SKIIP 11NAB066V1



MiniSKiiP[®] 1

3-phase bridge rectifier + brake chopper + 3-phase bridge inverter

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Features

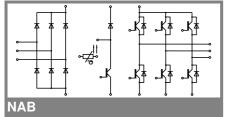
- Trench IGBTs
- Robust and soft freewheeling diodes in CAL technology
- Highly reliable spring contacts for electrical connections
- UL recognised file no. E63532

Typical Applications*

- Inverter up to 3,5 kVA
- Typical motor power 1,5 kW

Remarks

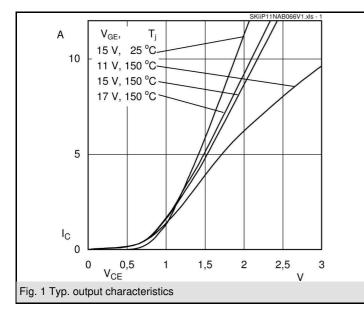
- Case temperature limited to T_C = 125°C max.
- Product reliability results are valid for $T_i = 150^{\circ}C$
- SC data: $t_p \le 6$ s; $V_{GE} \le 15$ V; T_j = 150°C; V_{CC} = 360 V V_{CEsat} , V_F = chip level value

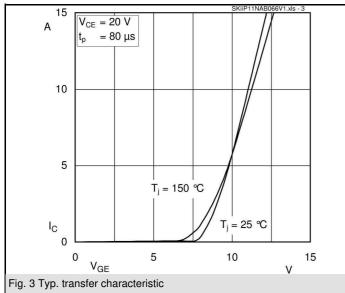


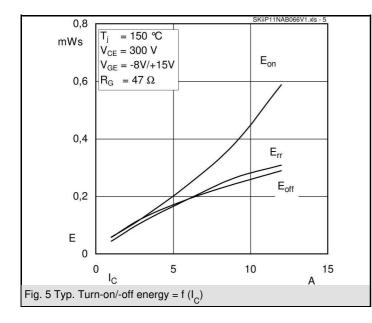
tions Chopper (70) °C, T _j = 150 °C (70) °C, T _j = 175 °C	600 12 (11) 12 (12) 12	Units				
(70) °C, T _j = 150 °C (70) °C, T _j = 175 °C	12 (11) 12 (12) 12	A A				
(70) °C, T _j = 175 °C	12 (11) 12 (12) 12	A A				
(70) °C, T _j = 175 °C	12 (12) 12	А				
1	12					
5		^				
	1.00	A				
	± 20	V				
Diode - Inverter, Chopper						
(70) °C, T _i = 150 °C	12 (12)	A				
(70) °C, T _i = 175 °C	12 (12)	А				
3	12	А				
I _{FRM} t _p = 1 ms 12 A Diode - Rectifier 12 A						
	800	V				
°C	35	А				
ns, sin 180 °, T _i = 25 °C	220	А				
ns, sin 180 °, T _j = 25 °C	240	A²s				
er terminal (20 A / spring)	20	А				
ode	-40+175	°C				
	-40+125	°C				
'n.	2500	V				
	70) °C, $T_j = 150$ °C 70) °C, $T_j = 175$ °C ns, sin 180 °, $T_j = 25$ °C ns, sin 180 °, $T_j = 25$ °C er terminal (20 A / spring) ode	70) °C, $T_j = 150$ °C 12 (12) 70) °C, $T_j = 175$ °C 12 (12) 70) °C, $T_j = 175$ °C 12 (12) 800 12 C 35 ns, sin 180 °, $T_j = 25$ °C 220 ns, sin 180 °, $T_j = 25$ °C 240 er terminal (20 A / spring) 20 ode -40+175 -40+125 -40+125				

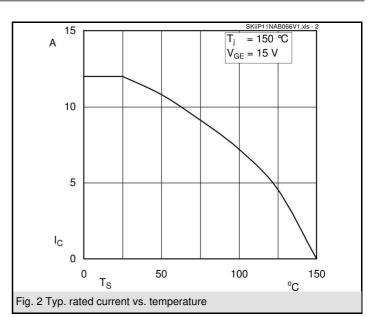
Characte	ristics	T _s = 25 °C	Γ_{s} = 25 °C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units	
IGBT - Inverter, Chopper						
V _{CE(sat)}	I _{Cnom} = 6 A, T _i = 25 (150) °C	1,1	1,45 (1,65)	1,85 (2,05)	V	
V _{GE(th)}	$V_{GE} = V_{CE}, I_{C} = 1 \text{ mA}$		5,8		V	
V _{CE(TO)}	T _j = 25 (150) °C		0,9 (0,7)	1,1 (1)	V	
r _{CE}	T _j = 25 (150) °C		100 (167)	134 (184)	mΩ	
C _{ies}	V _{CE} = 25 V, V _{GE} = 0 V, f = 1 MHz		0,45		nF	
C _{oes}	V _{CE} = 25 V, V _{GE} = 0 V, f = 1 MHz		0,1		nF	
C _{res}	V _{CE} = 25 V, V _{GE} = 0 V, f = 1 MHz		0,05		nF	
R _{CC'+EE'}	spring contact-chip T _s = 25 (150)°C				mΩ	
$R_{th(j-s)}$	per IGBT		2,4		K/W	
t _{d(on)}	under following conditions		20		ns	
t _r	V _{CC} = 300 V, V _{GE} = -8V/+15V		25		ns	
t _{d(off)}	I _{Cnom} = 6 A, T _j = 150 °C		175		ns	
t _f	$R_{Gon} = R_{Goff} = 47 \ \Omega$		60		ns	
$E_{on} \left(E_{off} \right)$	inductive load		0,24 (0,19)	mJ	
Diode - Ir	verter, Chopper					
V _F = V _{EC}	I _F = 6 Å, T _i = 25 (150) °C		1,3 (1,3)	1,6 (1,6)	V	
V _(TO)	T _i = 25 (150) °C		0,9 (0,8)	1 (0,9)	V	
r _T	T _i = 25 (150) °C		67 (83)	100 (117)	mΩ	
R _{th(j-s)}	per diode		3		K/W	
I _{RRM}	under following conditions		11,2		А	
Q _{rr}	I _{Fnom} = 6 A, V _R = 600 V		0,9		С	
Err	V _{GE} = 0 V, T _i = 150°C		0,19		mJ	
	di _F /dt = 520 A/ s					
Diode - R	lectifier				1	
V _F	I _{Fnom} = 15 A, T _i = 25 °C		1,1		V	
V _(TO)	T _i = 150 °C		0,8		V	
r _T	T _i = 150 °C		20		mΩ	
R _{th(j-s)}	per diode		1,5		K/W	
	ture Sensor					
R _{ts}	3 %, T _r = 25 (100) °C		1000(1670)		Ω	
Mechanical Data						
w			35		g	
M _s	Mounting torque	2		2,5	Nm	

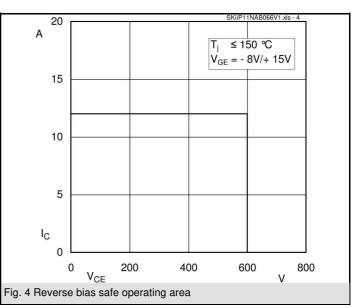
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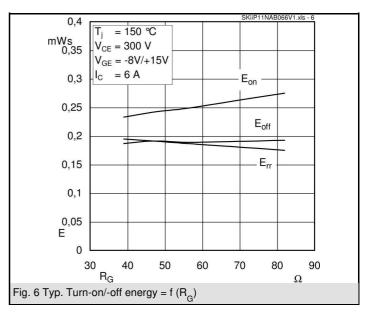




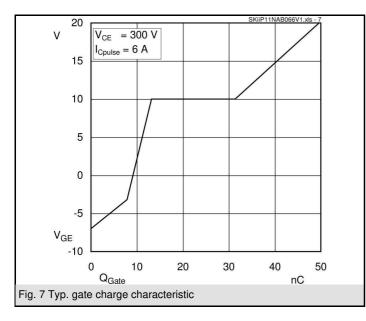


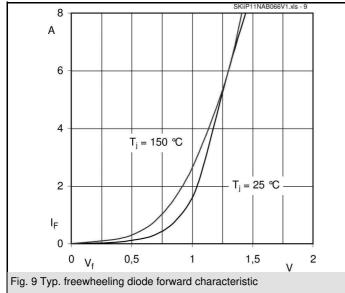


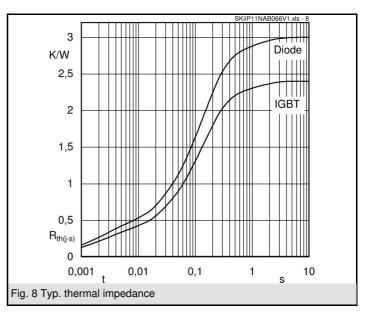


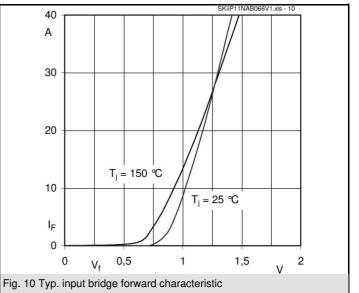


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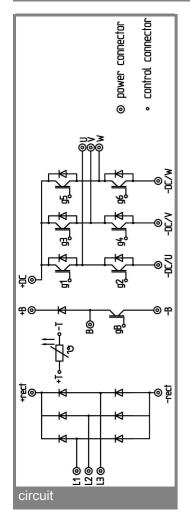


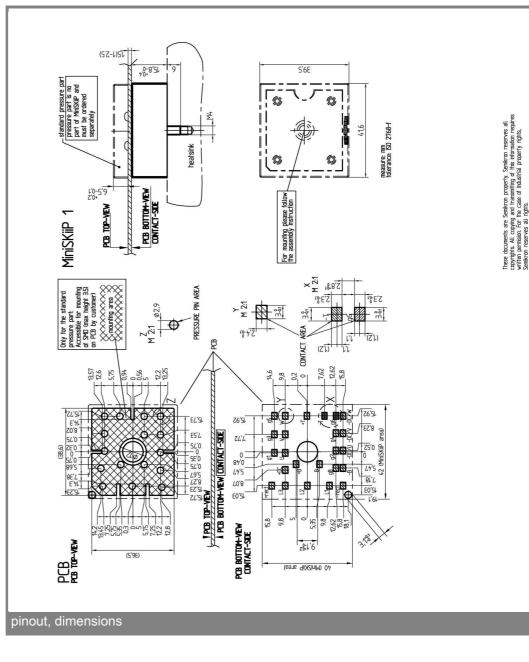






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This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, chapter IX.

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