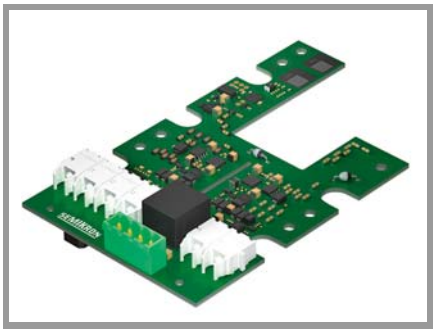
SKYPER PRIME O1700V 1400A ST10



SKYPER®

IGBT Driver for SKM1400GB17R8

Order Number
L5068112 – Driver
22290412

SKYPER PRIME O1700V 1400A ST10

Features*

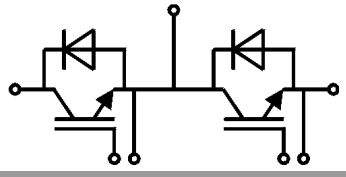
- Dynamic short circuit detection with SoftOff
- Galvanic isolated DC link measurement
- Galvanic isolated temp measurement
- PWM output for sensor signals
- Over voltage trip
- ROHS, UL compliant
- DC Bus up to 1200V
- Optical Interface

Typical Applications

- Regenerative inverters
- Traction
- Large drives

Remarks

- For environmental conditions please check technical explanation
- The driver has to be 100% tested for high voltage before use



Two channel driver

Absolute Maximum Ratings

Symbol	Conditions	Values	Unit
V_s	Supply voltage primary	30	V
P_{in}	Optical power (POF)	-24	dBm
P_{in_off}	Optical power off-state (POF)	-40	dBm
$Iout_{PEAK}$	Output peak current	15	A
$Iout_{AVmax}$	Output average current	100	mA
f_{max}	Max. switching frequency 85°C	10	kHz
			kHz
V_{CE}	Collector emitter voltage sense across the IGBT	1700	V
dv/dt	Rate of rise and fall of voltage secondary to primary side	50	kV/µs
$V_{isol\ IO}$	Insulation test voltage input - output (AC, rms, 2s)	5000	V
$Q_{out/pulse}$	Max. rating for output charge per pulse	10	µC
T_{op}	Operating temperature	-40 ... 85	°C
T_{stg}	Storage temperature	-40 ... 85	°C

Characteristics

Symbol	Conditions	min.	typ.	max.	Unit
V_s	Supply voltage primary side	23.3	24	24.7	V
I_{S0}	Supply current primary (no load)		85		mA
	Supply current primary side (max.)			1000	mA
V_{IT+}	Input treshold voltage			Light	V
V_{IT-}	Input treshold voltage	No light			V
$V_{G(on)}$	Turn on output voltage		15		V
$V_{G(off)}$	Turn off output voltage		-8		V
$t_{d(on)IO}$	Input-output turn-on propagation time		0.4		µs
$t_{d(off)IO}$	Input-output turn-off propagation time		0.4		µs
$t_{d(err)SCP}$	Error sec - prim propagation time		0.6		µs
t_{SIS}	Short pulse suppression - sec		0.4		µs
t_{POR}	Power-On-Reset completed		0.1		s
V_{CEstat}	Reference voltage for V_{CE}-monitoring		8.5		V
t_{bl}	VCE monitoring blanking time (dynamic)		4		µs
V_{DCtrip}	Over voltage trip level		1250		V
R_{Gon}	Driver gate resistor at switch-on		3		Ω
R_{Goff}	Driver gate resistor at switch-off		0		Ω
MTBF	Mean Time Between Failure Ta = 40°C		3		10^6h

Power Supply

PIN	Signal	Function	Specifications
X1:01	IF_PWR_24P	Driver power supply	Stabilized +24V ±3%
X1:02	IF_GND	GND	To be connected to ground
X1:03	IF_PWR_24P	Driver power supply-can be used for parallel power supply connection with other drivers	Stabilized +24V ±3%
X1:04	IF_GND	GND	To be connected to ground

Controller Interface

PIN	Signal	Function	Specifications
X10	IF_ERROR_TOP	ERROR output TOP	noLight = ERROR
X11	IF_HB_TOP	Switching signal input (TOP switch)	noLight=TOP switch off, Light=TOP switch on
X20	IF_ERROR_BOT	ERROR output BOT	noLight=ERROR
X21	IF_HB_BOT	Switching signal input (BOTTOM switch)	noLight=TOP switch off, Light=TOP switch on
X22	IF_TEMP	Digitized NTC signal	PWM output
X23	IF_DC_LINK	Digitized DC Link signal	PWM output

This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, chapter IX.

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