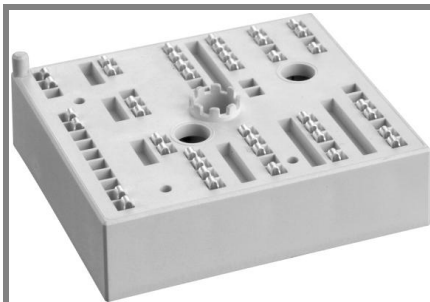




MiniSKiiP®2

3-phase bridge inverter

SKiiP 26AC12T4V1

Features

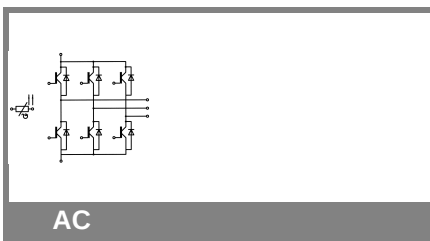
- Trench 4 IGBT's
- Robust and soft freewheeling diodes in CAL technology
- Highly reliable spring contacts for electrical connections
- UL recognised file no. E63532

Typical Applications*

- Inverter up to 29 kVA
- Typical motor power 18,5 kW

Remarks

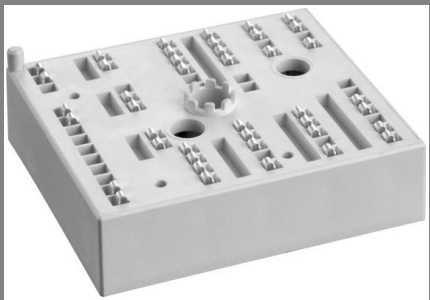
- V_{CEsat} , V_F = chip level value
- Case temp. limited to $T_C = 125^\circ\text{C}$ max. (for baseplateless modules $T_C = T_S$)
- product rel. results valid for $T_j \leq 150$ (recomm. $T_{op} = -40 \dots +150^\circ\text{C}$)



AC

Absolute Maximum Ratings		T _c = 25 °C, unless otherwise specified		
Symbol	Conditions		Values	Units
IGBT				
V _{CES}	T _j = 25 °C		1200	V
I _C	T _j = 175 °C	T _c = 25 °C	90	A
		T _c = 70 °C	73	A
I _{CRM}	I _{CRM} = 3xI _{Cnom}		210	A
V _{GES}			±20	V
t _{psc}	V _{CC} = 800 V; V _{GE} ≤ 15 V; T _j = 150 °C V _{CES} < 1200 V		10	µs
Inverse Diode				
I _F	T _j = 175 °C	T _c = 25 °C	82	A
		T _c = 70 °C	66	A
I _{FRM}	I _{CRM} = 3xI _{Cnom}		225	A
I _{FSM}	t _p = 10 ms; sin. T _j = 150 °C		429	A
Module				
I _{t(RMS)}			100	A
T _{vj}			-40...+175	°C
T _{stg}			-40...+125	°C
V _{isol}	AC, 1 min.		2500	V

Characteristics		$T_C = 25^\circ\text{C}$, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT					
$V_{GE(th)}$	$V_{GE} = V_{CE}, I_C = 2\text{ mA}$	5	5,8	6,5	V
I_{CES}	$V_{GE} = 0\text{ V}, V_{CE} = V_{CES}$			0,3	mA
V_{CE0}		$T_j = 25^\circ\text{C}$	0,8	0,9	V
		$T_j = 150^\circ\text{C}$	0,7	0,8	V
r_{CE}	$V_{GE} = 15\text{ V}$	$T_j = 25^\circ\text{C}$	15	16,5	m Ω
		$T_j = 150^\circ\text{C}$	22	23,5	m Ω
$V_{CE(sat)}$	$I_{Cnom} = 70\text{ A}, V_{GE} = 15\text{ V}$	$T_j = 25^\circ\text{C}_{chiplev.}$	1,85	2,05	V
		$T_j = 150^\circ\text{C}_{chiplev.}$	2,25	2,45	V
C_{ies}	$V_{CE} = 25, V_{GE} = 0\text{ V}$	$f = 1\text{ MHz}$	3,9		nF
C_{oes}			0,31		nF
C_{res}			0,23		nF
Q_G	$V_{GE} = -8\text{ V} \dots +15\text{ V}$		400		nC
R_{Gint}	$T_j = 25^\circ\text{C}$		0		Ω
$t_{d(on)}$	$R_{Gon} = 9,1\ \Omega$ $di/dt = 1820\text{ A}/\mu\text{s}$	$V_{CC} = 600\text{ V}$ $I_C = 75\text{ A}$	26		ns
t_r			36		ns
E_{on}	$R_{Goff} = 9,1\ \Omega$ $di/dt = 900\text{ A}/\mu\text{s}$	$T_j = 150^\circ\text{C}$ $V_{GE} = \pm 15\text{ V}$	9,5		mJ
$t_{d(off)}$			320		ns
t_f			175		ns
E_{off}			7,1		mJ
$R_{th(j-s)}$	per IGBT		0,55		K/W



MiniSKiiP[®]2

3-phase bridge inverter

SKiiP 26AC12T4V1

Features

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- 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 29 kVA
- Typical motor power 18,5 kW

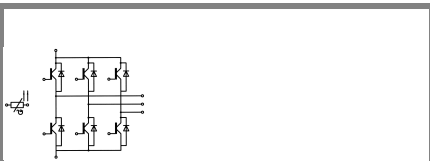
Remarks

- V_{CEsat} , V_F = chip level value
- Case temp. limited to $T_C = 125^{\circ}C$ max. (for baseplateless modules $T_C = T_S$)
- product rel. results valid for $T_j \leq 150$ (recomm. $T_{op} = -40 \dots +150^{\circ}C$)

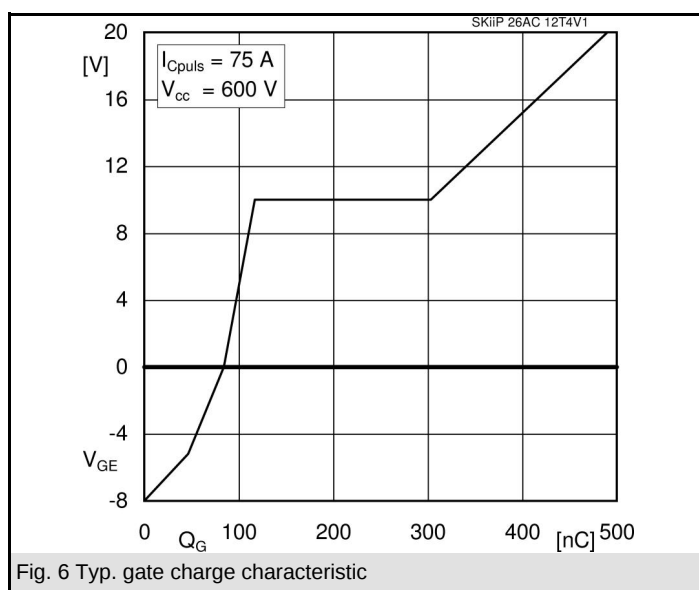
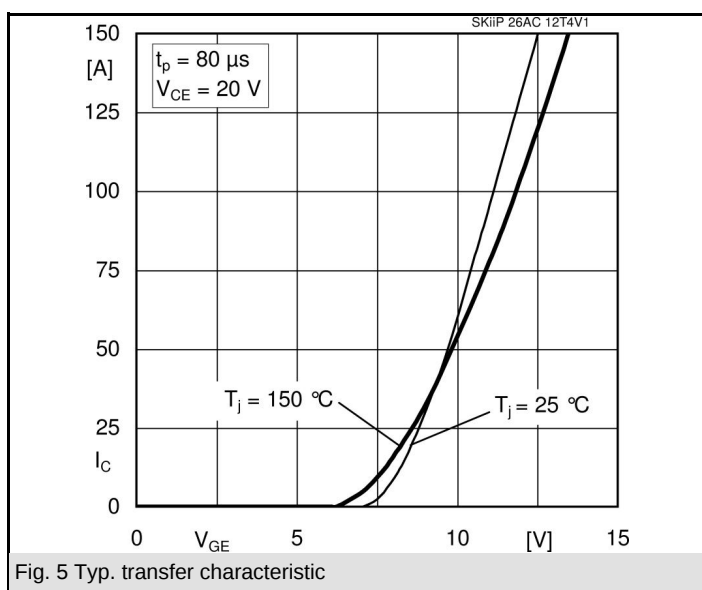
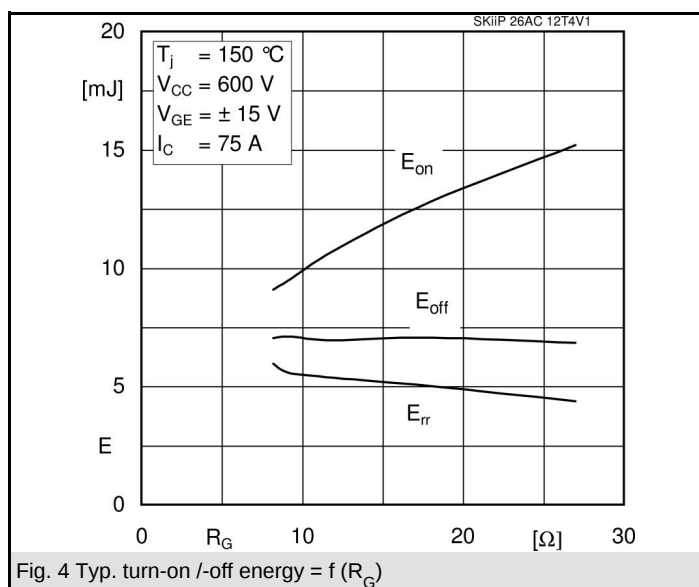
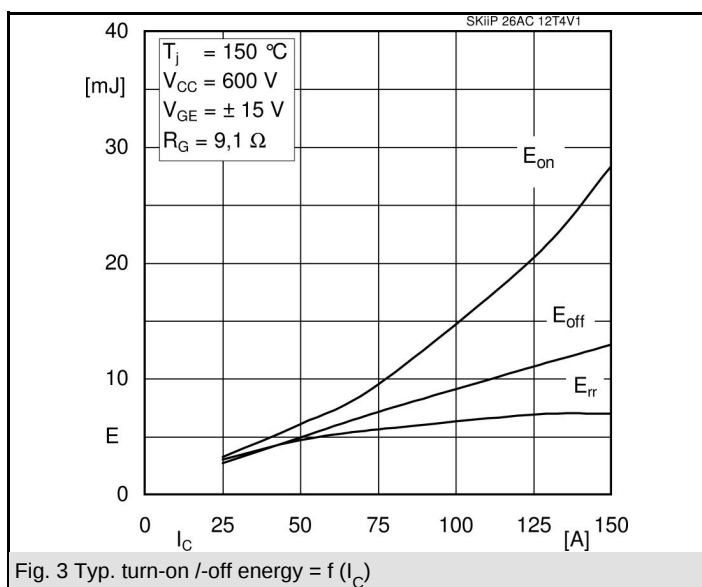
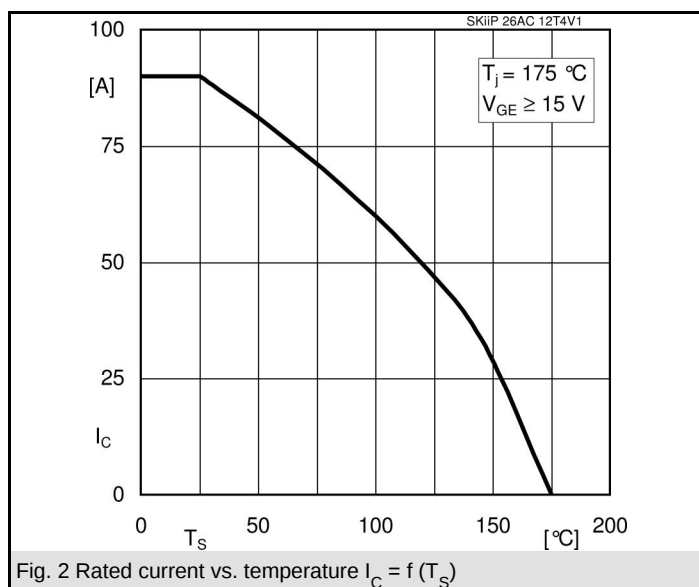
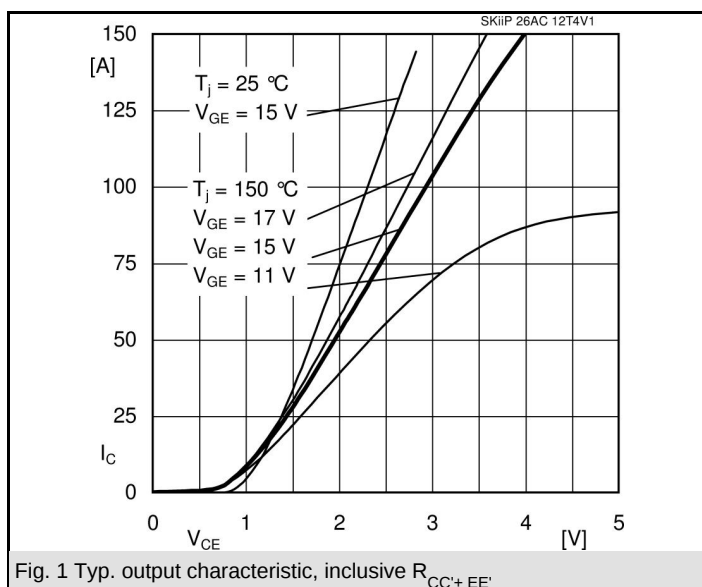
Characteristics					
Symbol	Conditions	min.	typ.	max.	Units
Inverse Diode					
$V_F = V_{EC}$	$I_{Fnom} = 75\text{ A}; V_{GE} = V$				
	$T_j = 25^{\circ}C_{chiplev.}$		2,2	2,5	V
	$T_j = 150^{\circ}C_{chiplev.}$		2,1	2,45	V
V_{F0}					
	$T_j = 25^{\circ}C$		1,3	1,5	V
	$T_j = 150^{\circ}C$		0,9	1,1	V
r_F					
	$T_j = 25^{\circ}C$		12	13	mΩ
	$T_j = 150^{\circ}C$		16	18	mΩ
I_{RRM}	$I_F = 75\text{ A}$		80		A
Q_{rr}	$di/dt = 2120\text{ A}/\mu s$		13,3		μC
E_{rr}	$V_{GE} = \pm 15V$		5,6		mJ
$R_{th(j-s)}$	per diode		0,75		K/W
M_s	to heat sink				Nm
M_t	to terminals	2		2,5	Nm
w			65		g
Temperature sensor					
R_{ts}	3%, $T_r = 25^{\circ}C$		1000		Ω
R_{ts}	3%, $T_r = 100^{\circ}C$		1670		Ω

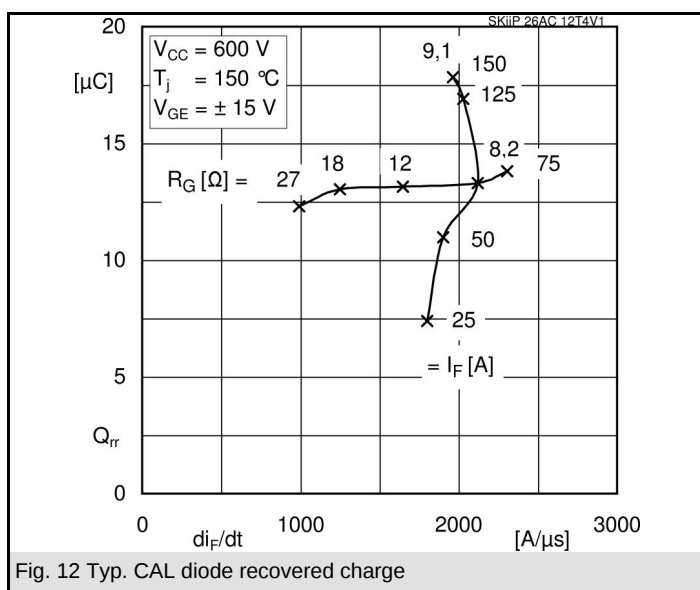
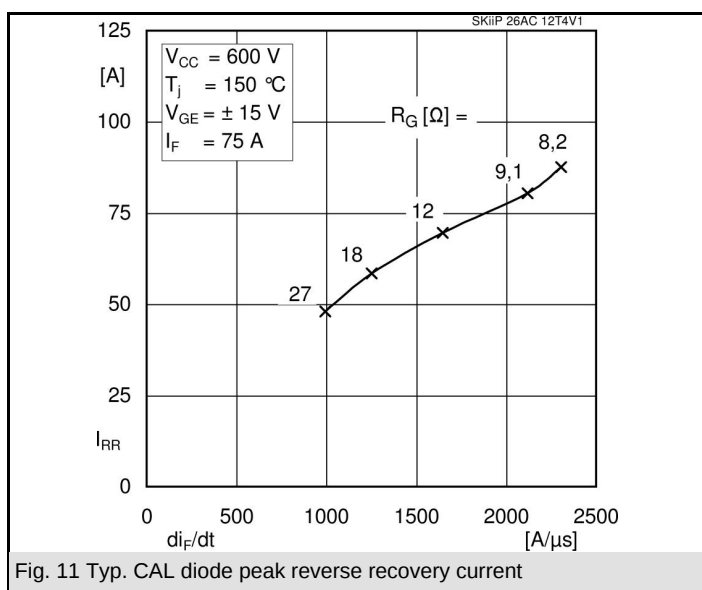
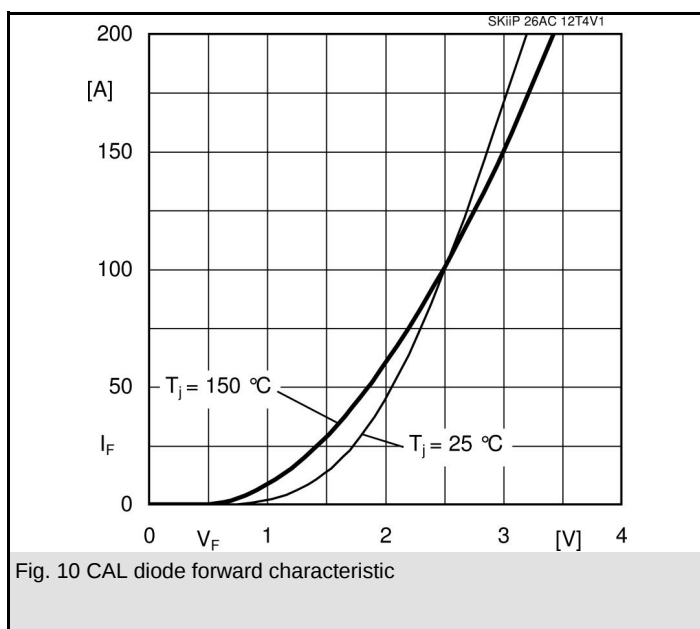
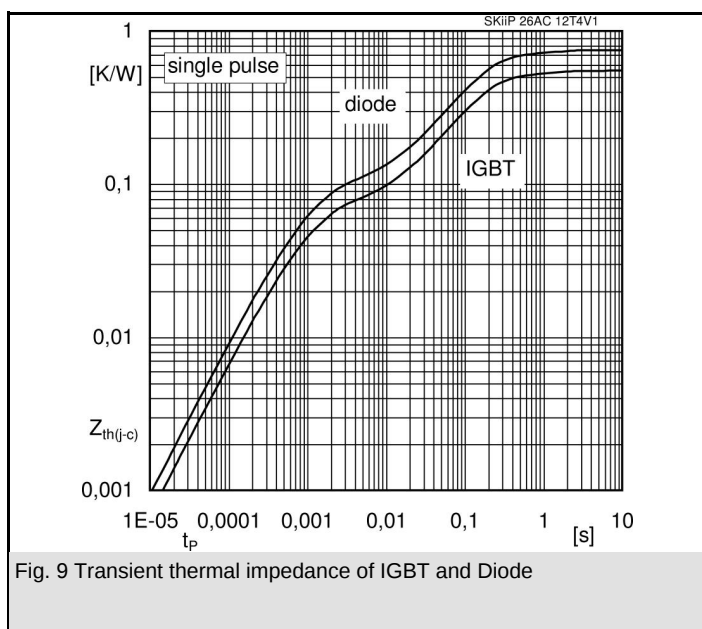
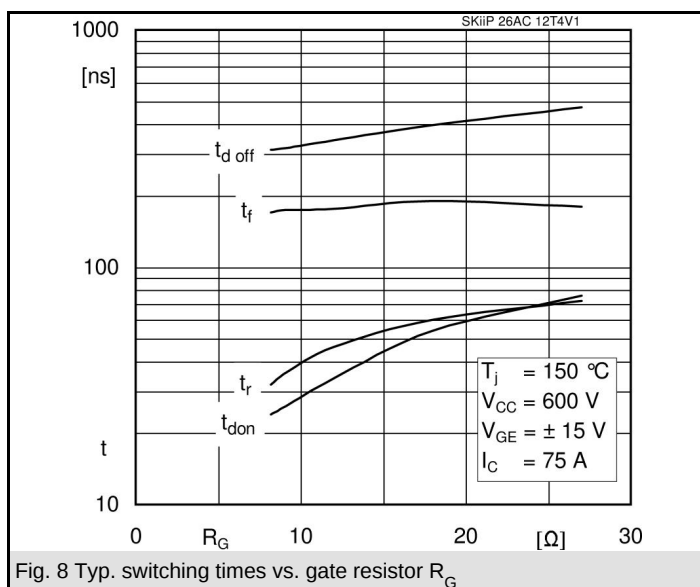
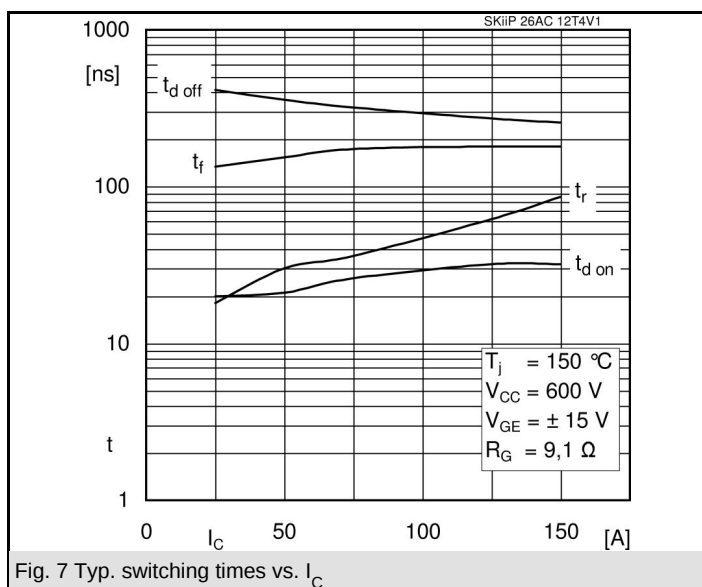
This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

* 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.



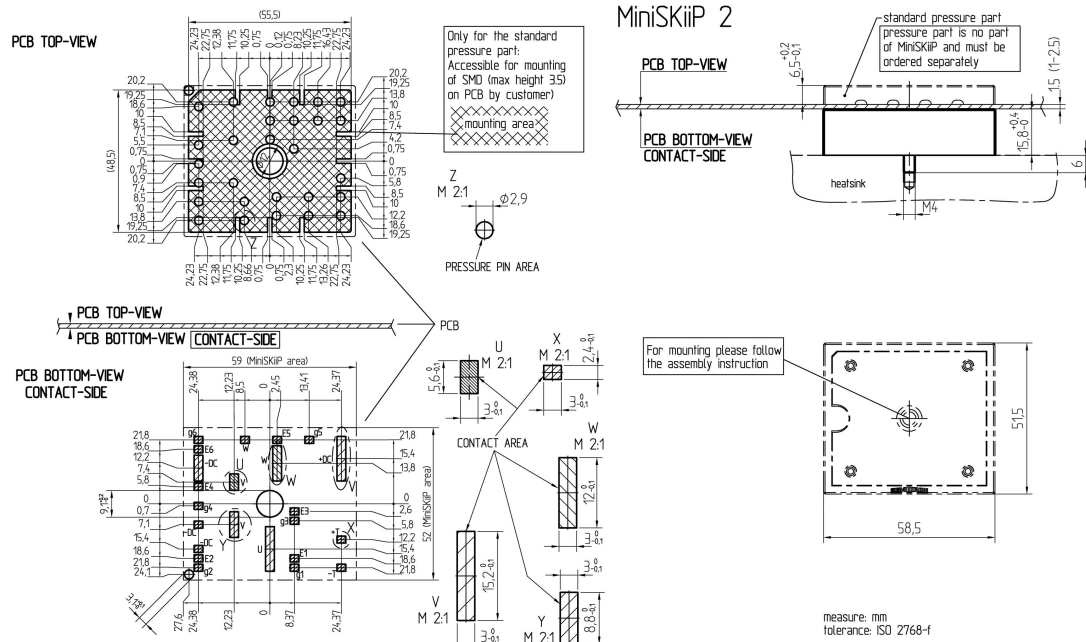
AC





UL recognized file

no. E 63 532



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