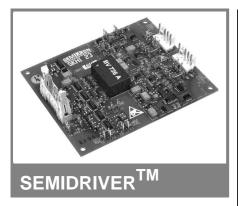
SKHI 23/17 (R) ...



Medium Power Double IGBT Driver

SKHI 23/17 (R)

Features

- SKHI 23/17 drives all SEMIKRON IGBTs with V_{CES} up to 1700 V (VCE-monitoring adjusted from factory for 1700 V-IGBT)
- Double driver circuit for medium power IGBTs, also as two independent single drivers
- CMOS / TTL (HCMOS) compatible input buffers
- Short circuit protection by V_{CE} monitoring
- Soft short circuit turn-off
- Isolation due to transformers (no opto couplers)
- Supply undervoltage monitoring (< 13 V)
- Error memory / ouput signal (LOW or HIGH logic)
- Driver interlock top / bottom
- Internal isolated power supply

Typical Applications

- · High frequency SMPS
- Half and Full bridges
- · Three phase motor inverters
- High power UPS
- 1) This current value is a function of the output load condition
- 2) Operating fsw = 0 Hz
- 3) This value does not consider t_{on} of IGBT and t_{MIN} adjusted by R_{CE} and C_{CE}; see also fig. 14
- 4) Matched to be used with IGBTs < 100 A; for higher currents, see table 4
- 5) With R_{CE} = 36 k Ω , C_{CE} = 470 pF; see fig. 6
- 6) Factory adjusted; other values see table 3

Absolute Maximum Ratings $T_a = 25 ^{\circ}\text{C}$, unless otherwise specified						
Symbol	Conditions	Values	Units			
V _S	Supply voltage primary	18	V			
V _{iH}	Input signal voltage (HIGH) (for 15 V and 5 V input level)	V _S + 0,3	V			
lout _{PEAK}	Output peak current	± 8	Α			
lout _{AV}	Output average current	± 50	mA			
V _{CE}	Collector emitter voltage sense	1700	V			
dv/dt	Rate of rise and fall of voltage (secondary to primary side)	75	kV/μs			
$V_{\text{isol IO}}$	Isolation test volt. IN-OUT (2 sec. AC)	4000	V			
R _{Gon min}	minimal R _{Gon}	2,7	Ω			
R _{Goff min}	minimal R _{Goff}	2,7	Ω			
Q _{out/pulse}	charge per pulse	4,8	μC			
T _{op}	Operating temperature	- 25 + 85	°C			
T _{stg}	Storage temperature	- 25 + 85	°C			

Characteristics T _a = 25 °C, unless otherwise specification					
Symbol	Conditions	min.	typ.	max.	Units
V_S	Supply voltage primary	14,4	15,0	15,6	V
Is	Supply current (max.)		0,321)		Α
I _{SO} ²⁾	Supply current primary side (standby)		0,12		Α
V _{iT+}	Input threshold voltage (HIGH) min.				
	15 V input level	12,5			V
	for 5 V input level	2,4			V
V_{iT-}	Input threshold voltage (LOW) max.				
	for 15 V input level			3,6	V
	for 5 V input level			0,50	V
$V_{G(on)}$	Turn-on output gate voltage		+ 15		V
$V_{G(off)}$	Turn-off output gate voltage		- 8		V
f	Maximum operating frequency		see fig. 15		
td(on) _{IO}	Input-output turn-on propagation time		1,4		μs
td(off) _{IO}	Input-output turn-off propagation time		1,4		μs
t _{d(err)}	Error input-output propagation time		1,0 ³⁾		μs
t _{TD}	Dead time		10 ⁶⁾		μs
V _{CEstat}	Reference voltage for V _{CE} monitoring		$6,3^{5)}$		V
R _{Gon}	Internal gate resistor for ON signal		22 ⁴⁾		Ω
R _{Goff}	Internal gate resistor for OFF signal		22 ⁴⁾		Ω
C_{ps}	Primary to secondary capacitance		12		pF

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