SKYPER 12 press-fit C 450A

SKYPER®

SEMIX P Plug & Play Driver Board

Order Nr. L5066902

SKYPER 12 press-fit C 450A

Features

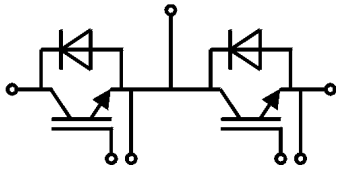
Dynamic short circuit detection with SoftOff
Undervoltage protection prim/sec
Internal power supply
ROHS, UL recognized
20P – Second Source Interface
DC BUS up to 1200V

Typical Applications*

Solar inverters
Power supplies
Motor drives

Remarks

Environmental conditions please see technical explanation



Two channel driver

Absolute Maximum Ratings

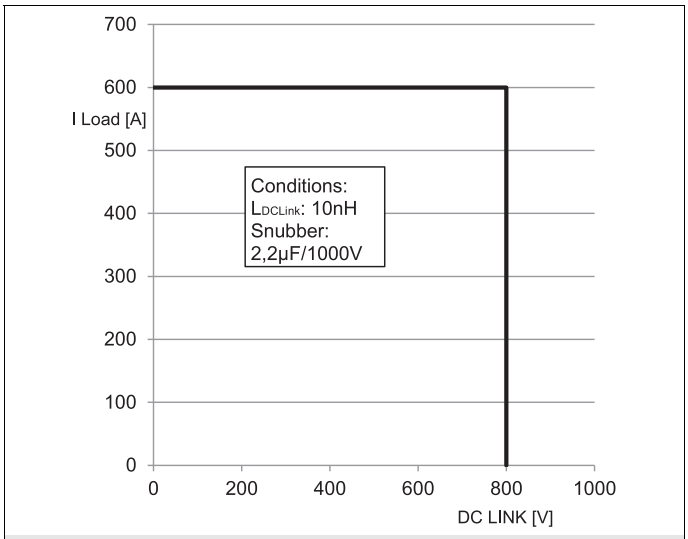
Symbol	Conditions		Values	Unit
V_s	Supply voltage primary		15	V
V_{iH}	Input signal voltage (HIGH)		Vs + 0.4	V
V_{iL}	Input signal voltage (LOW)		GND - 0.4	V
$Iout_{PEAK}$	Output peak current		15	A
$Iout_{AVmax}$	Output average current		50	mA
f_{max}	Max. switching frequency	85 °C	13	kHz
		75 °C	20	kHz
V_{CE}	Collector emitter voltage sense across the IGBT		1200	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)		4000	V
$Q_{out/pulse}$	Max. rating for output charge per pulse		8	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	14.4	15	15.6	V
I_{S0}	Supply current primary (no load)		100		mA
	Supply current primary side (max.)			350	mA
V_i	Input signal voltage on / off		Vs/0		V
V_{IT+}	Input treshold voltage (HIGH)	8.6		10	V
V_{IT-}	Input threshold voltage (LOW)	5		6.7	V
R_{IN}	Input resistance (switching/HALT signal)		30		kΩ
C_{IN}	Input capacitance (switching signals)		1		nF
$V_{G(on)}$	Turn on output voltage		14.6		V
$V_{G(off)}$	Turn off output voltage		-9		V
$t_{d(on)IO}$	Input-output turn-on propagation time		1		µs
$t_{d(off)IO}$	Input-output turn-off propagation time		1		µs
$t_{d(err)SCP}$	Error sec - prim propagation time		0.6		µs
$t_{d(err)HALT}$	Error primary - secondary side propagation time		0.6		µs
t_{TD}	Top-Bot interlock dead time		2		µs
t_{jitter}	Signal transfer prim - sec (total jitter)		25		ns
t_{SIS}	Short pulse suppression		0.395		µs
t_{POR}	Power-On-Reset completed		0.15		s
t_{pRESET}	Error reset time	0.03			ms
V_{CEstat}	Reference voltage for V_{CE}-monitoring		7.5		V
t_{bl}	VCE monitoring blanking time		6.5		µs
T_{tp}	Over temperature protection level - not assembled				°C
R_{Gon}	Driver gate resistor at switch-on		1.306		Ω
R_{Goff}	Driver gate resistor at switch-off		8.1		Ω
MTBF	Mean Time Between Failure Ta = 40°C		7.5		10^6h

Signal Connector

PIN	Signal	Function	Specifications
X10:01	reserved		Open pin
X10:02	IF_PWR_GND	GND	To be connected to ground
X10:03	reserved	ERROR output	Open pin
X10:04	IF_PWR_GND	GND	To be connected to ground
X10:05	IF_PWR_15P	Drive power supply	Stabilised +15V±4%
X10:06	IF_PWR_GND	GND	To be connected to ground
X10:07	PRIM_nERROR_IN	ERROR input	LOW (GND) = External error HIGH (VP) = No error
X10:08	IF_PWR_GND	GND	To be connected to ground
X10:09	IF_nERROR_OUT	ERROR_OUT	HIGH = NO ERROR ; open collector output; max. 30V / 10mA (external pull up resistor)
X10:10	IF_PWR_GND	GND	To be connected to ground
X10:11	IF_HB_TOP	Switching input (TOP)	15V CMOS logic LOW = TOP switch off; HIGH = TOP switch on
X10:12	IF_PWR_GND	GND	To be connected to ground
X10:13	IF_nERROR_OUT	ERROR output	HIGH = NO ERROR ; open collector output; max. 30V / 15mA (external pull up resistor)
X10:14	IF_PWR_GND	GND	To be connected with ground
X10:15	IF_HB_BOT	Switching input (BOTTOM)	15V CMOS logic, LOW = BOT switch off; HIGH = BOT switch on
X10:16	IF_PWR_GND	GND	To be connected to ground
X10:17	reserved		To be connected to ground
X10:18	IF_PWR_GND	GND	To be connected to ground
X10:19	reserved		To be connected to ground
X10:20	IF_PWR_GND	GND	To be connected to ground



Safe Operating Area

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

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