

SKiIP 26AC126V1



MiniSKiIP[®] 2

3-phase bridge inverter

SKiIP 26AC126V1

Features

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

Typical Applications

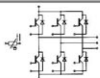
- Inverter up to 36 kVA
- Typical motor power 18,5 kW

Remarks

- V_{CEsat} , V_F = chip level value

Absolute Maximum Ratings		$T_B = 25\text{ }^\circ\text{C}$, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT - Inverter			
V_{CES}		1200	V
I_C	$T_B = 25\text{ (70) }^\circ\text{C}$	88 (66)	A
I_{CRM}	$t_p \leq 1\text{ ms}$	140	A
V_{GES}		± 20	V
T_J		-40 ... +150	$^\circ\text{C}$
Diode - Inverter			
I_F	$T_B = 25\text{ (70) }^\circ\text{C}$	91 (68)	A
I_{FRM}	$t_p \leq 1\text{ ms}$	140	A
T_J		-40 ... +150	$^\circ\text{C}$
I_{RMS}	per power terminal (20 A / spring)	100	A
T_{stg}	$T_{op} \leq T_{stg}$	-40 ... +125	$^\circ\text{C}$
V_{scd}	AC, 1 min.	2500	V

Characteristics		$T_B = 25\text{ }^\circ\text{C}$, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
IGBT - Inverter					
V_{CEsat}	$I_{Cnom} = 70\text{ A}$, $T_J = 25\text{ (125) }^\circ\text{C}$		1,7 (2)	2,1 (2,4)	V
$V_{GE(0)}$	$V_{CE} = V_{CE-}$, $I_C = 3\text{ mA}$	5	5,8	6,5	V
$V_{CE(TD)}$	$T_J = 25\text{ (125) }^\circ\text{C}$		1 (0,9)	1,2 (1,1)	V
r_{T1}	$T_J = 25\text{ (125) }^\circ\text{C}$		10 (16)	13 (19)	m Ω
C_{ios}	$V_{CE} = 25\text{ V}$, $V_{GE} = 0\text{ V}$, $f = 1\text{ MHz}$		4,8		nF
C_{oss}	$V_{CE} = 25\text{ V}$, $V_{GE} = 0\text{ V}$, $f = 1\text{ MHz}$		1		nF
C_{res}	$V_{CE} = 25\text{ V}$, $V_{GE} = 0\text{ V}$, $f = 1\text{ MHz}$		0,6		nF
$R_{th(j-s)}$	per IGBT		0,5		K/W
$t_{s(on)}$	under following conditions		80		ns
t_r	$V_{CC} = 600\text{ V}$, $V_{GE} = \pm 15\text{ V}$		30		ns
$t_{s(off)}$	$I_{Cnom} = 70\text{ A}$, $T_J = 125\text{ }^\circ\text{C}$		430		ns
t_f	$R_{Coff} = R_{Coff} = 9\text{ }\Omega$		90		ns
E_{on}	inductive load		9		mJ
E_{off}			7,7		mJ
Diode - Inverter					
$V_F = V_{EC}$	$I_{Fnom} = 70\text{ A}$, $T_J = 25\text{ (125) }^\circ\text{C}$		1,5 (1,5)	1,7 (1,7)	V
$V_{(T0)}$	$T_J = 25\text{ (125) }^\circ\text{C}$		1 (0,8)	1,1 (0,9)	V
r_{T1}	$T_J = 25\text{ (125) }^\circ\text{C}$		7,1 (10)	8,6 (11)	m Ω
$R_{th(j-s)}$	per diode		0,7		K/W
I_{FRM}	under following conditions		77		A
O_{rr}	$I_{Fnom} = 70\text{ A}$, $V_R = 600\text{ V}$		18		μC
E_{rr}	$V_{CE} = 0\text{ V}$, $T_J = 125\text{ }^\circ\text{C}$		7,5		mJ
	$di_F/dt = 2000\text{ A}/\mu\text{s}$				
Temperature Sensor					
R_{ts}	3 %, $T_r = 25\text{ (100) }^\circ\text{C}$		1000(1670)		Ω
Mechanical Data					
m			65		g
M_b	Mounting torque	2		2,5	Nm



AC

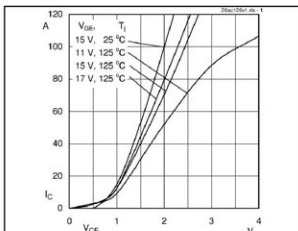


Fig. 1 Output characteristic

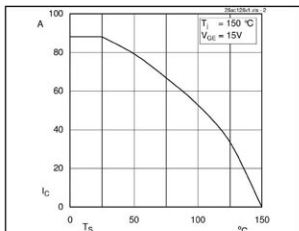


Fig. 2 Rated current vs. temperature

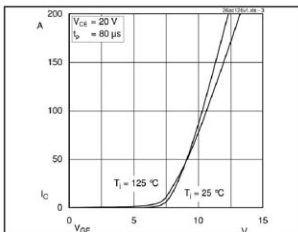


Fig. 3 Typ. transfer characteristic

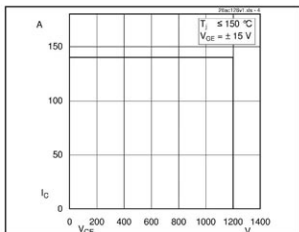


Fig. 4 Reverse bias safe operating area

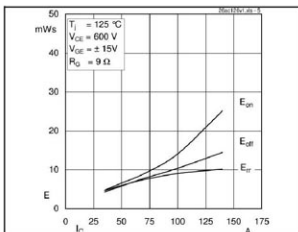


Fig. 5 Typ. Turn-on / off energy = $f(I_C)$

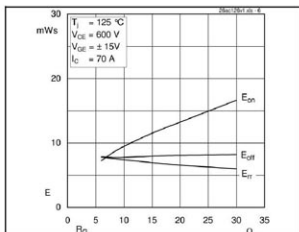


Fig. 6 Typ. Turn-on / off energy = $f(R_G)$

