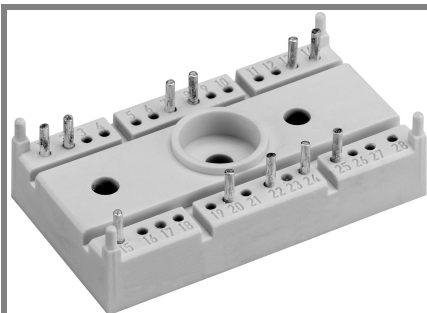


SK 150 MBL 055 T



SEMITOP® 3

Mosfet Module

SK 150 MBL 055 T

Target Data

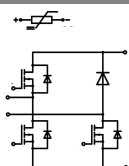
Features

- 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
- Integrated PTC temperature sensor

Typical Applications

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

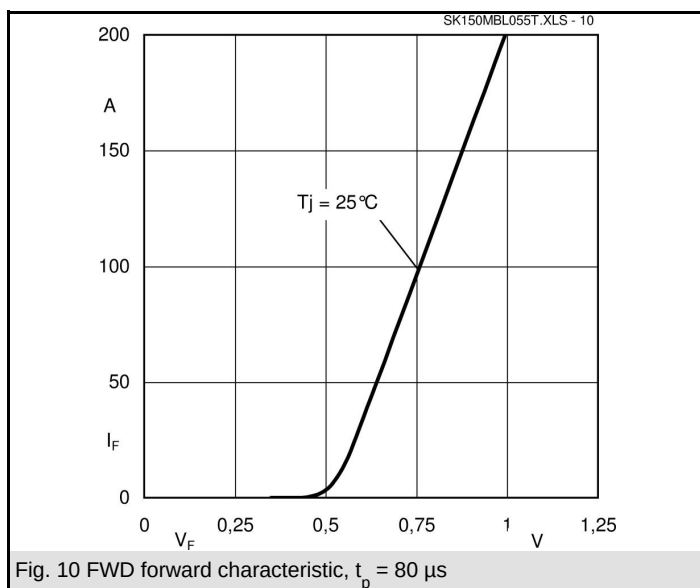
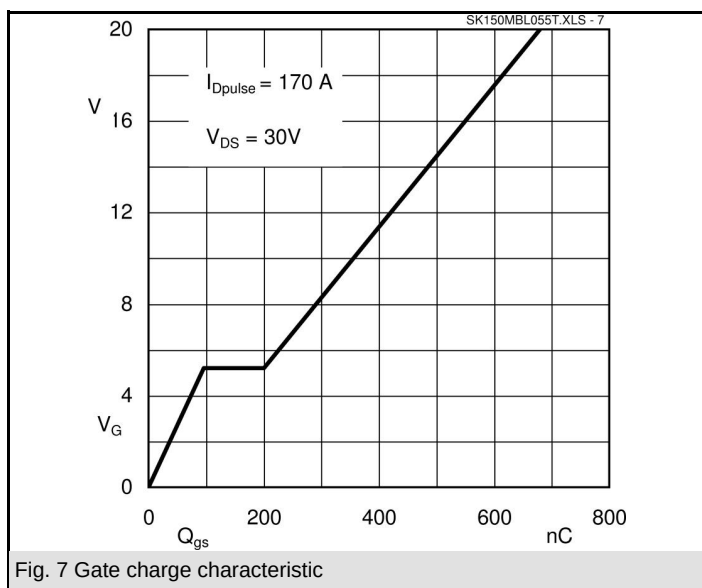
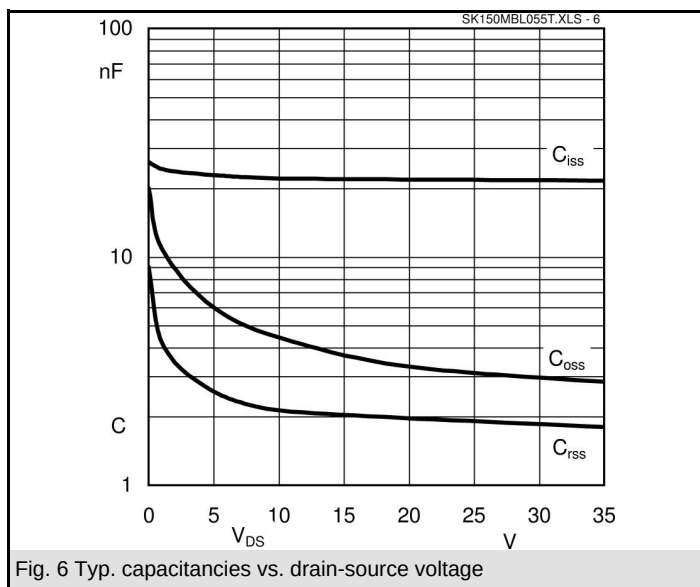
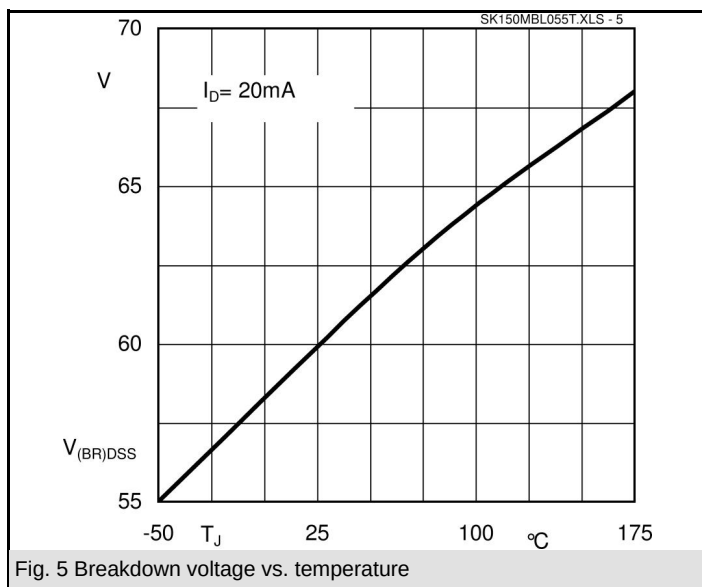
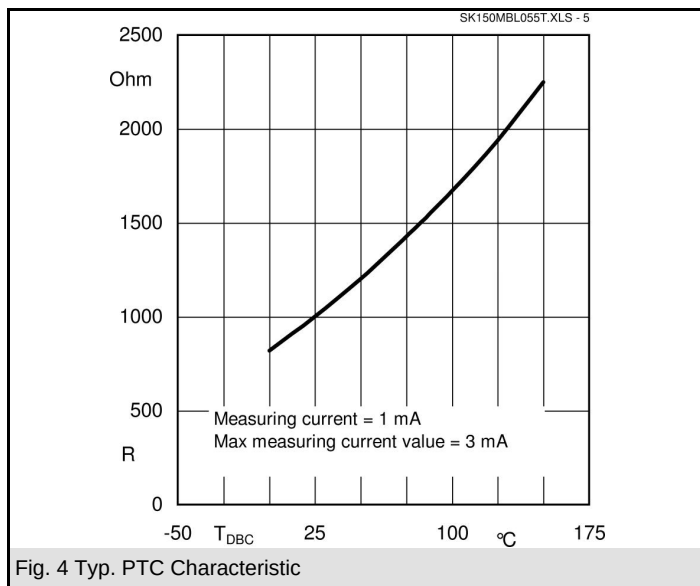
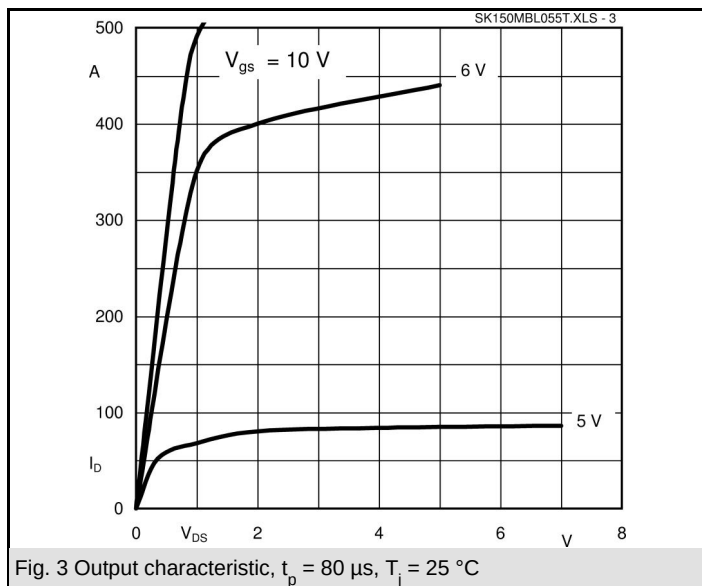
1) Maximum PCB temperature, at pins/PCB contact, = 85°C

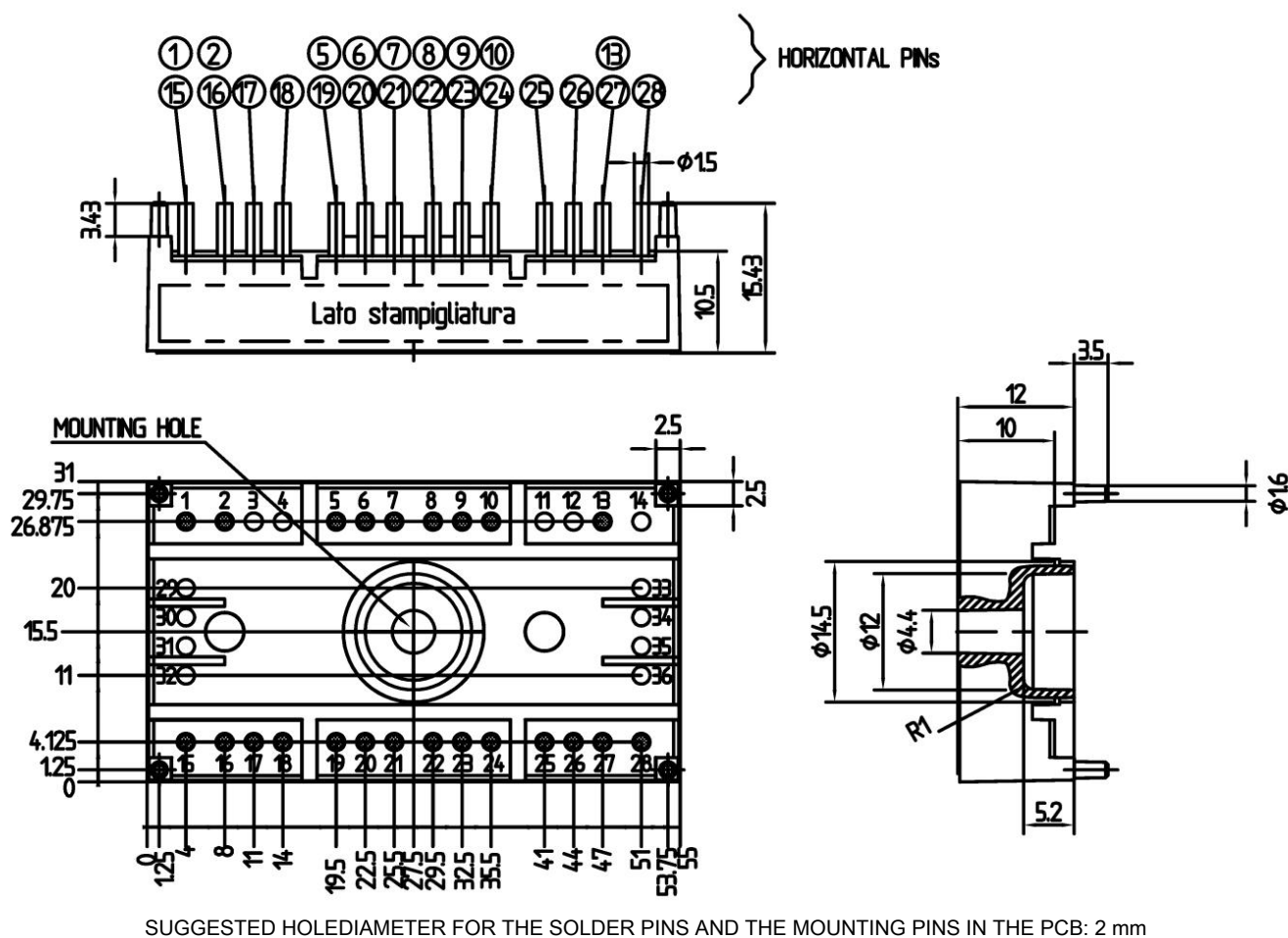


MBL

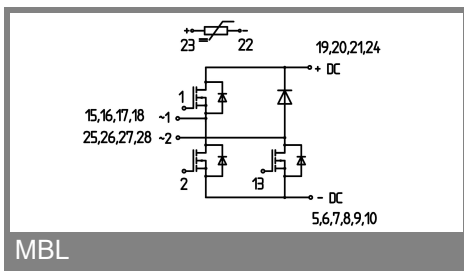
Absolute Maximum Ratings		$T_s = 25\text{ °C}$, unless otherwise specified	
Symbol	Conditions	Values	Units
MOSFET			
V_{DSS}		55	V
V_{GSS}		± 20	V
I_D	$T_s = 25\text{ (80) °C}; 1$	240 (150)	A
I_{DM}	$t_p < 1\text{ ms}; T_s = 25\text{ (80) °C}; 1$	340 (250)	A
T_j		-40...+150	°C
Inverse diode			
$I_F = -I_D$	$T_s = 25\text{ (80) °C};$	240 (150)	A
$I_{FM} = -I_{DM}$	$t_p < 1\text{ ms}; T_s = 25\text{ (80) °C};$	340 (250)	A
T_j		-40...+150	°C
Freewheeling CAL diode			
$I_F = -I_D$	$T_s = 25\text{ °C}$	160	A
T_j			°C
T_{stg}		- 40 ... + 125	°C
T_{sol}	Terminals, 10 s	260	°C
V_{isol}	AC, 1 min (1s)	2500 / 3000	V

Characteristics		$T_s = 25\text{ °C}$, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
MOSFET					
$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}; I_D = 0,25\text{ mA}$	55			V
$V_{GS(th)}$	$V_{GS} = V_{DS}; I_D = 0,25\text{ mA}$	2,5	3,2	4,5	V
I_{DSS}	$V_{GS} = 0\text{ V}; V_{DS} = V_{DSS}; T_j = 25\text{ (125) °C}$			1	μA
I_{GSS}	$V_{GS} = \pm 20\text{ V}; V_{DS} = 0\text{ V}$			100	nA
$R_{DS(on)}$	$I_D = 5\text{ A}; V_{GS} = 10\text{ V}; T_j = 25\text{ °C}$		1,1	1,5	m Ω
$R_{DS(on)}$	$I_D = 5\text{ A}; V_{GS} = 10\text{ V}; T_j = 125\text{ °C}$		1,9	2,6	m Ω
C_{CHC}	per MOSFET				pF
C_{iss}	under following conditions:		21,2		nF
C_{oss}	$V_{GS} = 0\text{ V}; V_{DS} = 25\text{ V}; f = 1\text{ MHz}$		3,3		nF
C_{rss}			1,6		nF
L_{DS}					nH
$t_{d(on)}$	under following conditions:		40		ns
t_r	$V_{DD} = 30\text{ V}; V_{GS} = 10\text{ V};$ $I_D = 70\text{ A}$		180		ns
$t_{d(off)}$	$R_G = 2,5\text{ }\Omega$		70		ns
t_f			110		ns
$R_{th(j-s)}$	per MOSFET (per module)			0,8	K/W
Inverse diode					
V_{SD}	$I_F = 5\text{ A}; V_{GS} = 0\text{ V}; T_j = 25\text{ °C}$		0,7	1,5	V
I_{RRM}	under following conditions:		8		A
Q_{rr}	$I_F = 150\text{ A}; T_{vj} = 25\text{ °C}; R_G = 2,5\text{ }\Omega$		0,35		μC
t_{rr}	$V_R = 30\text{ A}; di/dt = 100\text{ A}/\mu\text{s}$		80		ns
Free-wheeling diode					
V_F	$I_F = 100\text{ A}; V_{GS} = V$		0,75		V
$R_{th(j-s)}$	Per diode			0,75	K/W
I_{RRM}	under following conditions:				A
Q_{rr}	$I_F = 150\text{ A}; T_{vj} = \text{ °C}$				μC
t_{rr}	$V_r = 60\text{ A}; di/dt = \text{ A}/\mu\text{s}$				ns
Mechanical data					
M1	mounting torque			2,5	Nm
w			30		g
Case	SEMITOP® 3		T 65		





Case T65



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.