

AP-EVAL-UF3SC120009K4S - BeFAST

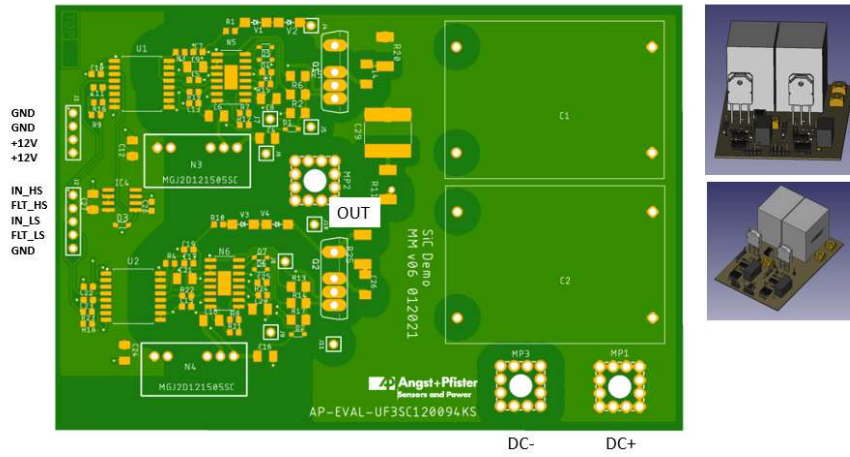
Upgrade to next Generation SiC FET UJ4C075018K4S

The available BeFAST Test-board is equipped with the third generation of UnitedSiC SiC FET offering the lowest available RDSON of 9mOhm at 1200V. The test-board be also can be used for UnitedSiC next generation of SiC FET. As the Double-Pulse test can be run on various voltages Angst+Pfister has done testing with the first available product in this new family offering 750V and 18mOhm in a TO-247-4L (Kelvin-source) package.

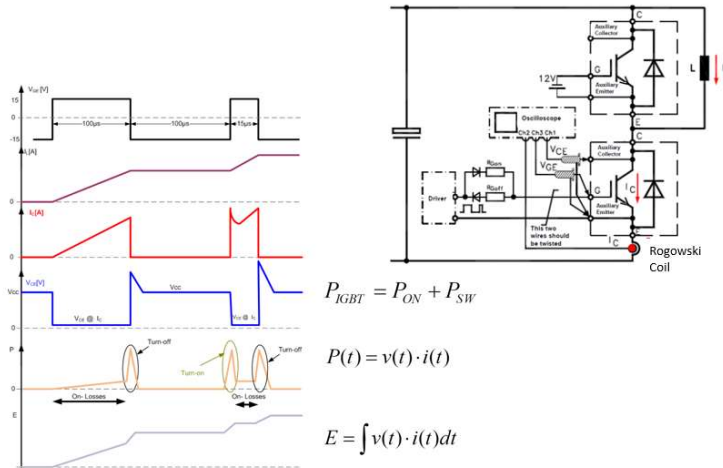
There are a few simple steps to consider when changing to the new UJ4C075018K4S products. In principle the RC-snubber can remain the same. At low side you also can change to a lower C so the ringing will be reduced.(Also as an idea for the 3rd gen products).

Documentation material such as gerber files, layout and BOM will be provided upon purchase.

PCB Layout of AP-EVAL-UF3SC120009K4S:



Setup for Double Pulse Test:

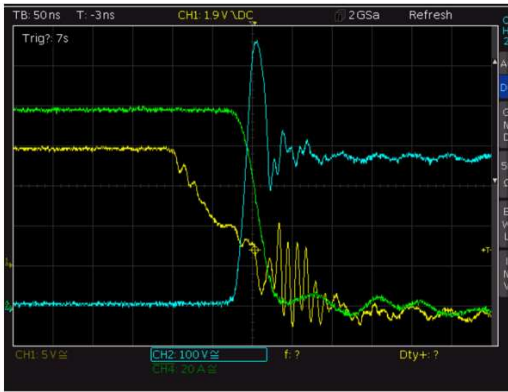


$$P_{IGBT} = P_{ON} + P_{SW}$$

$$P(t) = v(t) \cdot i(t)$$

$$E = \int v(t) \cdot i(t) dt$$

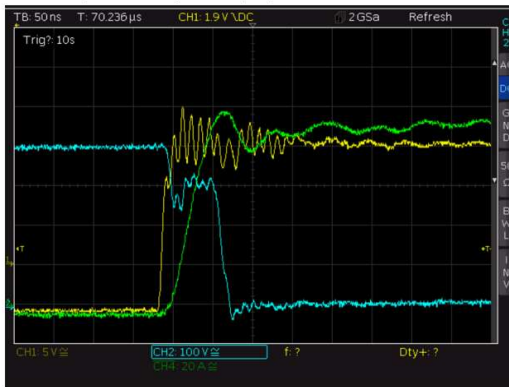
Measurement at High-side (HS), Turn-off at 400V and 100A



R5, R13 : 2R2
 R6, R14 : 56R
 R25, R20 : 4R7
 C14, C26 : 470pF

CH1: V_{GE_HS}
 CH2: V_{DS_HS}
 CH3: V_{GE_LS}
 CH4: I_{C_HS}

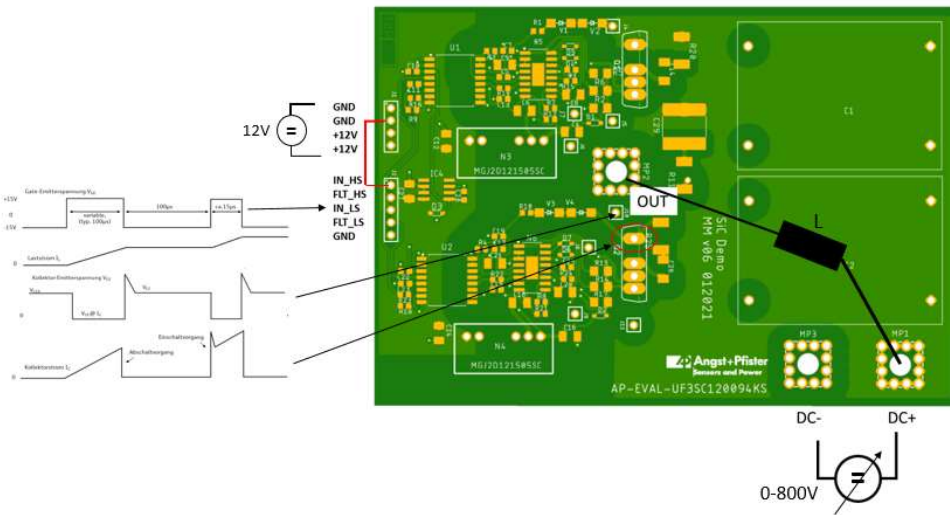
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Setup with Load:



Ordering code:

AP-EVAL-UF3SC120009K4S	Gen.3, SiC FET Test-board, 2x 1200V, 9mOhm
AP-EVAL-UP075018RC	Upgrade Kit (passive), resistors and capacitors
AP-EVAL-Upgrade-UJ4C075018K4S	AP-EVAL-UP075018RC + 2xUJ4C075018K4S (SiC FET)
AP-EVAL-UJ4C075018K4S	AP-EVAL-UF3SC120009K4S + AP-EVAL-Upgrade-UJ4C075018K4S



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