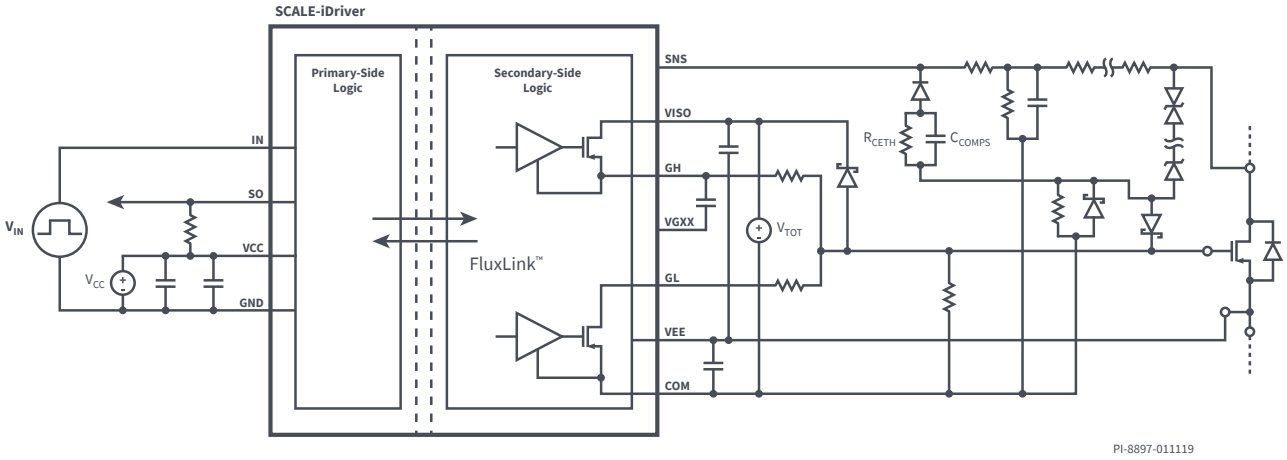
power integrations™

SCALE-iDriver™ (SiC) Gate Driver SIC1182K

- Highest efficiency (8 A) driver for Silicon Carbide switches
- Ultra-fast short-circuit detection (typically <2µs)
- Drain-source overvoltage protection — Advanced Active Clamping (SiC-AAC)
- Configurable gate-drive voltage matches multiple SiC architectures
- Reinforced isolation up to 1200 V

SiC-MOSFET Gate Driver IC



Applications

- UPS
- Photovoltaic
- Welding inverters
- Servo drives
- Industrial applications

Certifications

- Reinforced isolation according to VDE 0884-10 and IEC 60747-10
- UL 1577 certified: E358471 complies with IEC 61000-4-8 and IEC 61000-4-9 standards

Product Details

Parameter	Min	Typical	Max	Unit
Primary-side supply voltage (V_{VCC})	-0.5		6.5	V
Secondary-side total supply voltage (V_{TOT})	-0.5		30	V
Maximum gate sourcing peak current ($I_{G(H)}$)			7.8	A
Maximum gate sinking peak current ($I_{G(L)}$)			7.3	A
Operating switching frequency (fS)			150	kHz
Propagation delay jitter		±5		ns
Turn-on propagation delay time ($t_{P(LH)}$)		265		ns
Turn-off propagation delay time ($t_{P(HL)}$)		270		ns
Minimum turn-on and -off PWM pulses extension ($t_{GE(MIN)}$)			650	ns
Creepage distance primary-secondary (L2)	9.5			mm
Clearance distance primary-secondary (L1)	9.5			mm
Tracking resistance (Comparative Tracking Index - CTI)		600		
Maximum package dissipated power (P_S)			1.79	W
100% production withstanding isolation voltage test (V_{TEST})	6000			V
100% production partial discharge test ($V_{PD(m)}$)	2652			V_{PEAK}

Design Support

Data Sheet	SCALE-iDriver SIC1182K data sheet (www.power.com/sic1182k-data-sheet)
Reference Design	SCALE-iDriver for SiC MOSFET: 2-level half-bridge topologies (RDHP-1901) (www.power.com/rdhp-1901)
Video	Introduction to SCALE-iDriver (www.power.com/scale-idriver-video)