

SEMIDRIVER™

Hybrid Dual MOSFET Driver

Order Number
L5071603

SKHI 21A R

Features*

- Drives MOSFET with $V_{DS(on)} < 10\text{ V}$
- Two output channels
- CMOS compatible inputs
- Short circuit protection by V_{DS} monitoring and switch off
- Drive interlock top / bottom
- Insulation by transformers
- Under voltage protection
- Error latch / output
- RoHS compliant

Typical Applications

Driver for MOSFET modules in bridge circuits in industrial applications

Footnotes

¹⁾ See Technical Explanation chapter "Electrical Characteristics"

²⁾ Typ. 5V at $R_{DS} = 18\text{ k}\Omega$, $C_{DS} = 330\text{ pF}$

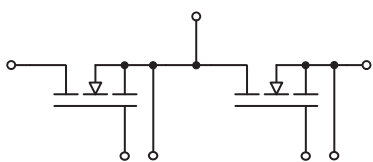
Absolute Maximum Ratings			
Symbol	Conditions	Values	Unit
V_s	Supply voltage primary	18	V
V_{iH}	Input signal voltage (HIGH)	$V_s + 0.3$	V
$I_{outPEAK}$	Output peak current	20	A
$I_{outAVmax}$	Output average current	40	mA
f_{max}	Max. switching frequency	50	kHz
V_{DS}	Drain-source voltage senses across the MOSFET	1700	V
dv/dt	Rate of rise and fall of voltage secondary to primary side	50	kV/ μ s
$V_{isol\ IO}$	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	μ 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_{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		k Ω
$V_{G(on)}$	Turn on output voltage		15		V
$V_{G(off)}$	Turn off output voltage		0		V
R_{GS}	Internal gate-source resistance		22		k Ω
f_{ASIC}	Asic system switching frequency		8		MHz
$t_{d(on)IO}$	Input-output turn-on propagation time	0.85	1	1.15	μ s
$t_{d(off)IO}$	Input-output turn-off propagation time	0.85	1	1.15	μ s
$t_{d(err)}$	Error input-output propagation time		0.6		μ s
$t_{pERRESET}$	Error reset time		9		μ s
t_{TD}	Top-Bot interlock dead time		4.3		μ s
$V_{DS(ref)}$	Reference voltage for V_{DS} -monitoring ²⁾		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		10^6 h

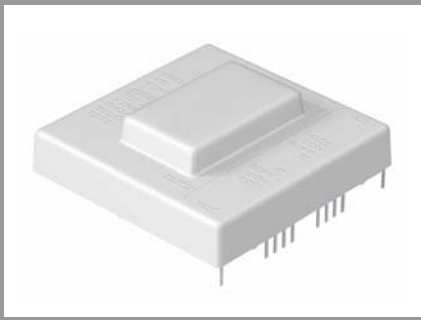
This is an electrostatic discharge sensitive device (ESDS) due to international standard IEC 61340.

*IMPORTANT INFORMATION AND WARNINGS

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Driver Core



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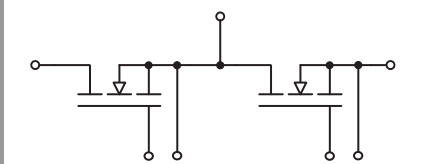
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Driver Core