



SKiM[®] 4

IGBT Modules

SKiM 200GD126D

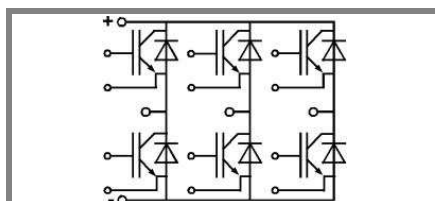
Data

Features

- Trench gate IGBT with field stop layer
- Low inductance case
- Fast & soft inverse CAL diode
- Isolated by Al₂O₃ DCB (Direct Copper Bonded) ceramic plate
- Pressure contact technology for thermal contacts
- Spring contact system to attach driver PCB to the control terminals
- Integrated temperature sensor

Typical Applications*

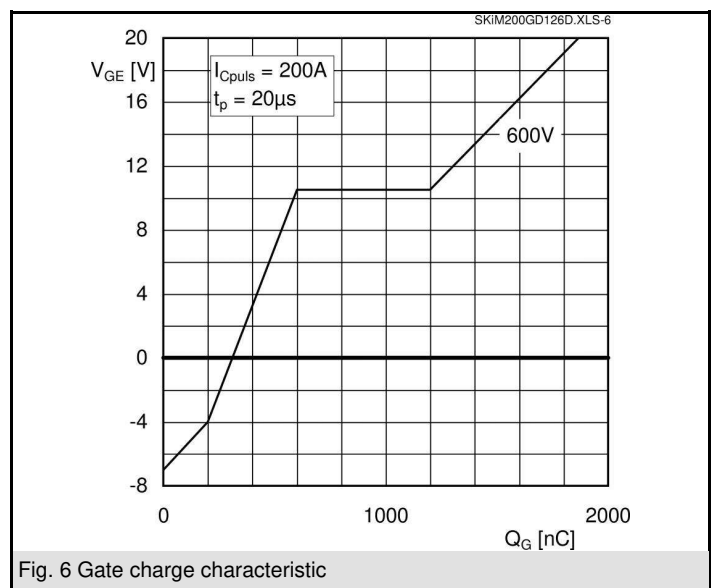
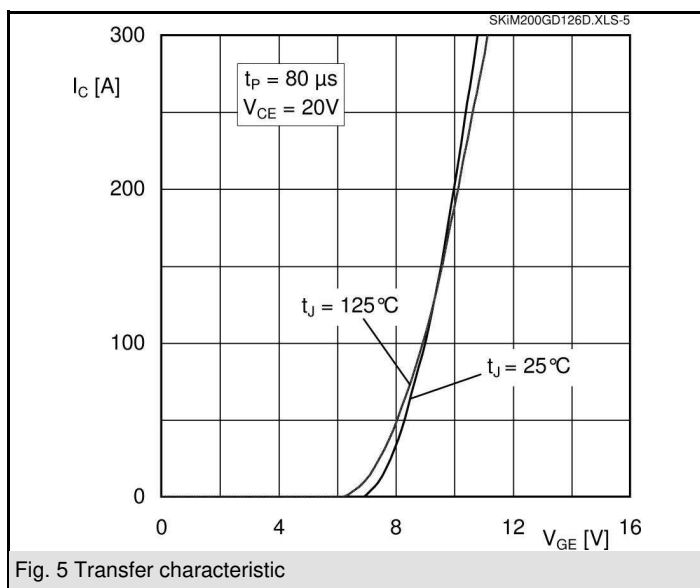
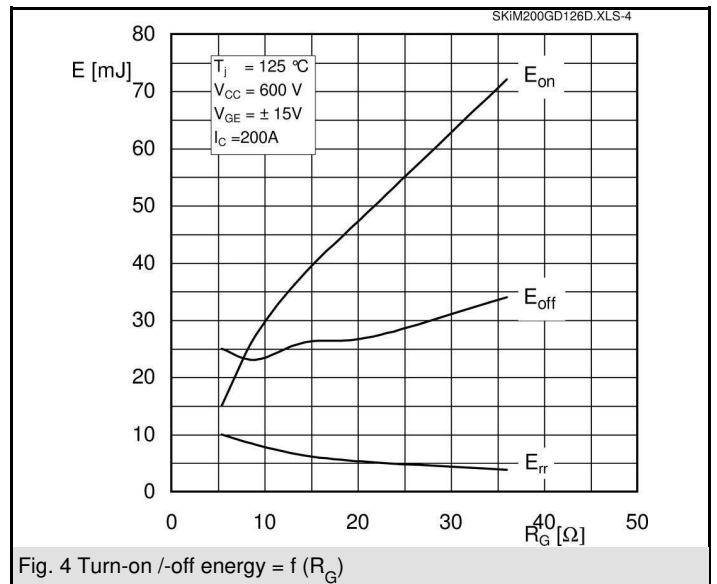
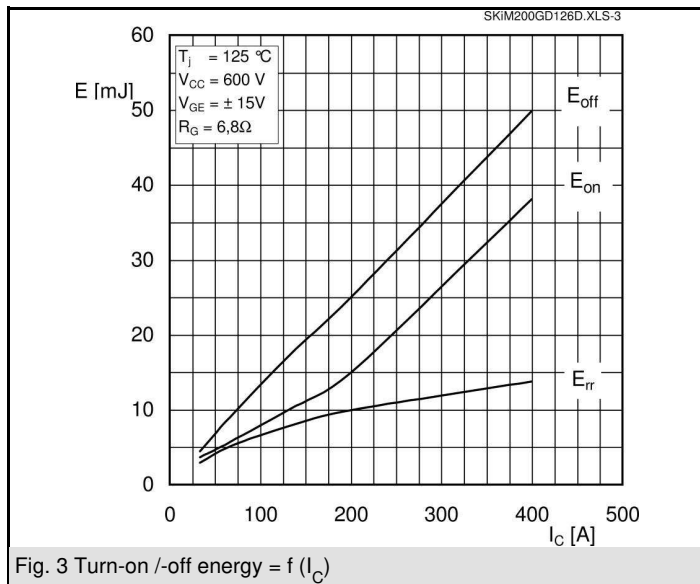
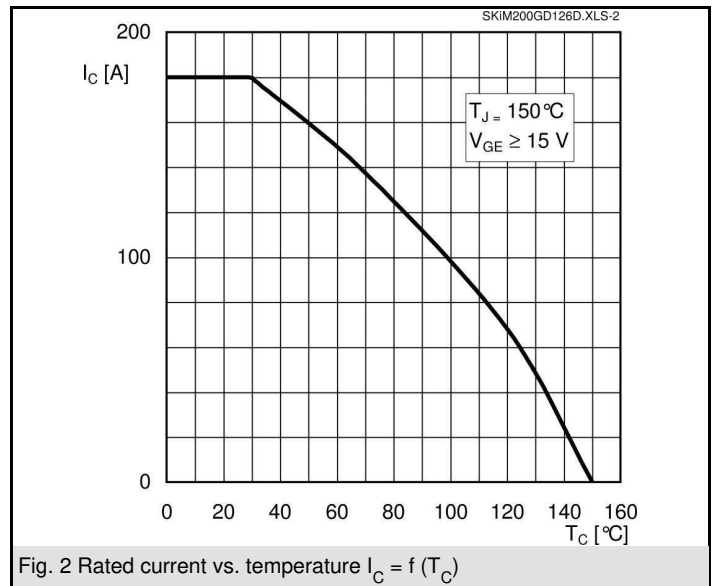
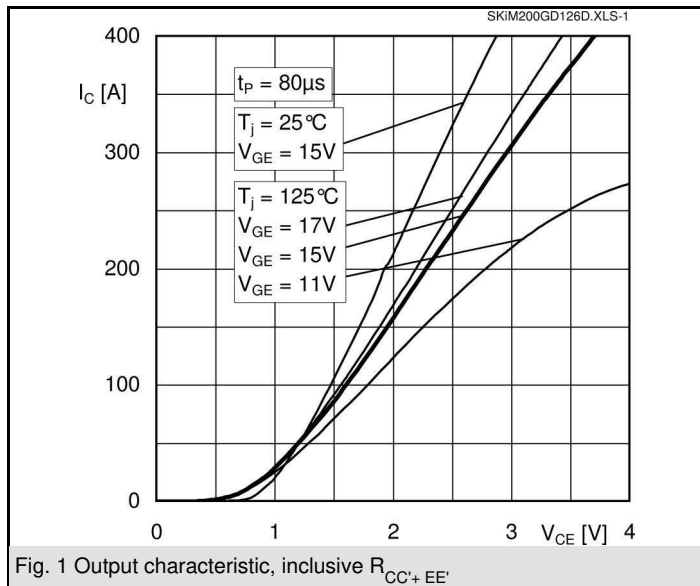
- Switched mode power supplies
- Uninterruptable Power Supplies (UPS)
- Three phase inverters for AC motor speed control

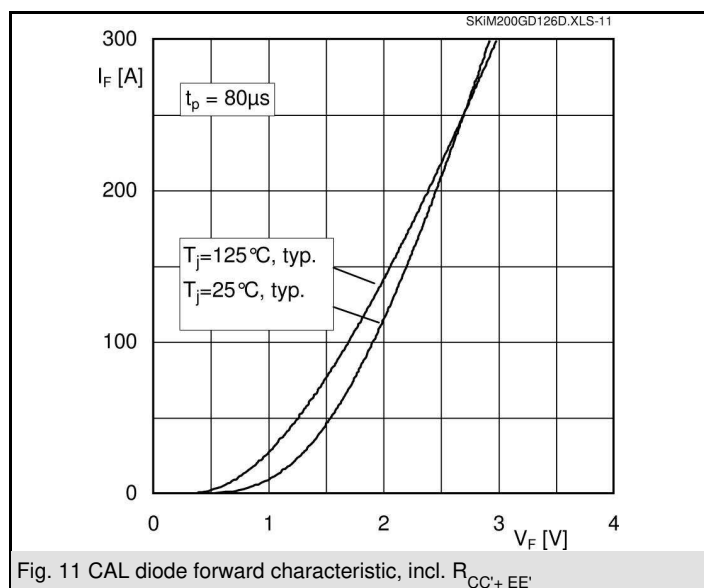
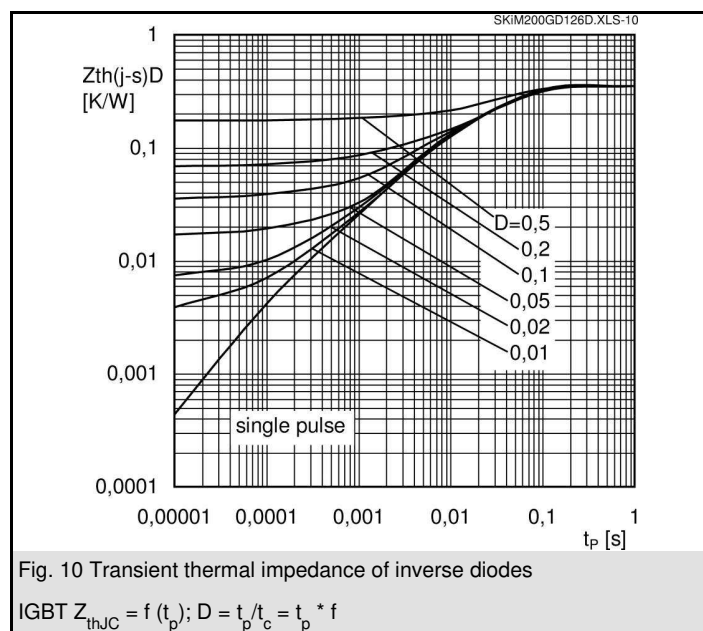
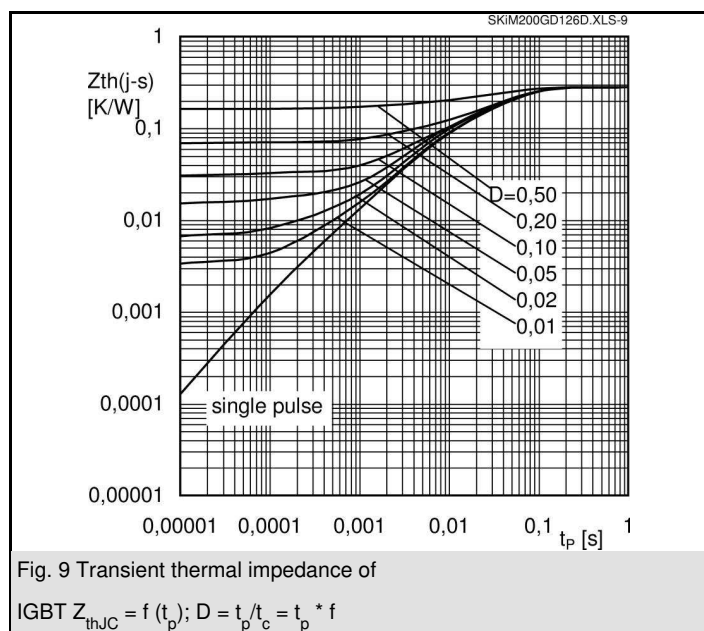


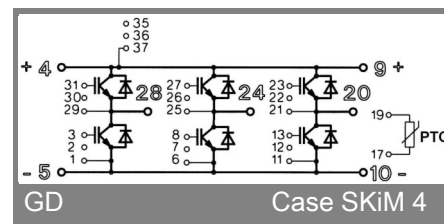
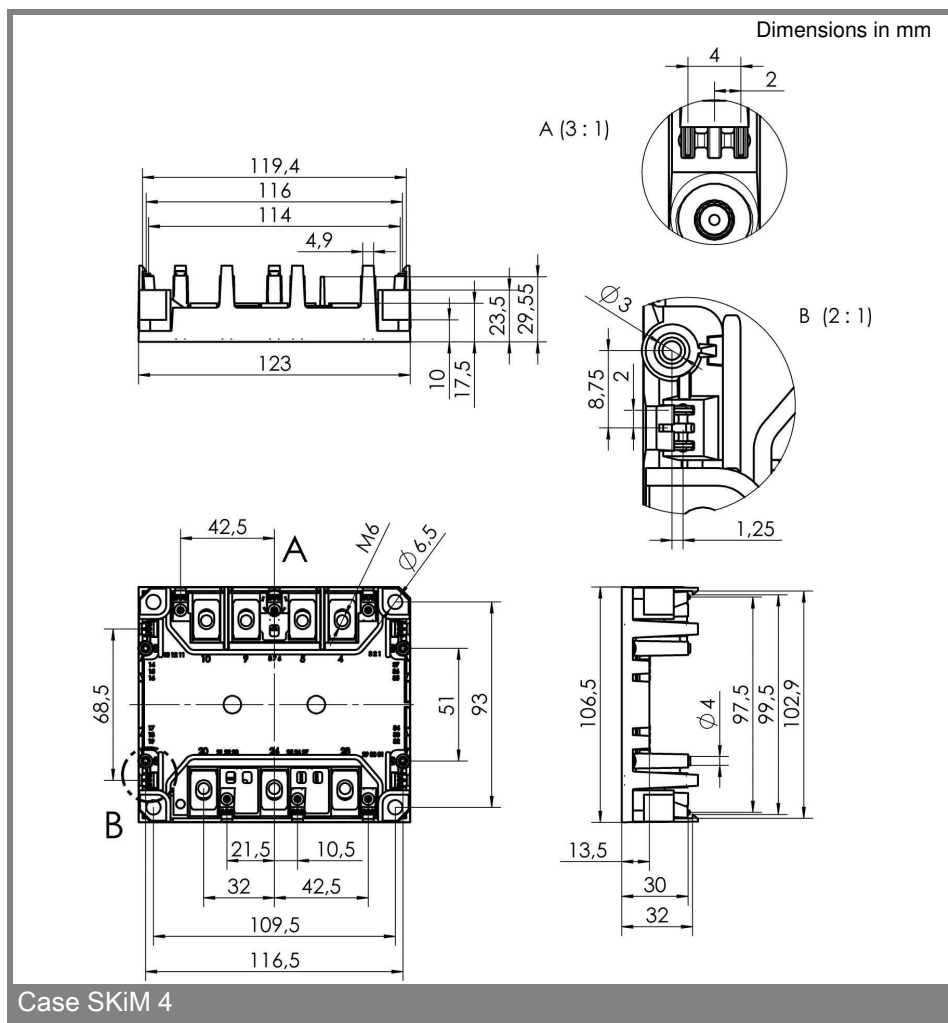
GD

Absolute Maximum Ratings		T _{case} = 25°C, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT			
V _{CES}		1200	V
I _C	T _s = 25 (70) °C	180 (140)	A
I _{CRM}	t _p = 1 ms	400	A
V _{GES}		± 20	V
T _j (T _{stg})		- 40 ... + 150 (125)	°C
T _{cop}	max. case operating temperature	125	°C
V _{isol}	AC, 1 min.	2500	V
Inverse diode			
I _F	T _s = 25 (70) °C	200 (130)	A
I _{FRM}	t _p = 1 ms	400	A
I _{FSM}	t _p = 10 ms; sin.; T _j = 150 °C	1400	A

Characteristics		T _{case} = 25°C, unless otherwise specified		
Symbol	Conditions	min.	typ.	max. Units
IGBT				
V _{GE(th)}	V _{GE} = V _{CE} ; I _C = 8 mA	5	5,8	6,5 V
I _{CES}	V _{GE} = 0; V _{CE} = V _{CES} ; T _j = 25 °C			2,4 mA
V _{CEO}	T _j = 25 (125) °C		1 (0,9)	1,2 (1,1) V
r _{CE}	T _j = 25 (125) °C		3,3 (5,3)	4,5 (6,5) mΩ
V _{CEsat}	I _{Cnom} = 200 A; V _{GE} = 15 V, T _j = 25 (125) °C on chip level		1,65 (1,95)	2,1 (2,4) V
C _{ies}	V _{GE} = 0; V _{CE} = 25 V; f = 1 MHz		15	nF
C _{oes}	V _{GE} = 0; V _{CE} = 25 V; f = 1 MHz		1,2	nF
C _{res}	V _{GE} = 0; V _{CE} = 25 V; f = 1 MHz		1,1	nF
L _{CE}				15 nH
R _{CC'+EE'}	resistance, terminal-chip T _c = 25 (125) °C		1,35 (1,75)	mΩ
t _{d(on)}	V _{CC} = 600 V			ns
t _r	I _{Cnom} = 200 A			ns
t _{d(off)}	R _{Gon} = R _{Goff} = 6,8 Ω			ns
t _f	T _j = 125 °C			ns
E _{on} (E _{off})	V _{GE} ± 15 V		15 (25)	mJ
E _{on} (E _{off})	with SKHI 64; T _j = 125 °C V _{CC} = 600 V; I _C = 200 A			mJ
Inverse diode				
V _F = V _{EC}	I _{Fnom} = 150 A; V _{GE} = 0 V; T _j = 25 (125) °C		2 (1,8)	2,5 (2,3) V
V _{TO}	T _j = 25 (125) °C		1,1	1,45 (1,25) V
r _T	T _j = 25 (125) °C		6	7 (7) mΩ
I _{RRM}	I _F = 150 A; T _j = 125 °C			A
Q _{rr}	V _{GE} = 0 V di/dt = A/μs			μC
E _{rr}	R _{Gon} = R _{Goff} = 6,8 Ω			mJ
Thermal characteristics				
R _{th(j-s)}	per IGBT			0,28 K/W
R _{th(j-s)}	per FWD			0,35 K/W
Temperature Sensor				
R _{TS}	T = 25 (100) °C		1 (1,67)	kΩ
tolerance	T = 25 (100) °C		3 (2)	%
Mechanical data				
M ₁	to heatsink (M5)	2	3	Nm
M ₂	for terminals (M6)	4	5	Nm
w			310	g







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

*IMPORTANT INFORMATION AND WARNINGS

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