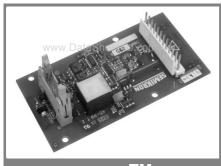
# SKAI 100 E / U



#### SEMIDRIVER ΤM

# **Brake Chopper Driver**

### SKAI 100 E / U

**Preliminary Data** 

### **Features**

- Driver for dc link chopper circuits
- US Version (SKAI 100 U) and European Version (SKAI 100 E)
- Standard logic compatible input buffers
- Short circuit protection by V<sub>CE</sub>
  Chopper frequency up to 5kHz
- Adjustable values for hysteresis and max. dc link voltage
- · Isolation by transformers Supply undervoltage protection (13 V)
- Available in standard SKiiPs and optional in standard modules
- External Reset possible

## **Typical Applications**

DC link voltage controller

Absolute Maximum Ratings						
Symbol	Conditions	Values	Units			
Vs	Supply voltage primary	18	V			
V <sub>iH</sub>	Input signal voltage (HIGH)	5 + 0,3	V			
I <sub>outPEAK</sub>	Output peak current @ 10 µs	1,5	А			
I <sub>outAVmax</sub>	Output average current (f <sub>sw</sub> = 5 kHz)	90	mA			
f <sub>max</sub>	switching frequency (max.)	5	kHz			
V <sub>CE</sub>	Collector-Emitter voltage	1700	V			
dv/dt	Rate of rise and fall of voltage	50	kV/µs			
	secondary to primary side					
V <sub>isolIO</sub>	Isol. test voltage input-output (2 sec. AC)	3500	V			
R <sub>Gonmin</sub>	Minimum rating for R <sub>Gon</sub>	1,5	Ω			
R <sub>Goffmin</sub>	Minimum rating for R <sub>Goff</sub>	1,5	Ω			
T <sub>op</sub>	Operating temperature	- 25 + 85	°C			
T <sub>stq</sub>	Storage temperature	- 40 + 85	°C			

Characteristics T <sub>a</sub> = 25 °C, unless otherwise specified					
Symbol	Conditions	min.	typ.	max.	Units
V <sub>S</sub>	Supply voltage primary side (regulated)	14,4	15	15,6	V
	Supply voltage primary side (unregulated)	20	24	30	V
I <sub>so</sub>	Supply current primary side (no load)		67		mA
	Supply current primary side		77		mA
	(operation, f <sub>swmax</sub> = 5 kHz)				
R <sub>GE</sub>	Internal gate-emitter resistance		22		kΩ
t <sub>d(on)IO</sub>	Input-output turn-on propagation time			20	μs
t <sub>d(off)IO</sub>	Input-output turn-off propagation time			25	μs
t <sub>d(err)</sub>	Error input-output propagation time		10		μs
t <sub>pERRRESET</sub>	Error reset time		300		ms
	Input IGBT extern On (Open Collector)				
V <sub>iOn</sub>	Chopper On @ I <sub>iOn</sub> > 5 mA			5	V
V <sub>iOff</sub>	Chopper Off @ I <sub>iOff</sub> < 1 mA	11,5			V
	Input Error Reset (Open Collector)				
V <sub>iResetActive</sub>	RESET active			2	V
V <sub>iResetNoAct</sub>	RESET inactive	12			V
	Output IGBT				
V <sub>G(on)</sub>	Turn-On Gate Voltage	13,8	14,5	15,2	V
V <sub>G(off)</sub>	Turn-Off Gate Voltage			0,6	V
R <sub>Gon</sub>	Gate On Resistance		15		Ω
R <sub>Goff</sub>	Gate Off Resistance		15		Ω
Qout/pulse	max. rating for output charge per pulse			5	μC
	DC-Link voltage threshold (SKAI 100 E)				
V <sub>ChopperOn</sub>	Chopper On	661	681	701	V
V <sub>ChopperOff</sub>	Chopper Off	647	667	687	V
V <sub>ChopperError</sub>	Chopper Error	725	730	735	V
	DC-Link voltage threshold (SKAI 100 U)				
V <sub>ChopperOn</sub>	Chopper On	779	802	826	V
V <sub>ChopperOff</sub>	Chopper Off	762	786	809	V
V <sub>ChopperError</sub>	Chopper Error	854	860	866	V
θ <sub>Fault</sub>	over temperature	110	115	120	°C
C <sub>ps</sub>	Coupling capacity primary-secondary		12		pF
w	weight		44		g
ТхВхН	Dimensions		125x62x27		mm

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# SKAI 100 E / U

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