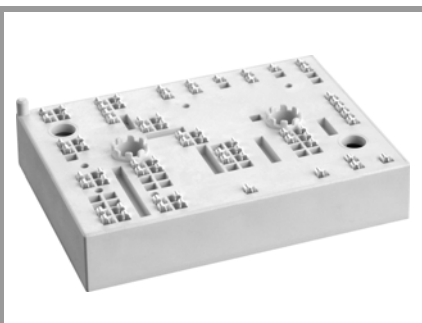


SKiiP 39NAB12T7V1



MiniSKiiP® 3

Converter-Inverter-Brake (CIB)

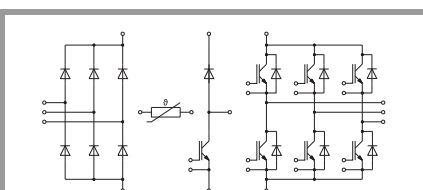
SKiiP 39NAB12T7V1

Features*

- 1200V Generation 7 IGBTs (T7)
- Robust and soft switching freewheeling diodes in CAL technology
- New SKR PEP diode technology for enhanced power and environmental robustness
- Highly reliable spring contacts for electrical connections
- UL recognized: File no. E63532

Remarks

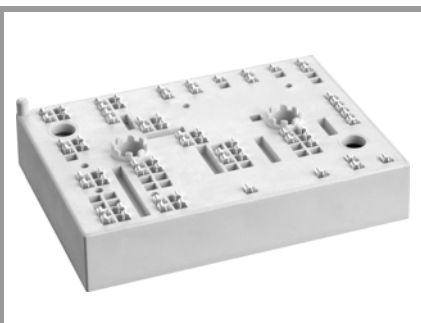
- Max. case temperature limited to $T_C = T_S = 125\text{ °C}$
- Product reliability results valid for $T_j \leq 150\text{ °C}$; $T_{j,op} > 150\text{ °C}$ during overload (Details see AN19-002)
- MiniSKiiP "Technical Explanations" and "Mounting Instructions" are part of the data sheet. Please refer to both documents for further information.
- For storage and case temperature with TIM see document "Technical Explanations Thermal Interface Materials"
- Inverter IGBT: T1 – T6
- Chopper IGBT: T14
- Inverse Diode: D1 – D6
- Freewheeling Diode: D13
- Rectifier Diode: D7 – D12
- All graphs are referring to inverter/rectifier part



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Absolute Maximum Ratings				
Symbol	Conditions		Values	Unit
Inverter - IGBT				
V_{CES}	$T_j = 25\text{ °C}$		1200	V
I_C	$\lambda_{paste} = 0.8\text{ W/(mK)}$	$T_s = 70\text{ °C}$	135	A
		$T_j = 175\text{ °C}$	108	A
I_C	$\lambda_{paste} = 2.5\text{ W/(mK)}$	$T_s = 70\text{ °C}$	169	A
		$T_j = 175\text{ °C}$	137	A
I_{Chom}			150	A
I_{CRM}			300	A
V_{GES}			-20 ... 20	V
t_{psc}	$V_{CC} = 800\text{ V}$ $V_{GE} \leq 15\text{ V}$ $V_{CES} \leq 1200\text{ V}$	$T_j = 175\text{ °C}$	7	μs
T_j			-40 ... 175	$^{\circ}\text{C}$
Chopper - IGBT				
V_{CES}	$T_j = 25\text{ °C}$		1200	V
I_C	$\lambda_{paste} = 0.8\text{ W/(mK)}$	$T_s = 70\text{ °C}$	120	A
		$T_j = 175\text{ °C}$	98	A
I_C	$\lambda_{paste} = 2.5\text{ W/(mK)}$	$T_s = 70\text{ °C}$	143	A
		$T_j = 175\text{ °C}$	116	A
I_{Chom}			100	A
I_{CRM}			200	A
V_{GES}			-20 ... 20	V
t_{psc}	$V_{CC} = 800\text{ V}$ $V_{GE} \leq 15\text{ V}$ $V_{CES} \leq 1200\text{ V}$	$T_j = 175\text{ °C}$	7	μs
T_j			-40 ... 175	$^{\circ}\text{C}$
Inverse - Diode				
V_{RRM}	$T_j = 25\text{ °C}$		1200	V
I_F	$\lambda_{paste} = 0.8\text{ W/(mK)}$	$T_s = 70\text{ °C}$	88	A
		$T_j = 175\text{ °C}$	69	A
I_F	$\lambda_{paste} = 2.5\text{ W/(mK)}$	$T_s = 70\text{ °C}$	106	A
		$T_j = 175\text{ °C}$	85	A
I_{FRM}			300	A
I_{FSM}	$t_p = 10\text{ ms, sin } 180^{\circ}, T_j = 150\text{ °C}$		760	A
T_j			-40 ... 175	$^{\circ}\text{C}$
Freewheeling - Diode				
V_{RRM}	$T_j = 25\text{ °C}$		1200	V
I_F	$\lambda_{paste} = 0.8\text{ W/(mK)}$	$T_s = 70\text{ °C}$	80	A
		$T_j = 175\text{ °C}$	64	A
I_F	$\lambda_{paste} = 2.5\text{ W/(mK)}$	$T_s = 70\text{ °C}$	94	A
		$T_j = 175\text{ °C}$	75	A
I_{FRM}			200	A
I_{FSM}	$t_p = 10\text{ ms, sin } 180^{\circ}, T_j = 150\text{ °C}$		550	A
T_j			-40 ... 175	$^{\circ}\text{C}$

SKiiP 39NAB12T7V1



MiniSKiiP® 3

Converter-Inverter-Brake (CIB)

SKiiP 39NAB12T7V1

Features*

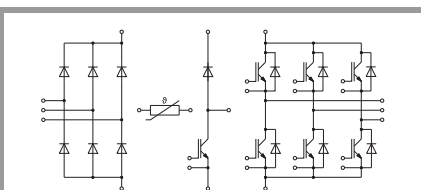
- 1200V Generation 7 IGBTs (T7)
- Robust and soft switching freewheeling diodes in CAL technology
- New SKR PEP diode technology for enhanced power and environmental robustness
- Highly reliable spring contacts for electrical connections
- UL recognized: File no. E63532

Remarks

- Max. case temperature limited to $T_C = T_S = 125\text{ °C}$
- Product reliability results valid for $T_j \leq 150\text{ °C}$; $T_{j,op} > 150\text{ °C}$ during overload (Details see AN19-002)
- MiniSKiiP "Technical Explanations" and "Mounting Instructions" are part of the data sheet. Please refer to both documents for further information.
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- Inverter IGBT: T1 – T6
- Chopper IGBT: T14
- Inverse Diode: D1 – D6
- Freewheeling Diode: D13
- Rectifier Diode: D7 – D12
- All graphs are referring to inverter/rectifier part

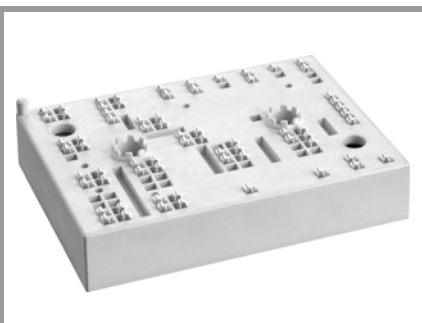
Absolute Maximum Ratings				
Symbol	Conditions	Values	Unit	
Rectifier - Diode				
V_{RRM}	$T_j = 25\text{ °C}$	1600	V	
I_F	$\lambda_{paste} = 0.8\text{ W/(mK)}$	$T_s = 70\text{ °C}$	144	A
	$T_j = 175\text{ °C}$	$T_s = 100\text{ °C}$	112	A
I_F	$\lambda_{paste} = 2.5\text{ W/(mK)}$	$T_s = 70\text{ °C}$	159	A
	$T_j = 175\text{ °C}$	$T_s = 100\text{ °C}$	125	A
I_{FSM}	$t_p = 10\text{ ms}$	$T_j = 25\text{ °C}$	1000	A
	$\sin 180^\circ$	$T_j = 150\text{ °C}$	890	A
i^2t	$t_p = 10\text{ ms}$	$T_j = 25\text{ °C}$	5000	A^2s
	$\sin 180^\circ$	$T_j = 150\text{ °C}$	3960	A^2s
T_j		-40 ... 175	$^{\circ}C$	
Module				
$I_{t(RMS)}$	$T_{terminal} = 80\text{ °C}$, 20 A per spring	80	A	
T_{stg}	module without TIM	-40 ... 125	$^{\circ}C$	
V_{isol}	AC sinus 50 Hz, 1 min	2500	V	

Characteristics					
Symbol	Conditions	min.	typ.	max.	Unit
Inverter - IGBT					
$V_{CE(sat)}$	$I_C = 150\text{ A}$ $V_{GE} = 15\text{ V}$ chiplevel	$T_j = 25\text{ °C}$	1.55	1.70	V
		$T_j = 150\text{ °C}$	1.73	1.88	V
		$T_j = 175\text{ °C}$	1.77	1.92	V
V_{CE0}	chiplevel	$T_j = 25\text{ °C}$	1.00	1.05	V
		$T_j = 150\text{ °C}$	0.80	0.85	V
		$T_j = 175\text{ °C}$	0.75	0.80	V
r_{CE}	$V_{GE} = 15\text{ V}$ chiplevel	$T_j = 25\text{ °C}$	3.7	4.3	$m\Omega$
		$T_j = 150\text{ °C}$	6.2	6.9	$m\Omega$
		$T_j = 175\text{ °C}$	6.8	7.5	$m\Omega$
$V_{GE(th)}$	$V_{GE} = V_{CE}$, $I_C = 3.5\text{ mA}$	5.15	5.8	6.45	V
I_{CES}	$V_{GE} = 0\text{ V}$, $V_{CE} = 1200\text{ V}$, $T_j = 25\text{ °C}$			1.5	mA
C_{ies}	$V_{CE} = 25\text{ V}$ $V_{GE} = 0\text{ V}$	$f = 1\text{ MHz}$	30.00		nF
C_{oes}			0.39		nF
C_{res}			0.10		nF
Q_G	$V_{GE} = -8\text{ V} \dots +15\text{ V}$		2100		nC
R_{Gint}	$T_j = 25\text{ °C}$		1.0		Ω
$t_{d(on)}$	$V_{CC} = 600\text{ V}$ $I_C = 150\text{ A}$ $R_{Gon} = 1.1\text{ }\Omega$ $R_{Goff} = 1.1\text{ }\Omega$	$T_j = 25\text{ °C}$	170		ns
		$T_j = 150\text{ °C}$	181		ns
		$T_j = 175\text{ °C}$	183		ns
t_r	$V_{GE} = +15/-15\text{ V}$	$T_j = 25\text{ °C}$	34		ns
		$T_j = 150\text{ °C}$	39		ns
		$T_j = 175\text{ °C}$	40		ns
E_{on}	@ $T_j = 150\text{ °C}$: $di/dt_{on} = 3970\text{ A}/\mu s$ $di/dt_{off} = 1530\text{ A}/\mu s$ $dv/dt = 3730\text{ V}/\mu s$	$T_j = 25\text{ °C}$	4.6		mJ
		$T_j = 150\text{ °C}$	9.9		mJ
		$T_j = 175\text{ °C}$	12		mJ



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SKiiP 39NAB12T7V1



MiniSKiiP® 3

Converter-Inverter-Brake (CIB)

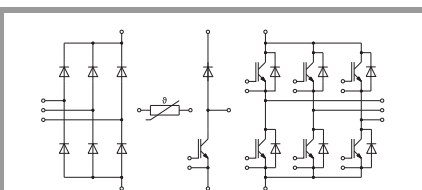
SKiiP 39NAB12T7V1

Features*

- 1200V Generation 7 IGBTs (T7)
- Robust and soft switching freewheeling diodes in CAL technology
- New SKR PEP diode technology for enhanced power and environmental robustness
- Highly reliable spring contacts for electrical connections
- UL recognized: File no. E63532

Remarks

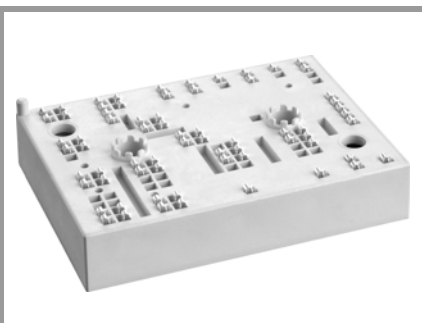
- Max. case temperature limited to $T_C = T_S = 125^\circ\text{C}$
- Product reliability results valid for $T_j \leq 150^\circ\text{C}$; $T_{j,op} > 150^\circ\text{C}$ during overload (Details see AN19-002)
- MiniSKiiP "Technical Explanations" and "Mounting Instructions" are part of the data sheet. Please refer to both documents for further information.
- For storage and case temperature with TIM see document "Technical Explanations Thermal Interface Materials"
- Inverter IGBT: T1 – T6
- Chopper IGBT: T14
- Inverse Diode: D1 – D6
- Freewheeling Diode: D13
- Rectifier Diode: D7 – D12
- All graphs are referring to inverter/rectifier part



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Characteristics						
Symbol	Conditions	min.	typ.	max.	Unit	
Inverter - IGBT						
$t_{d(off)}$	$V_{CC} = 600\text{ V}$ $I_C = 150\text{ A}$ $R_{G\ on} = 1.1\ \Omega$ $R_{G\ off} = 1.1\ \Omega$ $V_{GE} = +15/-15\text{ V}$	$T_j = 25^\circ\text{C}$	274		ns	
		$T_j = 150^\circ\text{C}$	370		ns	
		$T_j = 175^\circ\text{C}$	389		ns	
t_f		$T_j = 25^\circ\text{C}$	65		ns	
		$T_j = 150^\circ\text{C}$	100		ns	
		$T_j = 175^\circ\text{C}$	106		ns	
E_{off}	@ $T_j = 150^\circ\text{C}$: $di/dt_{on} = 3970\text{ A}/\mu\text{s}$ $di/dt_{off} = 1530\text{ A}/\mu\text{s}$ $dv/dt = 3730\text{ V}/\mu\text{s}$	$T_j = 25^\circ\text{C}$	11		mJ	
		$T_j = 150^\circ\text{C}$	18.7		mJ	
		$T_j = 175^\circ\text{C}$	21		mJ	
$R_{th(j-s)}$	per IGBT, $\lambda_{paste} = 0.8\text{ W}/(\text{mK})$		0.43		K/W	
$R_{th(j-s)}$	per IGBT, $\lambda_{paste} = 2.5\text{ W}/(\text{mK})$		0.3		K/W	
Chopper - IGBT						
$V_{CE(sat)}$	$I_C = 100\text{ A}$ $V_{GE} = 15\text{ V}$ chiplevel	$T_j = 25^\circ\text{C}$	1.50	1.70	V	
		$T_j = 150^\circ\text{C}$	1.68	1.88	V	
		$T_j = 175^\circ\text{C}$	1.77	1.92	V	
V_{CE0}	chiplevel	$T_j = 25^\circ\text{C}$	1.00	1.05	V	
		$T_j = 150^\circ\text{C}$	0.80	0.85	V	
		$T_j = 175^\circ\text{C}$	0.75	0.80	V	
r_{CE}	$V_{GE} = 15\text{ V}$ chiplevel	$T_j = 25^\circ\text{C}$	5.0	6.5	m Ω	
		$T_j = 150^\circ\text{C}$	8.8	10	m Ω	
		$T_j = 175^\circ\text{C}$	10	11	m Ω	
$V_{GE(th)}$	$V_{GE} = V_{CE}$, $I_C = 2.5\text{ mA}$	5.15	5.8	6.45	V	
I_{CES}	$V_{GE} = 0\text{ V}$, $V_{CE} = 1200\text{ V}$, $T_j = 25^\circ\text{C}$			1	mA	
C_{ies}	$V_{CE} = 25\text{ V}$ $V_{GE} = 0\text{ V}$	$f = 1\text{ MHz}$	21.70		nF	
C_{oes}		$f = 1\text{ MHz}$	0.28		nF	
C_{res}		$f = 1\text{ MHz}$	0.08		nF	
Q_G	$V_{GE} = -8\text{ V} \dots +15\text{ V}$		1400		nC	
R_{Gint}	$T_j = 25^\circ\text{C}$		1.5		Ω	
$t_{d(on)}$		$T_j = 25^\circ\text{C}$	162		ns	
		$T_j = 150^\circ\text{C}$	171		ns	
		$T_j = 175^\circ\text{C}$	173		ns	
t_r	$V_{CC} = 600\text{ V}$ $I_C = 100\text{ A}$ $R_{G\ on} = 1.7\ \Omega$ $R_{G\ off} = 1.7\ \Omega$ $V_{GE} = +15/-15\text{ V}$	$T_j = 25^\circ\text{C}$	31		ns	
		$T_j = 150^\circ\text{C}$	38		ns	
		$T_j = 175^\circ\text{C}$	38		ns	
E_{on}		$T_j = 25^\circ\text{C}$	5		mJ	
		$T_j = 150^\circ\text{C}$	9.3		mJ	
		$T_j = 175^\circ\text{C}$	11		mJ	
$t_{d(off)}$		$T_j = 25^\circ\text{C}$	256		ns	
		@ $T_j = 150^\circ\text{C}$: $di/dt_{on} = 2620\text{ A}/\mu\text{s}$ $di/dt_{off} = 1030\text{ A}/\mu\text{s}$ $dv/dt = 3680\text{ V}/\mu\text{s}$	$T_j = 150^\circ\text{C}$	350		ns
		$T_j = 175^\circ\text{C}$	368		ns	
t_f		$T_j = 25^\circ\text{C}$	57		ns	
		$T_j = 150^\circ\text{C}$	89		ns	
		$T_j = 175^\circ\text{C}$	100		ns	
E_{off}		$T_j = 25^\circ\text{C}$	6.6		mJ	
		$T_j = 150^\circ\text{C}$	12		mJ	
		$T_j = 175^\circ\text{C}$	13		mJ	
$R_{th(j-s)}$	per IGBT, $\lambda_{paste} = 0.8\text{ W}/(\text{mK})$		0.41		K/W	
$R_{th(j-s)}$	per IGBT, $\lambda_{paste} = 2.5\text{ W}/(\text{mK})$		0.31		K/W	

SKiiP 39NAB12T7V1



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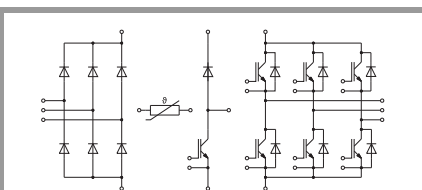
Features*

- 1200V Generation 7 IGBTs (T7)
- Robust and soft switching freewheeling diodes in CAL technology
- New SKR PEP diode technology for enhanced power and environmental robustness
- Highly reliable spring contacts for electrical connections
- UL recognized: File no. E63532

Remarks

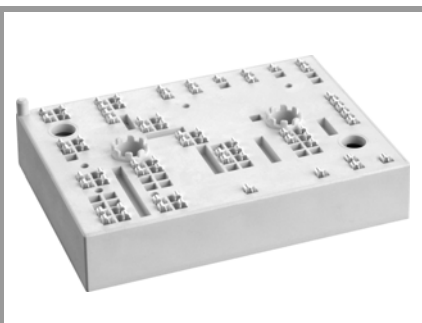
- Max. case temperature limited to $T_C = T_S = 125\text{ °C}$
- Product reliability results valid for $T_j \leq 150\text{ °C}$; $T_{j,op} > 150\text{ °C}$ during overload (Details see AN19-002)
- MiniSKiiP "Technical Explanations" and "Mounting Instructions" are part of the data sheet. Please refer to both documents for further information.
- For storage and case temperature with TIM see document "Technical Explanations Thermal Interface Materials"
- Inverter IGBT: T1 – T6
- Chopper IGBT: T14
- Inverse Diode: D1 – D6
- Freewheeling Diode: D13
- Rectifier Diode: D7 – D12
- All graphs are referring to inverter/rectifier part

Characteristics						
Symbol	Conditions		min.	typ.	max.	Unit
Inverse - Diode						
$V_F = V_{EC}$	$I_F = 150\text{ A}$ $V_{GE} = 0\text{ V}$ chipelevel	$T_j = 25\text{ °C}$		2.28	2.63	V
		$T_j = 150\text{ °C}$		2.28	2.61	V
		$T_j = 175\text{ °C}$		2.12	2.46	V
V_{F0}	chipelevel	$T_j = 25\text{ °C}$		1.30	1.50	V
		$T_j = 150\text{ °C}$		0.90	1.10	V
		$T_j = 175\text{ °C}$		0.82	0.98	V
r_F	chipelevel	$T_j = 25\text{ °C}$		6.6	7.5	mΩ
		$T_j = 150\text{ °C}$		9.2	10	mΩ
		$T_j = 175\text{ °C}$		8.6	9.8	mΩ
I_{RRM}	$V_{CC} = 600\text{ V}$	$T_j = 25\text{ °C}$		193		A
		$T_j = 150\text{ °C}$		241		A
		$T_j = 175\text{ °C}$		255		A
Q_{rr}	$I_F = 150\text{ A}$ $V_{GE} = -15\text{ V}$	$T_j = 25\text{ °C}$		9		μC
		$T_j = 150\text{ °C}$		23		μC
		$T_j = 175\text{ °C}$		28		μC
E_{rr}	@ $T_j = 150\text{ °C}$: $di/dt_{off} = 3910\text{ A}/\mu\text{s}$	$T_j = 25\text{ °C}$		4.8		mJ
		$T_j = 150\text{ °C}$		12		mJ
		$T_j = 175\text{ °C}$		14		mJ
$R_{th(j-s)}$	per Diode, $\lambda_{paste} = 0.8\text{ W}/(\text{mK})$			0.65		K/W
$R_{th(j-s)}$	per Diode, $\lambda_{paste} = 2.5\text{ W}/(\text{mK})$			0.49		K/W
Freewheeling - Diode						
$V_F = V_{EC}$	$I_F = 100\text{ A}$ $V_{GE} = 0\text{ V}$ chipelevel	$T_j = 25\text{ °C}$		2.20	2.52	V
		$T_j = 150\text{ °C}$		2.15	2.47	V
		$T_j = 175\text{ °C}$		2.00	2.31	V
V_{F0}	chipelevel	$T_j = 25\text{ °C}$		1.30	1.50	V
		$T_j = 150\text{ °C}$		0.90	1.10	V
		$T_j = 175\text{ °C}$		0.82	0.98	V
r_F	chipelevel	$T_j = 25\text{ °C}$		9.0	10	mΩ
		$T_j = 150\text{ °C}$		13	14	mΩ
		$T_j = 175\text{ °C}$		12	13	mΩ
I_{RRM}	$V_{CC} = 600\text{ V}$	$T_j = 25\text{ °C}$		93		A
		$T_j = 150\text{ °C}$		116		A
		$T_j = 175\text{ °C}$		120		A
Q_{rr}	$I_F = 100\text{ A}$ $V_{GE} = -15\text{ V}$	$T_j = 25\text{ °C}$		5.9		μC
		$T_j = 150\text{ °C}$		15		μC
		$T_j = 175\text{ °C}$		19		μC
E_{rr}	@ $T_j = 150\text{ °C}$: $di/dt_{off} = 2590\text{ A}/\mu\text{s}$	$T_j = 25\text{ °C}$		2.2		mJ
		$T_j = 150\text{ °C}$		5.9		mJ
		$T_j = 175\text{ °C}$		7.3		mJ
$R_{th(j-s)}$	per Diode, $\lambda_{paste} = 0.8\text{ W}/(\text{mK})$			0.65		K/W
$R_{th(j-s)}$	per Diode, $\lambda_{paste} = 2.5\text{ W}/(\text{mK})$			0.51		K/W



NAB

SKiiP 39NAB12T7V1



MiniSKiiP® 3

Converter-Inverter-Brake (CIB)

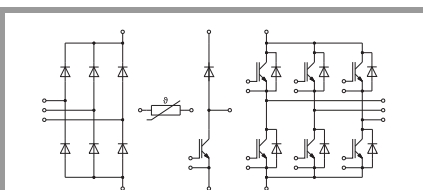
SKiiP 39NAB12T7V1

Features*

- 1200V Generation 7 IGBTs (T7)
- Robust and soft switching freewheeling diodes in CAL technology
- New SKR PEP diode technology for enhanced power and environmental robustness
- Highly reliable spring contacts for electrical connections
- UL recognized: File no. E63532

Remarks

- Max. case temperature limited to $T_C = T_S = 125\text{ °C}$
- Product reliability results valid for $T_j \leq 150\text{ °C}$; $T_{j,op} > 150\text{ °C}$ during overload (Details see AN19-002)
- MiniSKiiP "Technical Explanations" and "Mounting Instructions" are part of the data sheet. Please refer to both documents for further information.
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- Inverse Diode: D1 – D6
- Freewheeling Diode: D13
- Rectifier Diode: D7 – D12
- All graphs are referring to inverter/rectifier part



NAB

Characteristics						
Symbol	Conditions		min.	typ.	max.	Unit
Rectifier - Diode						
V_F	$I_F = 44\text{ A}$ chiplevel	$T_j = 25\text{ °C}$		0.97	1.20	V
		$T_j = 150\text{ °C}$		0.84	1.07	V
		$T_j = 175\text{ °C}$		0.82	1.05	V
V_{F0}	chiplevel	$T_j = 25\text{ °C}$		0.89	1.09	V
		$T_j = 150\text{ °C}$		0.73	0.92	V
		$T_j = 175\text{ °C}$		0.69	0.88	V
r_F	chiplevel	$T_j = 25\text{ °C}$		1.84	2.5	mΩ
		$T_j = 150\text{ °C}$		2.6	3.5	mΩ
		$T_j = 175\text{ °C}$		2.9	3.9	mΩ
I_R	$T_j = 150\text{ °C}, V_{RRM}$				1.7	mA
$R_{th(j-s)}$	per Diode, $\lambda_{paste} = 0.8\text{ W/(mK)}$			0.51		K/W
$R_{th(j-s)}$	per Diode, $\lambda_{paste} = 2.5\text{ W/(mK)}$			0.44		K/W
Module						
M_s	to heat sink		2		2.5	Nm
w				82		g
L_{CE}				-		nH
Temperature Sensor						
R_{100}	$T_j = 100\text{ °C}$ ($R_{25} = 1000\text{ Ω}$)			$1670 \pm 3\%$		Ω
$R_{(T)}$	$R_{(T)} = 1000\text{ Ω} [1 + A(T - 25\text{ °C}) + B(T - 25\text{ °C})^2]$, $A = 7.635 \cdot 10^{-3}\text{ °C}^{-1}$, $B = 1.731 \cdot 10^{-5}\text{ °C}^{-2}$					

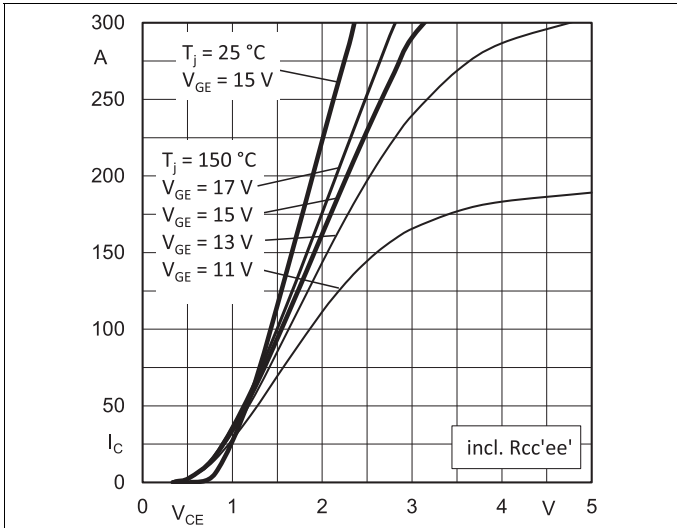


Fig. 1: Typ. output characteristic

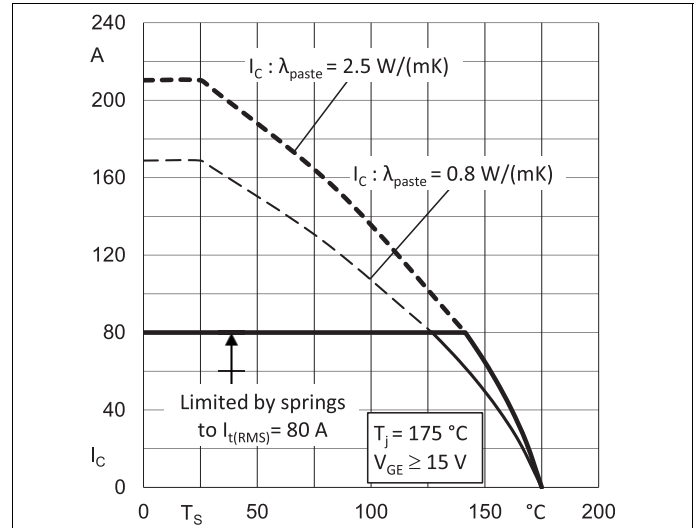


Fig. 2: Typ. rated current vs. temperature $I_C = f(T_s)$

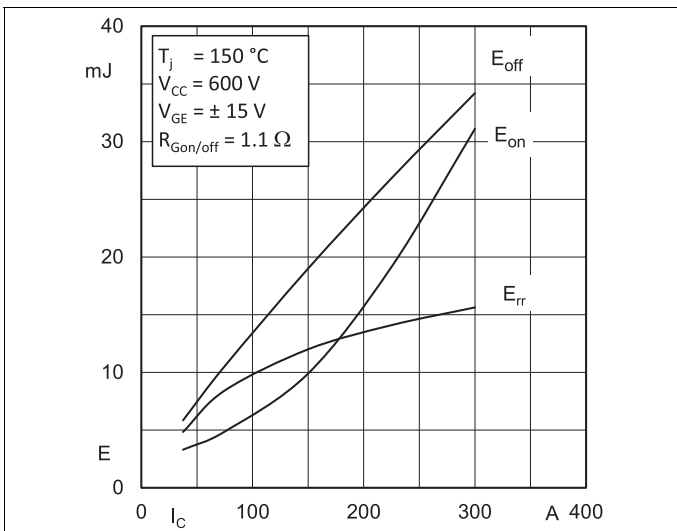


Fig. 3: Typ. turn-on /-off energy = $f(I_C)$

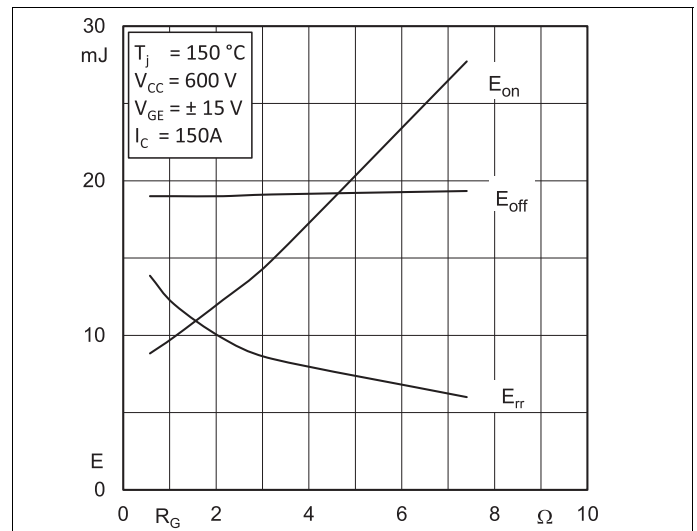


Fig. 4: Typ. turn-on /-off energy = $f(R_G)$

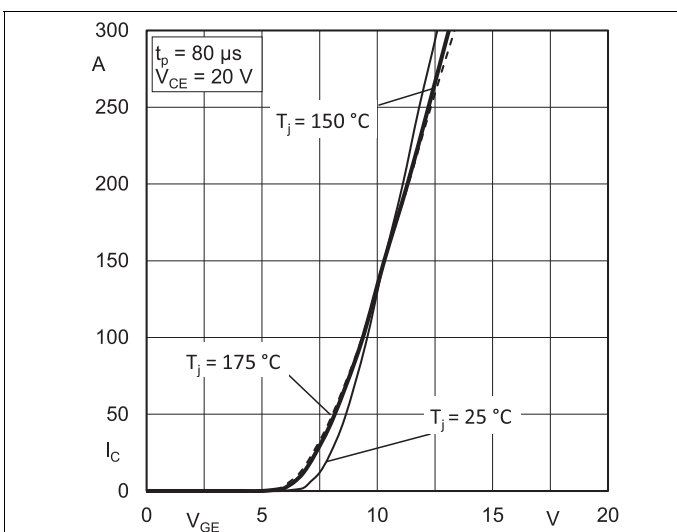


Fig. 5: Typ. transfer characteristic

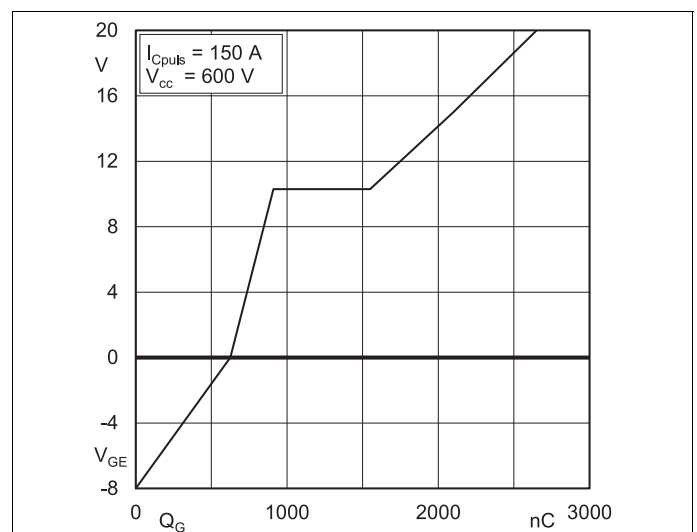


Fig. 6: Typ. gate charge characteristic

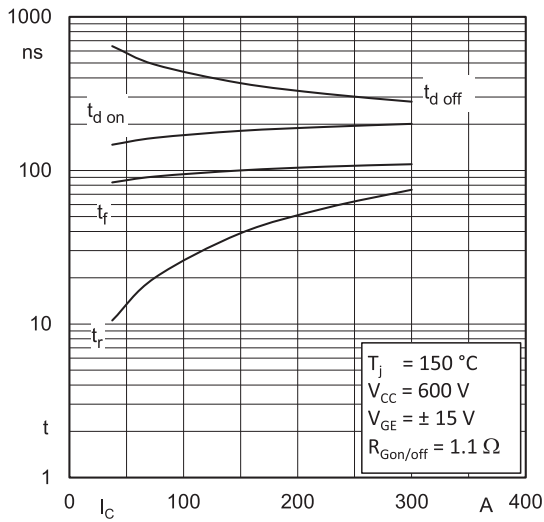


Fig. 7: Typ. switching times vs. I_C

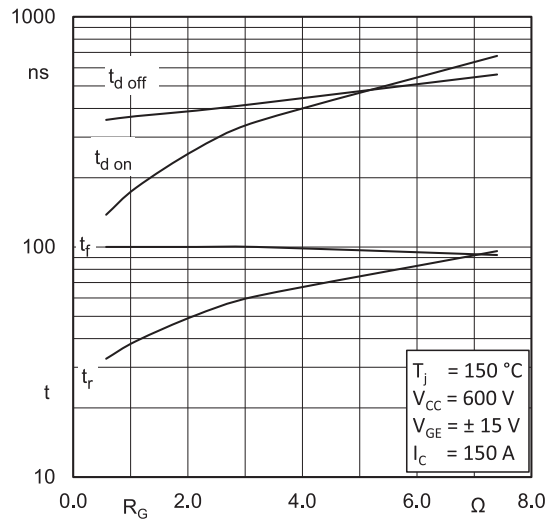


Fig. 8: Typ. switching times vs. gate resistor R_G

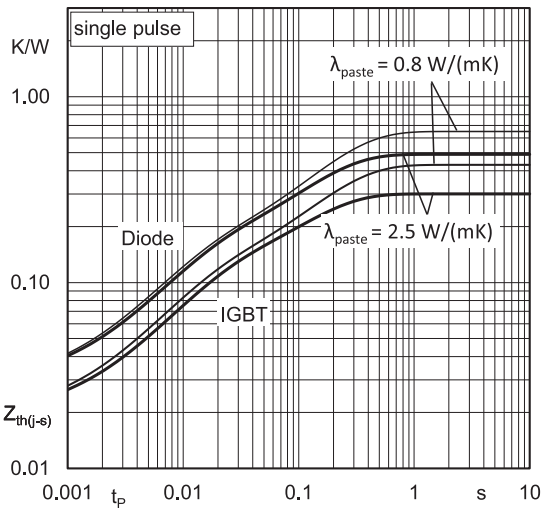


Fig. 9: Typ. transient thermal impedance

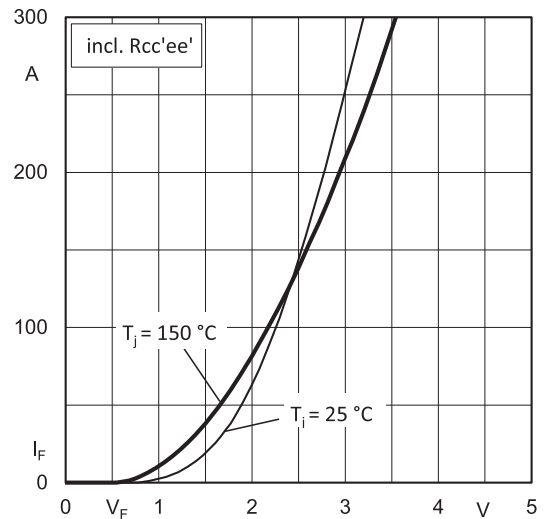


Fig. 10: Typ. CAL diode forward characteristic

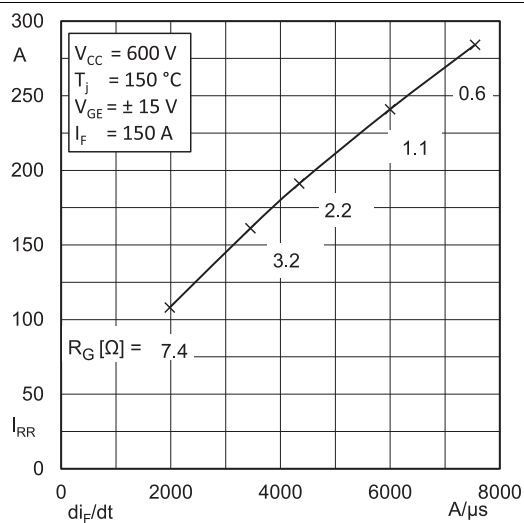


Fig. 11: Typ. CAL diode peak reverse recovery current

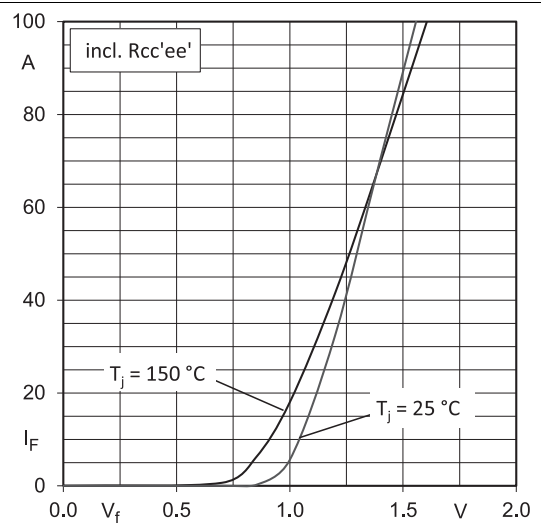
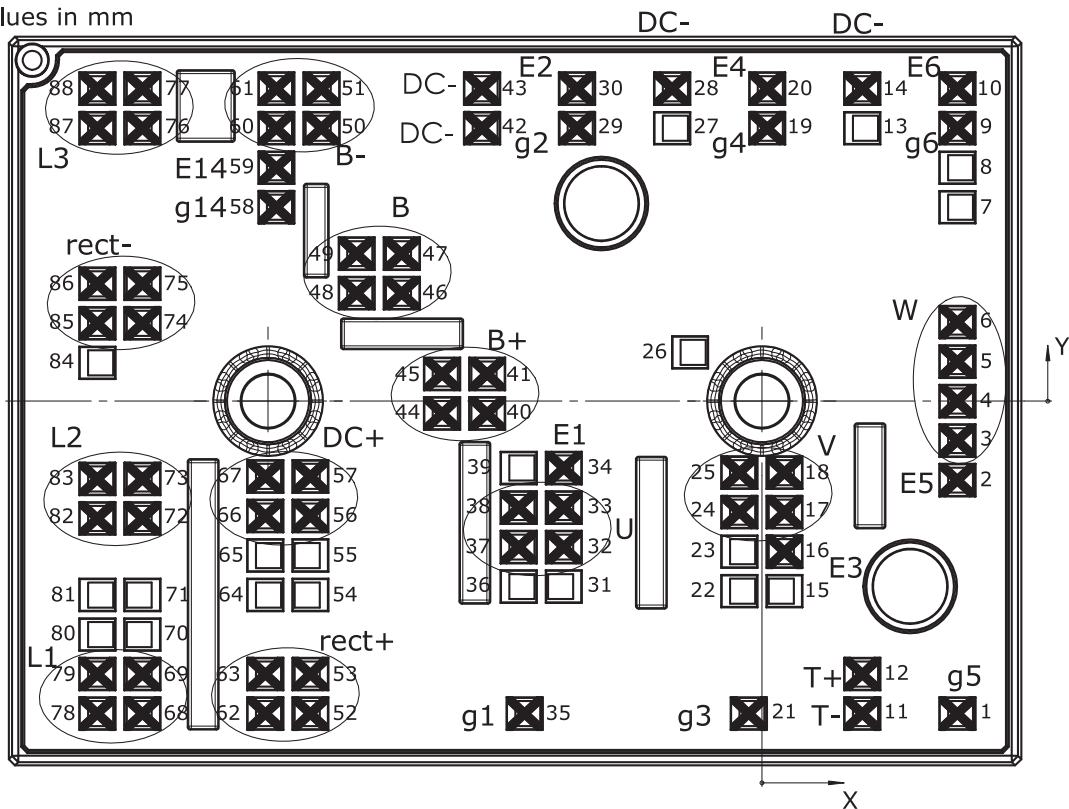


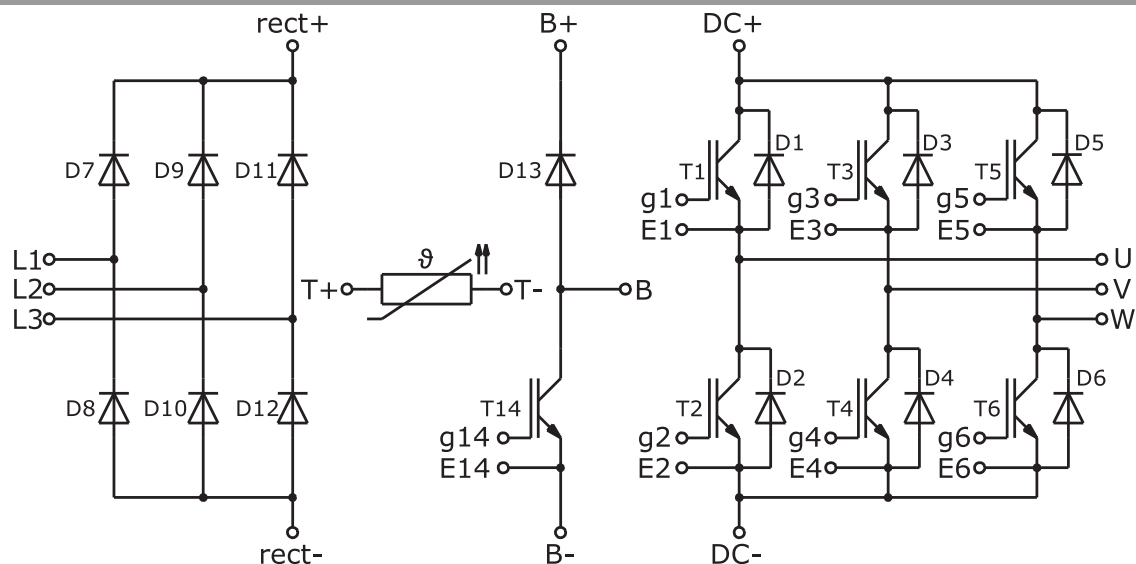
Fig. 12: Typ. input bridge forward characteristic

Pin out											
Pin	X	Y	Function	Pin	X	Y	Function	Pin	X	Y	Function
1	15,83	-25,30	g5	31	-16,05	-15,02		61	-39,33	25,30	B-
2	15,83	-6,40	E5	32	-16,05	-11,82	U	62	-40,23	-25,30	rect+
3	15,83	-3,20	W	33	-16,05	-8,62	U	63	-40,23	-22,10	rect+
4	15,83	0	W	34	-16,05	-5,42	E1	64	-40,23	-15,70	
5	15,83	3,20	W	35	-19,23	-25,30	g1	65	-40,23	-12,50	
6	15,83	6,40	W	36	-19,70	-15,02		66	-40,23	-9,30	DC+
7	15,83	15,70		37	-19,70	-11,82	U	67	-40,23	-6,10	DC+
8	15,83	18,90		38	-19,70	-8,62	U	68	-50,18	-25,30	L1
9	15,83	22,10	g6	39	-19,70	-5,42		69	-50,18	-22,10	L1
10	15,83	25,30	E6	40	-22,26	-1,00	B+	70	-50,18	-18,90	
11	8,13	-25,30	T-	41	-22,26	2,20	B+	71	-50,18	-15,70	
12	8,13	-22,10	T+	42	-22,68	22,10	DC-	72	-50,18	-9,50	L2
13	8,13	22,10		43	-22,68	25,30	DC-	73	-50,18	-6,30	L2
14	8,13	25,30	DC-	44	-25,91	-1,00	B+	74	-50,18	6,30	rect-
15	1,83	-15,39		45	-25,91	2,20	B+	75	-50,18	9,50	rect-
16	1,83	-12,19	E3	46	-29,18	8,74	B	76	-50,18	22,10	L3
17	1,83	-8,99	V	47	-29,18	11,94	B	77	-50,18	25,30	L3
18	1,83	-5,79	V	48	-32,83	8,74	B	78	-53,83	-25,30	L1
19	0,43	22,10	g4	49	-32,83	11,94	B	79	-53,83	-22,10	L1
20	0,43	25,30	E4	50	-35,68	22,10	B-	80	-53,83	-18,90	
21	-1,08	-25,30	g3	51	-35,68	25,30	B-	81	-53,83	-15,70	
22	-1,83	-15,39		52	-36,58	-25,30	rect+	82	-53,83	-9,50	L2
23	-1,83	-12,19		53	-36,58	-22,10	rect+	83	-53,83	-6,30	L2
24	-1,83	-8,99	V	54	-36,58	-15,70		84	-53,83	3,10	
25	-1,83	-5,79	V	55	-36,58	-12,50		85	-53,83	6,30	rect-
26	-5,83	3,95		56	-36,58	-9,30	DC+	86	-53,83	9,50	rect-
27	-7,28	22,10		57	-36,58	-6,10	DC+	87	-53,83	22,10	L3
28	-7,28	25,30	DC-	58	-39,33	15,70	g14	88	-53,83	25,30	L3
29	-14,98	22,10	g2	59	-39,33	18,90	E14				
30	-14,98	25,30	E2	60	-39,33	22,10	B-				

all values in mm



Pinout



Pinout

This is an electrostatic discharge sensitive device (ESDS) due to international standard IEC 61340.

*IMPORTANT INFORMATION AND WARNINGS

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