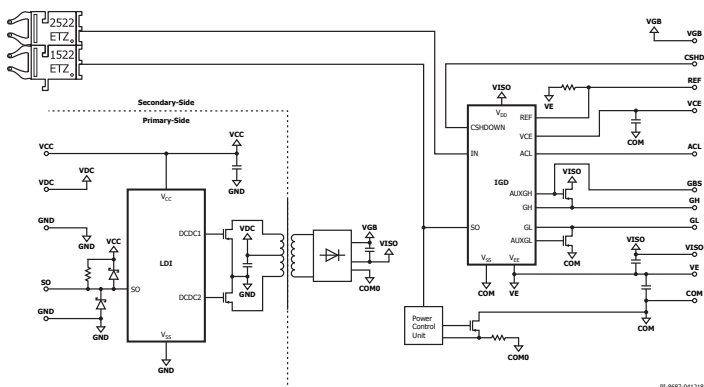


# SCALE™ -2 Gate Driver Core 1SC0450x2

- ±50 A peak output gate current
- 6 W output power
- Integrated DC-DC converter
- Advanced Active Clamping and Dynamic Advanced Active Clamping
- IGBT short-circuit protection

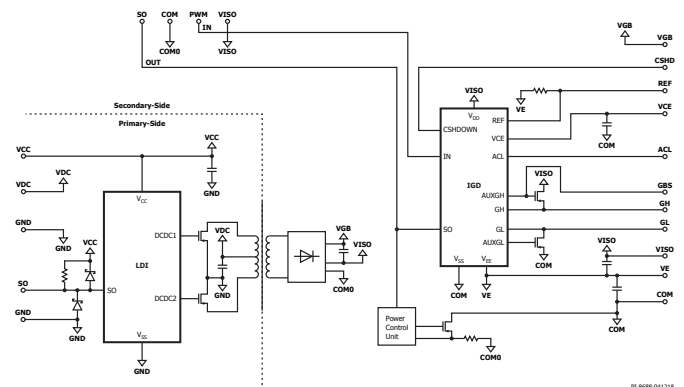
## Single-Channel Gate Driver Core for Blocking Voltages up to 4.5 kV and 6.5 kV

**Application Circuit (1SC0450V)**



PI 8667-041218

**Application Circuit (1SC0450E)**



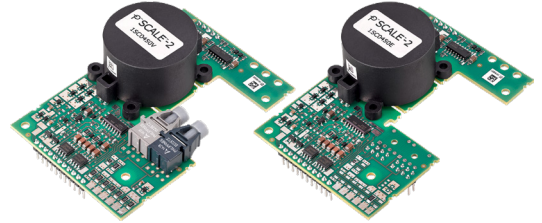
PI 8688-041218

## Applications

- Railway main inverters
- High-voltage DC transmission systems (HVDC)
- STATCOM
- Medium-voltage drives
- Flexible AC transmission systems (FACTS)

## Certifications

- Isolation according to IEC 61800-5-1
- UL compliant



## Product Details

Parameter	Min	Typical	Max	Unit
Nominal supply voltage		15		V
Supply current @ $f_{IN} = 0$ Hz		130		mA
Supply current, full load			880	mA
Output power per channel			8	W
Gate voltage		+15 / -10		V
Peak output current (gate current)	-50		+50	A
Switching frequency ( $f_s$ <sup>1</sup> )			10	kHz
Duty cycle	0		100	%
Turn-on delay		135		ns
Turn-off delay		105		ns
Creepage distance primary-secondary	45			mm
Clearance distance primary-secondary	25			mm
Dielectric test voltage	10300			VAC
Partial discharge extinction voltage	5400 / 7800			V <sub>PEAK</sub>
dv / dt immunity, input-to-output			35	kV/ $\mu$ s
Operating temperature	-40		+85	°C

<sup>1</sup> Maximum switching frequency depends on the IGBT gate charge. See data sheet for actual value of specific driver.

## Design Support

Available Products      1SC0450 Products list ([www.power.com/1SC0450](http://www.power.com/1SC0450))