

### LTspice Symbol



C:\Program Files\LTC\LTspiceIV\lib\sym

1. Copy the library files (.lib) from the folder ...\\Sw\_Loss\_Eval\_125c[LT]\\Lib\\, then paste into the folder C:\\Program Files\\LTC\\LTspiceIV\\lib\\sub
2. Copy the symbol files(.asy) from the folder ...\\Sw\_Loss\_Eval\_125c [LT]\\Lib\\, then paste into the folder C:\\Program Files\\LTC\\LTspiceIV\\lib\\sym