

MiniSKiiP[®] 3

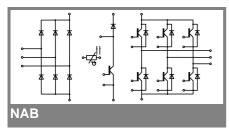
3-phase bridge rectifier + brake chopper + 3-phase bridge inverter SKiiP 34NAB12T4V1

Features

- Trench 4 IGBT's
- Robust and soft freewheeling diodes in CAL technology
- Highly reliable spring contacts for electrical connections
- UL recognised file no. E63532

Remarks

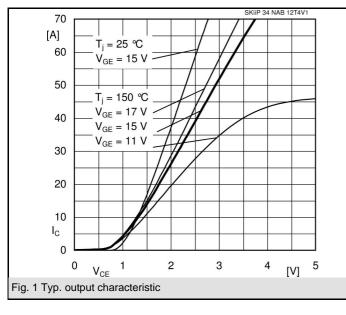
- V_{CEsat} , V_{F} = chip level value Case temp. limited to T_{C} = 125°C max. (for baseplateless modules $T_{\rm C} = T_{\rm S}$)
- product rel. results valid for $T_i \leq 150$ (recomm. $T_{op} = -40 \dots$ +150°C)

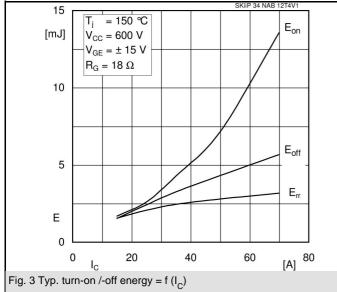


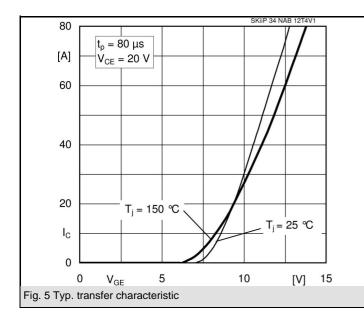
Absolute Maximum Ratings		T_s = 25 °C, unless otherwise specified						
Symbol	Conditions	Values U						
IGBT - Inverter, Chopper								
V _{CES}		1200	V					
I _C	T _s = 25 (70) °C	52 (43)	А					
I _{CRM}		105	А					
V _{GES}		± 20	V					
Tj		- 40 + 175	°C					
Diode - In	verter, Chopper	-						
I _F	T _s = 25 (70) °C	44 (35)	А					
I _{FRM}		105	А					
Т _ј		- 40 + 175	°C					
Diode - R	ectifier	•	•					
V _{RRM}		1600	V					
I _F	T _s = 70 °C	46	А					
I _{FSM}	t _p = 10 ms, sin 180 °, T _i = 25 °C	370	А					
i²t	t _p = 10 ms, sin 180 °, T _j = 25 °C	680	A²s					
Т _ј		- 40 + 150	°C					
Module								
I _{tRMS}	per power terminal (20 A / spring)	80	А					
T _{stg}		- 40 + 125	°C					
V _{isol}	AC, 1 min.	2500	V					

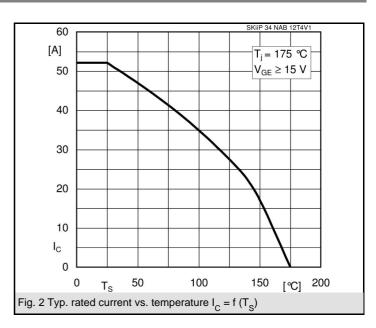
Characte	ristics	T _s = 25 °C	$_{\rm s}$ = 25 °C, unless otherwise specified						
Symbol	Conditions	min.	typ.	max.	Units				
IGBT - Inverter, Chopper									
V _{CEsat}	I _{Cnom} = 35 A, T _j = 25 (150) °C		1,85 (2,25)	2,05 (2,45)	V				
V _{GE(th)}	$V_{GE} = V_{CE}, I_{C} = 1 \text{ mA}$	5	5,8	6,5	V				
V _{CE(TO)}	T _j = 25 (150) °C		0,8 (0,7)	,	V				
r _T	$T_{j} = 25 (150) \ ^{\circ}C$		30 (44)	33 (47)	mΩ				
C _{ies}	$V_{CE} = 25 \text{ V}, \text{ V}_{GE} = 0 \text{ V}, \text{ f} = 1 \text{ MHz}$		1,95		nF				
C _{oes}	$V_{CE} = 25 \text{ V}, V_{GE} = 0 \text{ V}, \text{ f} = 1 \text{ MHz}$		0,155		nF				
C _{res}	V _{CE} = 25 V, V _{GE} = 0 V, f = 1 MHz		0,115		nF				
R _{th(j-s)}	per IGBT		0,85		K/W				
t _{d(on)}	under following conditions		30		ns				
t _r	$V_{CC} = 600 \text{ V}, V_{GE} = \pm 15 \text{ V}$		35		ns				
t _{d(off)}	I _{Cnom} = 35 A, T _j = 150°C		300		ns				
t _r	$R_{Gon} = R_{Goff} = 18 \ \Omega$		55		ns				
E _{on}	inductive load		4,3		mJ				
E _{off}			3,3		mJ				
Diode - Ir	nverter, Chopper								
$V_F = V_{EC}$	I _{Fnom} = 35 A, T _j = 25 (150) °C		2,3 (2,3)	2,6 (2,6)	V				
V _(TO)	T _i = 25 (150) °Č		1,3 (0,9)	1,5 (1,1)	V				
r _T	T _j = 25 (150) °C		29 (40)	31 (43)	mΩ				
R _{th(j-s)}	per diode		1,2		K/W				
I _{RRM}	under following conditions		34		А				
Q _{rr}	I _{Fnom} = 35 A, V _R = 600 V		5,6		μC				
E _{rr}	V _{GE} = 0 V, T _j = 150 °C		2,4		mJ				
	di _F /dt = 1250 A/µs								
Diode -R	ectifier				•				
V _F	I _{Fnom} = 25 A, T _j = 25 °C		1,1		V				
V _(TO)	T _i = 150 °C		0,8		V				
r _T	T _i = 150 °C		13		mΩ				
R _{th(j-s)}	per diode		1,25		K/W				
	ture Sensor								
R _{ts}	3 %, T _r = 25 (100) °C		1000(1670)		Ω				
Mechanic	al Data	I			1				
w			95		g				
Ms	Mounting torque	2		2,5	Nm				

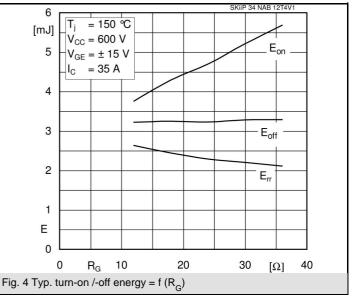
http://store.iiic.cc/

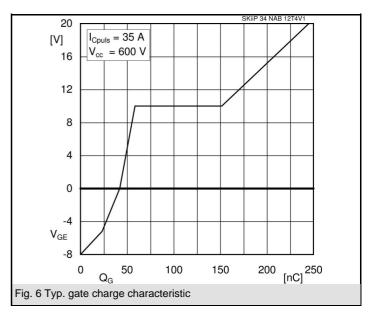




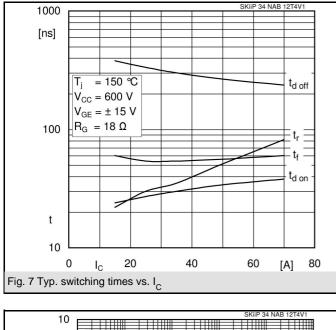


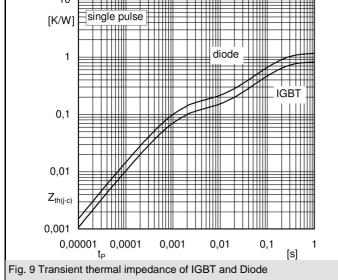


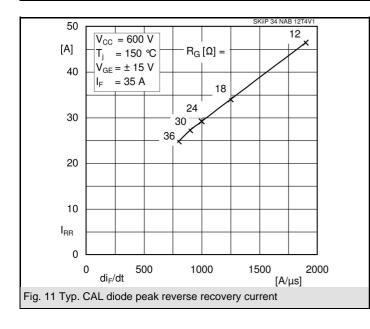


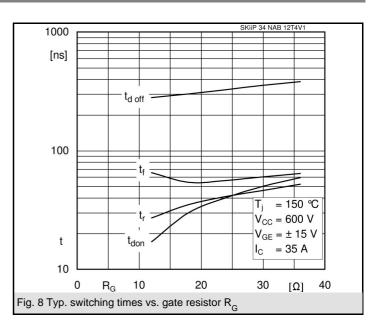


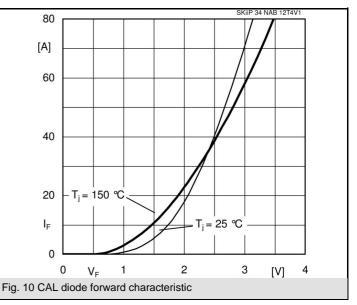
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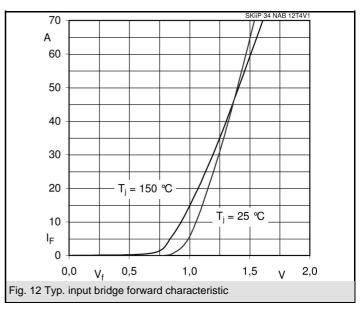




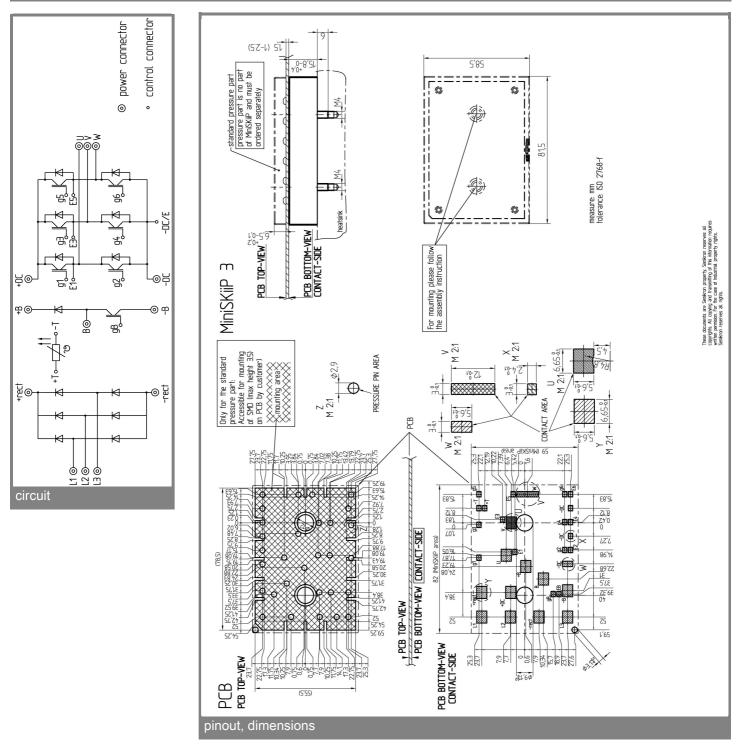








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This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.