

SEMITOP® 3

Mosfet Module

SK 260MB10

Preliminary Data

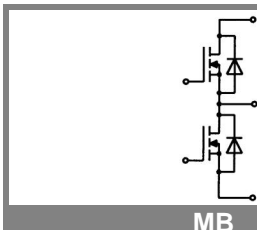
Features

- Compact design
- One screw mounting
- Heat transfer and isolation through direct copper bonded aluminium oxide ceramic (DCB)
- Trench technology
- Short internal connections and low inductance case

Typical Applications

- Low switched mode power supplies
- DC servo drives
- UPS

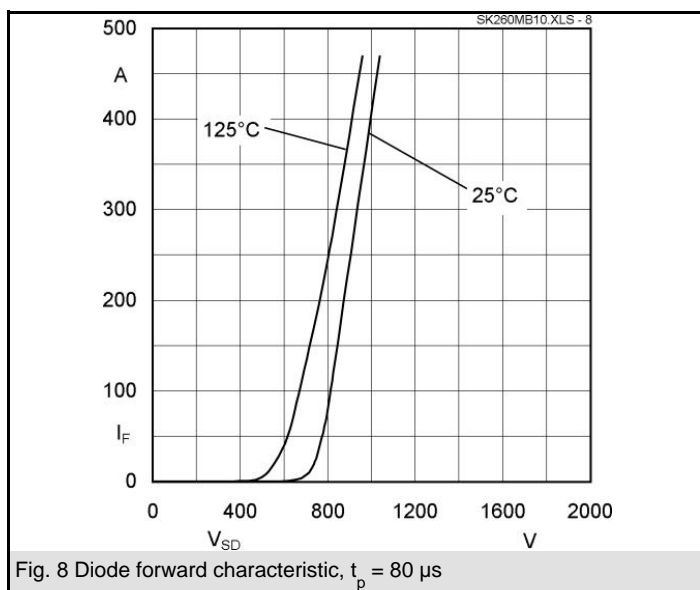
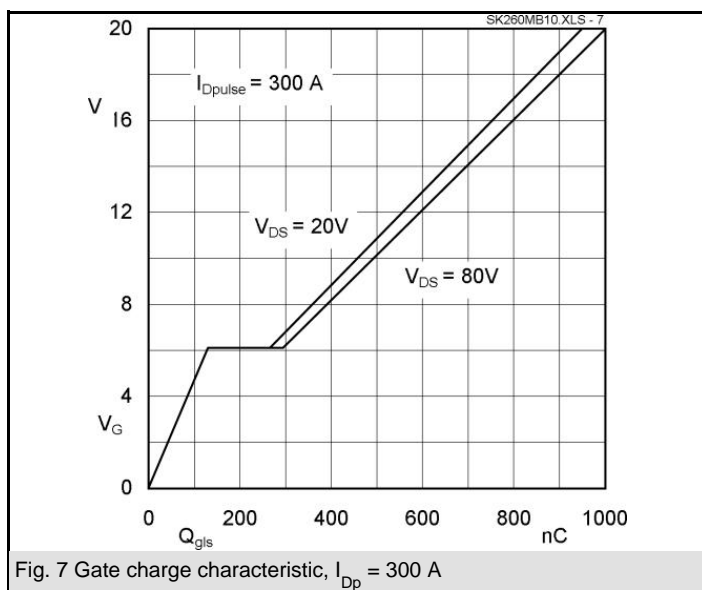
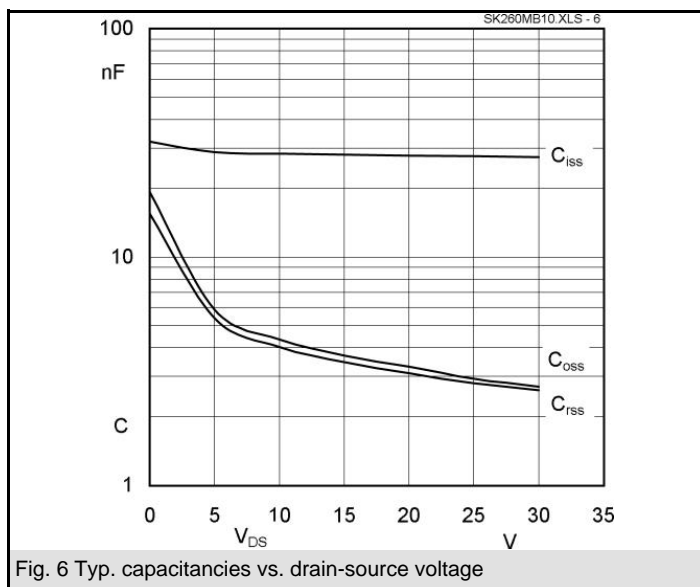
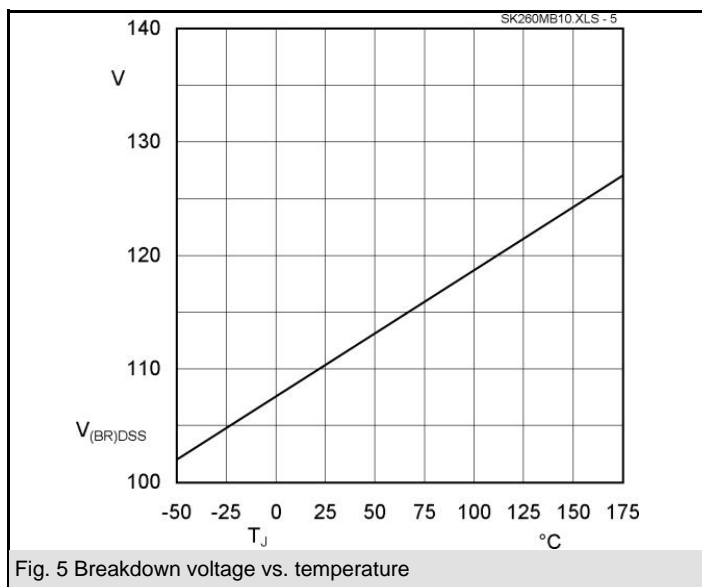
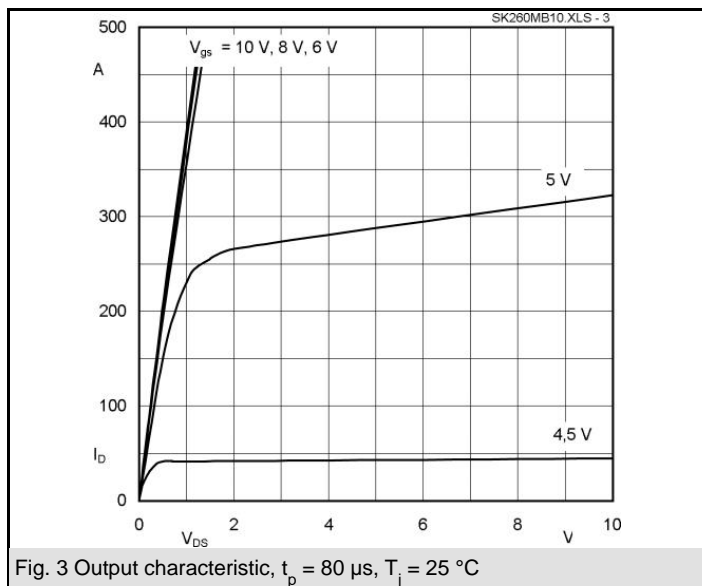
1) Maximum PCB temperature, at pins contact, 85°C

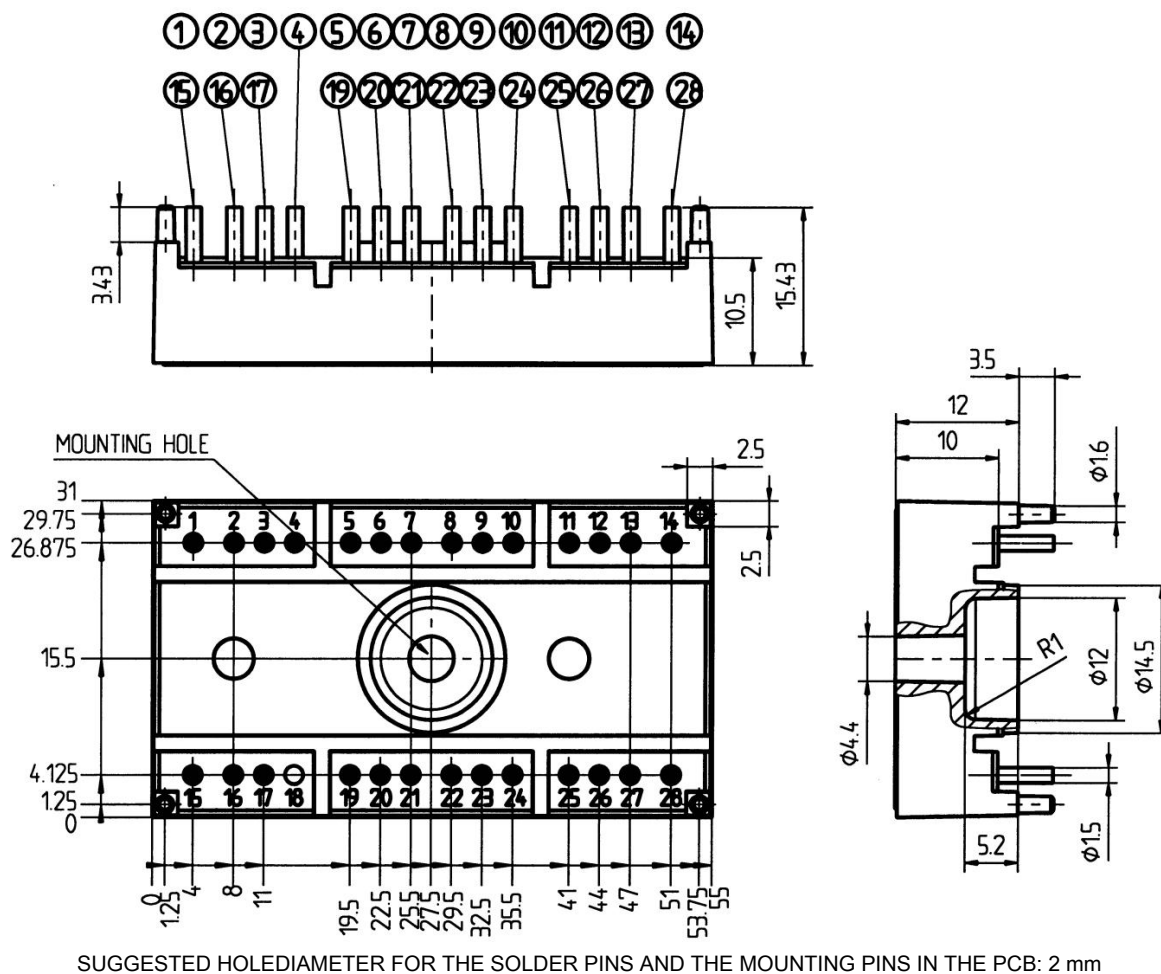


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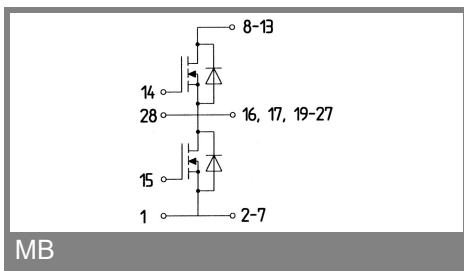
Absolute Maximum Ratings		$T_s = 25\text{ °C}$, unless otherwise specified	
Symbol	Conditions	Values	Units
IGBT			
V_{DSS}		100	V
V_{GSS}		± 20	V
I_D	$T_s = 25\text{ (80) °C}; 1$	230 (180)	A
I_{DM}	$t_p < 1\text{ ms}; T_s = 25\text{ (80) °C}; 1$	460 (360)	A
T_j		-40...+150	°C
Inverse diode			
$I_F = -I_D$	$T_s = 25\text{ (80) °C};$	230 (180)	A
$I_{FM} = -I_{DM}$	$t_p < 1\text{ ms}; T_s = 25\text{ (80) °C};$	460 (360)	A
T_j		-40...+150	°C
Freewheeling CAL diode			
$I_F = -I_D$	$T_s = \text{°C}$		A
T_j			°C
T_{stg}		- 40 ... + 125	°C
T_{sol}	Terminals, 10 s	260	°C
V_{isol}	a.c. 50 Hz, RMS, 1 min (1s)	2500 / 3000	V

Characteristics		T _s = 25 °C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
MOSFET					
V _{(BR)DSS}	V _{GS} = 0 V, I _D = 0,25 mA	≥ V _{DSS}			V
V _{GS(th)}	V _{GS} = V _{DS} ; I _D = 0,25 mA	2,5	3,3		V
I _{DSS}	V _{GS} = 0 V; V _{DS} = V _{DSS} ; T _j = 25 (125) °C			100 (500)	µA
I _{GSS}	V _{GS} = 20V ;V _{DS} = 0 V			100	nA
R _{DS(on)}	I _D = 300 A; V _{GS} = 10 V; T _j = 25 °C			2,5	mΩ
R _{DS(on)}	I _D = 300 A; V _{GS} = 10 V; T _j = 125 °C		3,5	4,5	mΩ
C _{CHC}	per MOSFET				pF
C _{iss}	under following conditions:		27,6		nF
C _{oss}	V _{GS} = 0 V; V _{DS} = 25 V; f = 1 MHz		2,9		nF
C _{rss}			2,8		nF
L _{DS}			2,2		nH
t _{d(on)}	under following conditions:		410		ns
t _r	V _{DD} = 50 V; V _{GS} = 10 V; I _D = 300 A		450		ns
t _{d(off)}	R _G = 25 Ω		1490		ns
t _f			430		ns
R _{th(j-s)}	per MOSFET (per module)			0,45 (0,23)	K/W
Inverse diode					
V _{SD}	I _F = 300 A; V _{GS} = 0 V; T _j = 25 °C		0,76		V
I _{RRM}	under following conditions:				A
Q _{rr}	I _F = 300 A; T _{vj} = °C; R _G = Ω				µC
t _{rr}	V _R = A; di/dt = A/µs				ns
Free-wheeling diode					
V _F	I _F = A; V _{GS} = V				V
I _{RRM}	under following conditions:				A
Q _{rr}	I _F = A; T _{vj} = °C				µC
t _{rr}	V _r = A; di/dt = A/µs				ns
Mechanical data					
M1	mounting torque			2,5	Nm
w			30		g
Case	SEMITOP® 3		T 24		





Case T24



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

This technical information specifies semiconductor devices but promises no characteristics. No warranty or guarantee expressed or implied is made regarding delivery, performance or suitability.