SKHI 71 ...

SEMIDRIVER™

Sevenpack IGBT and MOSFET Driver

SKHI 71

Preliminary Data

Features

- CMOS-compatible input buffers at V_{DD}=5V
- Short-circuit protection by V_{CE}-monitoring and Soft-turn-Off
- Drive interlock top/bottom
- Signal transmission by opto-couplers
- Supply undervoltage protection (13V)
- Error latch / output

Typical Applications

- Driver for IGBT and MOSFET modules in three-phase-bridge circuits, inverter drives, UPS-facilities, etc.

1) At T_a < -25°C the current consumption can be 1,6 times the rated maximum current for the first three operating minutes.

Absolute Maximum Ratings

Symbol	Conditions	Values	Units
V_S	Supply voltage primary	15,6	V
V_{iH}	Input signal voltage	V_S + 0,3	V
$Iout_{PEAK}$	Output peak current	2	A
$Iout_{AVmax}$	Output average current (T_a = 85 °C)	20	mA
f_{max}	Max. switching frequency (C_{GE} < 9nF)	50	kHz
V_{CE}	Collector emitter voltage sense across the IGBT (for 1200V-IGBTs)	900	V
dv/dt	Rate of rise and fall of voltage (secondary to primary side)	15	kV/µs
V_{isolIO}	Isolation test voltage input - output (2 sec. AC)	2500	V
V_{isol12}	Isolation test voltage output 1 - output 2 (2 sec. AC)	1500	V
R_{Gonmin}	Minimum rating of R_{Gon}	10	Ω
$R_{Goffmin}$	Minimum rating for R_{Goff}	10	Ω
$Q_{out/pulse}$	Max. rating for gate T_a = 85 °C	0,7	µC
	charge per pulse T_a = 55 °C	1	µC
T_{op}	Operating temperature	- 40 ... + 85	°C
T_{stg}	Storage temperature	- 40 ... + 85	°C

Characteristics T_a = 25°C, unless otherwise specified

Symbol	Conditions	min.	typ.	max.	Units
V_S	Supply voltage primary	14,4	15,0	15,6	V
I_{SO} 1)	Supply current no load	230		290	mA
	primary side normal op.			550	mA
V_{iT+}	Input threshold voltage (High)	4,0	5,0		V
V_{iT-}	Input threshold voltage (LOW)			1,5	V
R_{in}	Input resistance		60		kΩ
$V_{G(on)}$	Turn on gate voltage output		14,9		V
$V_{G(off)}$	Turn off gate voltage output		-6,5		V
R_{GE}	Internal gate-emitter resistance		20		kΩ
f_{ASIC}	ASIC system switching frequency		8		MHz
$td(on)_{IO}$	Input-output turn-on propagation time	0,3	0,45	0,6	µs
$td(off)_{IO}$	Input-output turn-off propagation time	0,3	0,45	0,6	µs
$t_{d(err)}$	Error input-output propagation time	1,15	1,3	1,5	µs
$t_{pERRRESET}$	Error memory reset time	7	15	27	µs
t_{TD}	Interlock dead time	no interlock		4,1	µs
V_{CEstat}	Reference voltage for V_{CE}-monitoring		5,8		V
t_{blank}	Blanking time		3,5		µs
C_{ps}	Coupling capacitance primary-secondary		40		pF
MTBF	Mean Time Between Failure T_a = 40°C		1		10^6 h
w	weight		99		g
H x B x T	Dimensions		20x57x114		mm

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