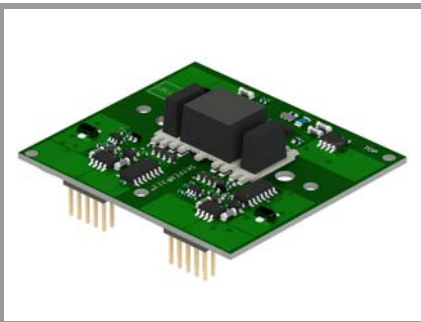


# SKYPER 32 2nd edition



**SKYPER®**

## IGBT Driver Core

Order Nr.: L5046101

Driver with cover - Order Nr.: L5046104

### SKYPER 32 2nd edition

#### Features\*

- Two output channels
- Integrated potential free power supply
- Under voltage protection
- Driver interlock top / bottom
- Dynamic short circuit protection
- Shut down input
- Failure management
- RoHS compliant
- UL recognized, file no. E242581
- IEC 60068-1 (climate) 40/085/56, no condensation and no dripping water permitted, non-corrosive, climate class 3K3 acc. EN60721

#### Typical Applications

- Driver for IGBT modules in bridge circuits in industrial application
- DC bus voltage up to 1200V

#### Footnotes

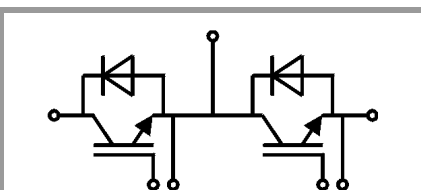
Please Note: the insulation test is not performed as a series test at SEMIKRON and must be performed by the user according to VDE 0110-20

Isolation coordination in compliance with EN61800-5-1 PD2

Operating temperature is real ambient temperature around the driver core  
Degree of protection: IP00

Absolute Maximum Ratings			
Symbol	Conditions	Values	Unit
$V_s$	Supply voltage primary	16	V
$V_{iH}$	Input signal voltage (HIGH)	$V_s + 0.3$	V
$V_{iL}$	Input signal voltage (LOW)	GND - 0.3	V
$I_{outPEAK}$	Output peak current	20	A
$I_{outAVmax}$	Output average current	70	mA
$f_{max}$	Max. switching frequency	50	kHz
$V_{CE}$	Collector emitter voltage sense across the IGBT	1700	V
dv/dt	Rate of rise and fall of voltage secondary to primary side	50	kV/ $\mu$ s
$V_{isolIO}$	Insulation test voltage input - output (AC, rms, 2s)	4000	V
$V_{isolPD}$	Partial discharge extinction voltage, rms, $Q_{PD} \leq 10pC$	1500	V
$V_{isol12}$	Insulation test voltage output 1 - output 2 (AC, rms, 2s)	1500	V
$R_{Gon\ min}$	Minimum rating for external $R_{Gon}$	1.2	$\Omega$
$R_{Goff\ min}$	Minimum rating for external $R_{Goff}$	1.2	$\Omega$
$Q_{out/pulse}$	Max. rating for output charge per pulse	9	$\mu$ C
$T_{op}$	Operating temperature	-40 ... 105	$^{\circ}$ C
$T_{stg}$	Storage temperature	-40 ... 85	$^{\circ}$ C

Characteristics					
Symbol	Conditions	min.	typ.	max.	Unit
$V_s$	Supply voltage primary side	14.4	15	15.6	V
$I_{s0}$	Supply current primary (no load)		80		mA
	Supply current primary side (max.)			700	mA
$V_i$	Input signal voltage on / off		15 / 0		V
$V_{IT+}$	Input threshold voltage (HIGH)			12.3	V
$V_{IT-}$	Input threshold voltage (LOW)	4.6			V
$R_{iN}$	Input resistance (switching/HALT signal)		10		k $\Omega$
$V_{G(on)}$	Turn on output voltage		15		V
$V_{G(off)}$	Turn off output voltage		-7		V
$f_{ASIC}$	Asic system switching frequency		8		MHz
$t_{d(on)O}$	Input-output turn-on propagation time		1.1		$\mu$ s
$t_{d(off)O}$	Input-output turn-off propagation time		1.1		$\mu$ s
$t_{d(err)}$	Error input-output propagation time	5.4		7.9	$\mu$ s
$t_{pRESET}$	Error reset time		0.009		ms
$t_{TD}$	Top-Bot interlock dead time		3	4.3	$\mu$ s
$C_{ps}$	Coupling capacitance prim sec		12		pF
w	weight		28		g
MTBF	Mean Time Between Failure		4.2		$10^6$ h



Driver Core

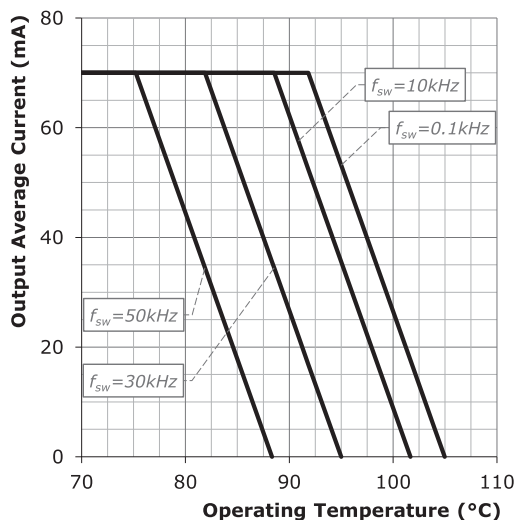


Fig. 1: Maximum Output Current

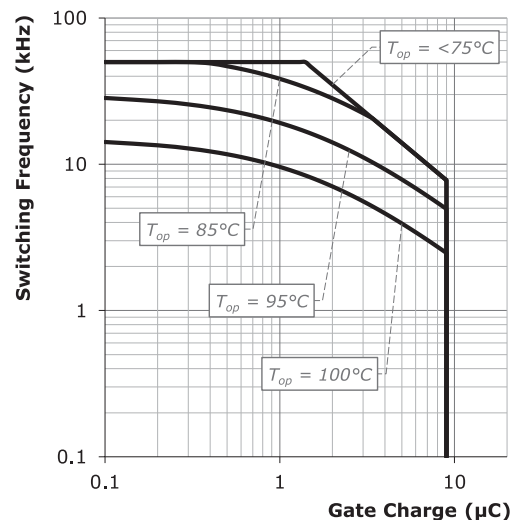


Fig. 2: Maximum Switching Frequency

This is an electrostatic discharge sensitive device (ESDS) due to international standard IEC 61340.

### \*IMPORTANT INFORMATION AND WARNINGS

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