

# SKHI 22B R



## SEMIDRIVER™

### Hybrid Dual IGBT Driver

Order Number  
L5071602

### SKHI 22B 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

<sup>1)</sup> See Technical Explanation chapter "Electrical Characteristics"

<sup>2)</sup> Typ. 5V at  $R_{CE} = 36 \text{ k}\Omega$ ,  $C_{CE} = 470 \text{ pF}$ ,  $R_{VCE} = 1 \text{ k}\Omega$

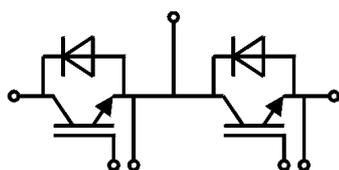
Absolute Maximum Ratings			
Symbol	Conditions	Values	Unit
$V_s$	Supply voltage primary	18	V
$V_{iH}$	Input signal voltage (HIGH)	5 + 0.3	V
$I_{outPEAK}$	Output peak current	20	A
$I_{outAVmax}$	Output average current	40	mA
$f_{max}$	Max. switching frequency	50	kHz
$V_{CE}$	Collector emitter voltage sense across the IGBT	1700	V
dv/dt	Rate of rise and fall of voltage secondary to primary side	50	kV/ $\mu$ s
$V_{isolIO}$	Insulation test voltage input - output (AC, rms, 2s)	4000	V
$V_{isol12}$	Insulation test voltage output 1 - output 2 (AC, rms, 2s)	1500	V
$R_{Gon \text{ min}}$	Minimum rating for external $R_{Gon}$	3	$\Omega$
$R_{Goff \text{ min}}$	Minimum rating for external $R_{Goff}$	3	$\Omega$
$Q_{out/pulse}$	Max. rating for output charge per pulse <sup>1)</sup>	4	$\mu$ C
$T_{op}$	Operating temperature	-40 ... 85	$^{\circ}$ 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
$I_{SO}$	Supply current primary (no load)		80		mA
	Supply current primary side (max.)			290	mA
$V_i$	Input signal voltage on / off		5 / 0		V
$V_{IT+}$	Input threshold voltage (HIGH)			3.9	V
$V_{IT-}$	Input threshold voltage (LOW)	1.5			V
$R_{IN}$	Input resistance		3.3		k $\Omega$
$V_{G(on)}$	Turn on output voltage		15		V
$V_{G(off)}$	Turn off output voltage		-7		V
$R_{GE}$	Internal gate-emitter resistance		22		k $\Omega$
$f_{ASIC}$	Asic system switching frequency		8		MHz
$t_{d(on)IO}$	Input-output turn-on propagation time	0.85	1	1.15	$\mu$ s
$t_{d(off)IO}$	Input-output turn-off propagation time	0.85	1	1.15	$\mu$ s
$t_{d(terr)}$	Error input-output propagation time		0.6		$\mu$ s
$t_{pERRESET}$	Error reset time		9		$\mu$ s
$t_{TD}$	Top-Bot interlock dead time	0		4.3	$\mu$ s
$V_{CE \text{ sat}}$	Reference voltage for $V_{CE}$ -monitoring <sup>2)</sup>		5	10	V
$C_{ps}$	Coupling capacitance prim sec		12		pF
w	weight		45		g
MTBF	Mean Time Between Failure $T_a = 40^{\circ}$ C		2		$10^9$ h

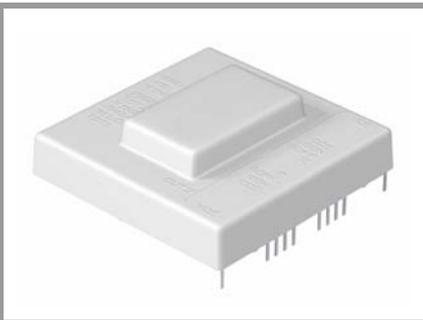
This is an electrostatic discharge sensitive device (ESDS) due to international standard IEC 61340.

#### \*IMPORTANT INFORMATION AND WARNINGS

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Driver Core



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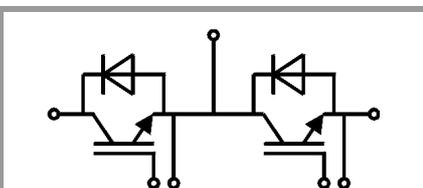
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