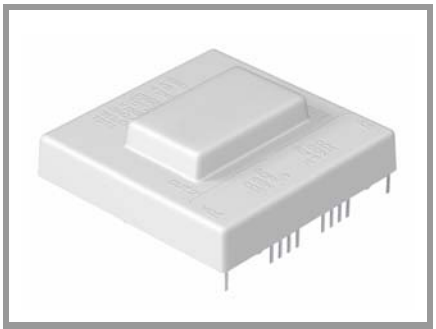
SKHI 22A R



SEMIDRIVER™

Hybrid Dual IGBT Driver

Order Number
L5071601

SKHI 22A R

Features*

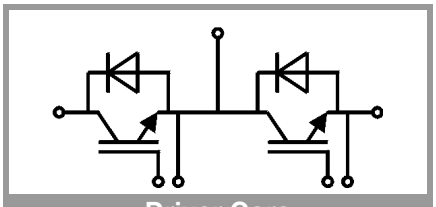
- Two output channels
- Integrated power supply on the secondary sides
- CMOS compatible inputs
- Short circuit protection by V_{CE} monitoring and switch off
- Drive interlock top / bottom
- Insulation by transformers
- Under voltage protection
- Error latch / output
- RoHS compliant

Typical Applications

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

Footnotes

1) See Technical Explanation chapter "Electrical Characteristics"
2) Typ. 5V at R_{CE} = 36 kΩ, C_{CE} = 470 pF, R_{VCE} = 1 kΩ



Driver Core

Absolute Maximum Ratings

Symbol	Conditions	Values	Unit
V_s	Supply voltage primary	18	V
V_{iH}	Input signal voltage (HIGH)	Vs + 0.3	V
$I_{outPEAK}$	Output peak current	20	A
$I_{outAVmax}$	Output average current	40	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/µs
$V_{isol\ IO}$	Insulation test voltage input - output (AC, rms, 2s)	4000	V
V_{isol12}	Insulation test voltage output 1 - output 2 (AC, rms, 2s)	1500	V
$R_{Gon\ min}$	Minimum rating for external R_{Gon}	3	Ω
$R_{Goff\ min}$	Minimum rating for external R_{Goff}	3	Ω
$Q_{out/pulse}$	Max. rating for output charge per pulse[1)]	4	µC
T_{op}	Operating temperature	-40 ... 85	°C
T_{stg}	Storage temperature	-40 ... 85	°C

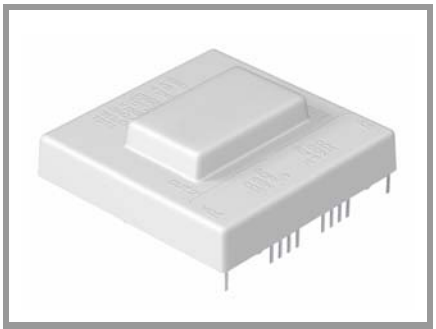
Characteristics

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.)			290	mA
V_i	Input signal voltage on / off		15 / 0		V
V_{IT+}	Input threshold voltage (HIGH)			12.5	V
V_{IT-}	Input threshold voltage (LOW)	4.5			V
R_{IN}	Input resistance		10		kΩ
$V_{G(on)}$	Turn on output voltage		15		V
$V_{G(off)}$	Turn off output voltage		-7		V
R_{GE}	Internal gate-emitter resistance		22		kΩ
f_{ASIC}	Asic system switching frequency		8		MHz
$t_{d(on)IO}$	Input-output turn-on propagation time	0.85	1	1.15	µs
$t_{d(off)IO}$	Input-output turn-off propagation time	0.85	1	1.15	µs
$t_{d(err)}$	Error input-output propagation time		0.6		µs
$t_{pERRESET}$	Error reset time		9		µs
t_{TD}	Top-Bot interlock dead time		4.3		µs
$V_{CE\ sat}$	Reference voltage for V_{CE}-monitoring[2)]		5	10	V
C_{ps}	Coupling capacitance prim sec		12		pF
w	weight		45		g
MTBF	Mean Time Between Failure Ta = 40°C		2		10^6h

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

***IMPORTANT INFORMATION AND WARNINGS**

The specifications of SEMIKRON products may not be considered as guarantee or assurance of product characteristics ("Beschaffenheitsgarantie"). The specifications of SEMIKRON products describe only the usual characteristics of products to be expected in typical applications, which may still vary depending on the specific application. Therefore, products must be tested for the respective application in advance. Application adjustments may be necessary. The user of SEMIKRON products is responsible for the safety of their applications embedding SEMIKRON products and must take adequate safety measures to prevent the applications from causing a physical injury, fire or other problem if any of SEMIKRON products



SEMIDRIVER™

Hybrid Dual IGBT Driver

Order Number
L5071601

SKHI 22A R

Features*

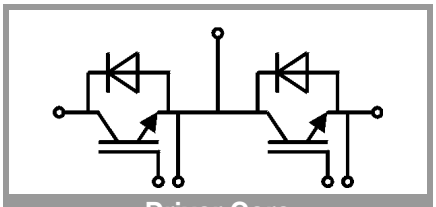
- Two output channels
- Integrated power supply on the secondary sides
- CMOS compatible inputs
- Short circuit protection by V_{CE} monitoring and switch off
- Drive interlock top / bottom
- Insulation by transformers
- Under voltage protection
- Error latch / output
- RoHS compliant

Typical Applications

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

Footnotes

[1)] See Technical Explanation chapter "Electrical Characteristics"
[2)] Typ. 5V at R_{CE} = 36 kΩ, C_{CE} = 470 pF, R_{VCE} = 1 kΩ



Driver Core

become faulty. The user is responsible to make sure that the application design is compliant with all applicable laws, regulations, norms and standards. Except as otherwise explicitly approved by SEMIKRON in a written document signed by authorized representatives of SEMIKRON, SEMIKRON products may not be used in any applications where a failure of the product or any consequences of the use thereof can reasonably be expected to result in personal injury. No representation or warranty is given and no liability is assumed with respect to the accuracy, completeness and/or use of any information herein, including without limitation, warranties of non-infringement of intellectual property rights of any third party. SEMIKRON does not assume any liability arising out of the applications or use of any product; neither does it convey any license under its patent rights, copyrights, trade secrets or other intellectual property rights, nor the rights of others. SEMIKRON makes no representation or warranty of non-infringement or alleged non-infringement of intellectual property rights of any third party which may arise from applications. Due to technical requirements our products may contain dangerous substances. For information on the types in question please contact the nearest SEMIKRON sales office. This document supersedes and replaces all information previously supplied and may be superseded by updates. SEMIKRON reserves the right to make changes.