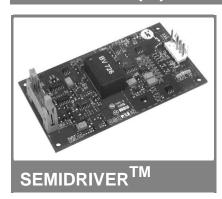
# SKHI 10/17 (R) ...



## High Power IGBT Driver

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#### **Features**

- Single driver circuit for high power IGBTs
- SKHI 10/17 drives all SEMIKRON IGBTs with V<sub>CES</sub> up to 1700 V (factory adjustment of V<sub>CES</sub>-monitoring for 1700V-IGBT)
- CMOS/TTL (HCMOS) compatible input buffers
- Short circuit protection by V<sub>CE</sub> monitoring
- Soft short circuit turn-off
- Isolation due to transformers (no opto couplers)
- Supply undervoltage monitoring (< 13 V)</li>
- Error memory / output signal (LOW or HIGH logic)
- · Internal isolated power supply

## **Typical Applications**

- High frequency SMPS
- · Braking choppers
- · Asymmetrical bridges
- High power UPS
- This current value is a function of the output load conditio
- 2) This value does not consider  $t_{on}$  of IGBT and  $t_{MIN}$  adjusted by  $R_{CE}$  and  $C_{CE}$
- Matched to be used with IGBTs < 100A;</li>for higher currents, see table 2
- 4) With R<sub>CE</sub> = 36 k $\Omega$ , C<sub>CE</sub> = 470 pF; see fig. 6

<b>Absolute Maximum Ratings</b> $T_a = 25  ^{\circ}\text{C}$ , unless otherwise specified						
Symbol	Conditions	Values	Units			
Vs	Supply voltage primary	18	V			
V <sub>iH</sub>	Input signal voltage (HIGH) (for 15 V and 5 V input level)	VS + 0,3	V			
Iout <sub>PEAK</sub>	Output peak current	± 8	Α			
Iout <sub>AVmax</sub>	Output average current (max.)	± 100	mA			
V <sub>CE</sub>	Collector emitter voltage sense	1700	V			
dv/dt	Rate of rise and fall of voltage (secondary to primary side)	75	kV/μs			
V <sub>isol IO</sub>	Isolation test volt. IN-OUT (2 sec. AC)	4000	V			
R <sub>Gon min</sub>	minimal R <sub>Gon</sub>	2,7	Ω			
R <sub>Goff min</sub>	minimal R <sub>Goff</sub>	2,7	Ω			
Q <sub>out/pulse</sub>	charge per pulse	9,6	μC			
T <sub>op</sub>	Operating temperature	- 25 <b>+</b> 85	°C			
T <sub>stg</sub>	Storage temperature	- 25 <b>+</b> 85	°C			

Characte	ristics	T <sub>a</sub> = 25°C,	a = 25°C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units	
V <sub>S</sub>	Supply voltage primary	14,4	15,0	15,6	V	
Is	Supply current (max.)		0,31)		Α	
I <sub>so</sub>	Supply current primary side (no load)		90		mA	
$V_{iT+}$	Input threshold voltage (HIGH) for					
	15 V input level	12,5			V	
	for 5 V input level	2,4			V	
$V_{iT-}$	Input threshold voltage (LOW) 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) <sub>IO</sub>	Input-output turn-on propagation time		1,4		μs	
td(off) <sub>IO</sub>	Input-output turn-off propagation time		1,4		μs	
t <sub>d(err)</sub>	Error input-output propagation time		1,0 <sup>2)</sup>		μs	
V <sub>CEstat</sub>	Reference voltage for V <sub>CE</sub> monitoring		6,34)		V	
R <sub>IN</sub>	Input resistance		10		kΩ	
R <sub>Gon</sub>	Internal gate resistor for ON signal		22 <sup>3)</sup>		Ω	
R <sub>Goff</sub>	Internal gate resistor for OFF signal		22 <sup>3)</sup>		Ω	
C <sub>ps</sub>	Primary to secondary capacitance		12		pF	

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