



SEMITRANS™ M1

Power MOSFET Modules

SKM 180A020

Features

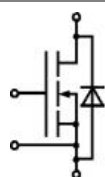
- N Channel, enhancement mode
- Avalanche characteristics
- Short internal connections avoid oscillations
- Isolated copper baseplates
- All electrical connections on top for easy busbaring
- Large clearance (10mm) and creepage distances (13mm)
- UL recognized, file no. E 63 532

Typical Applications

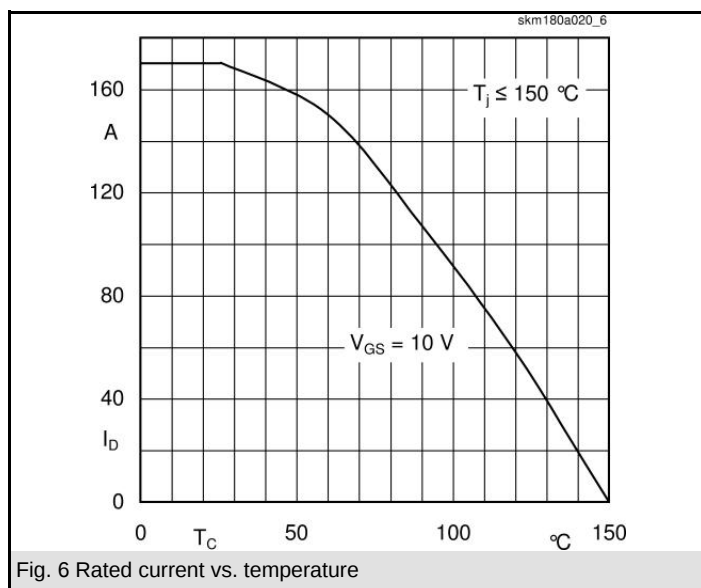
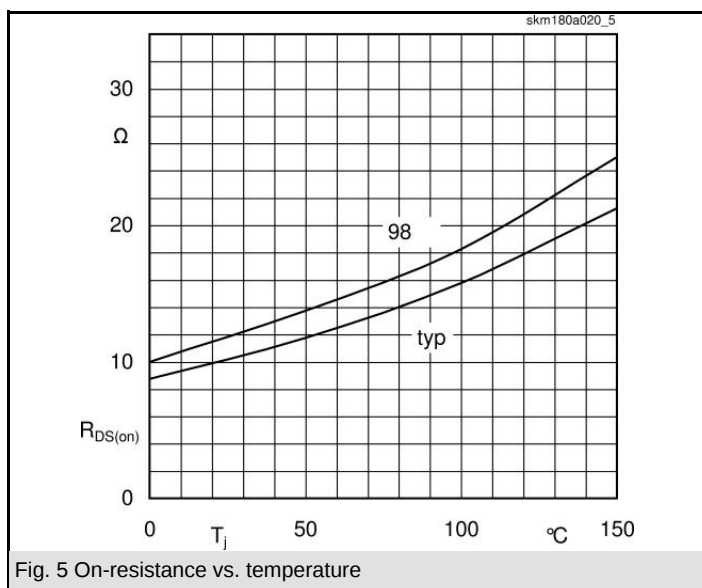
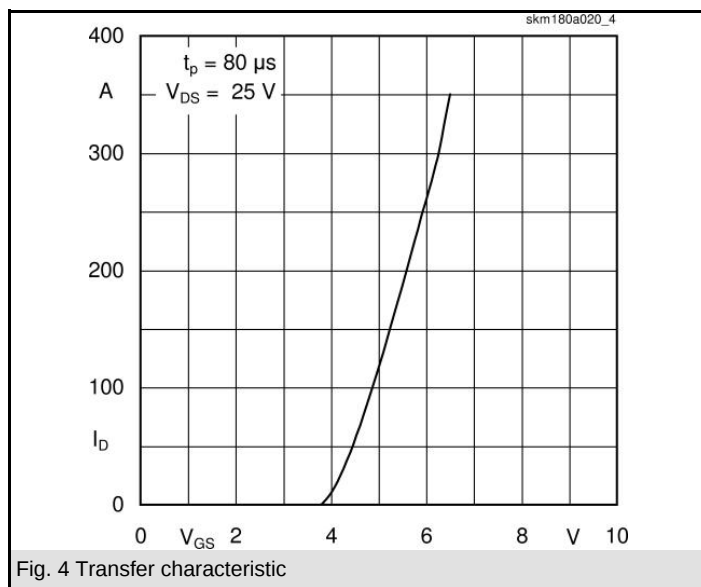
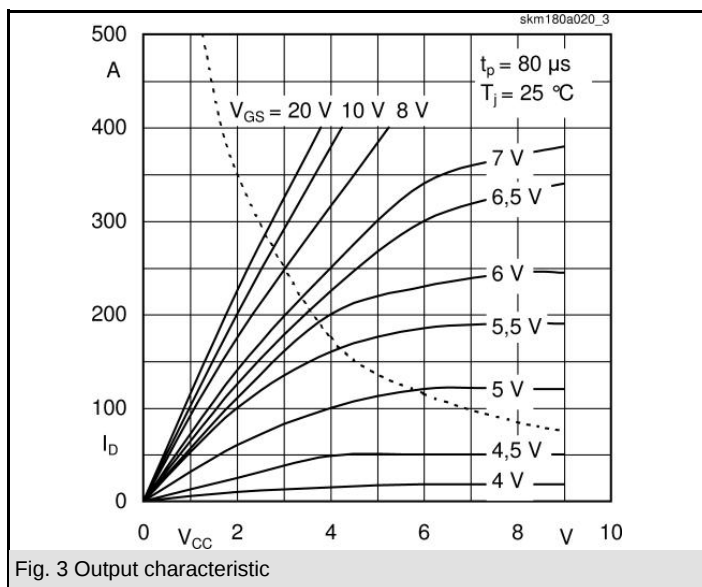
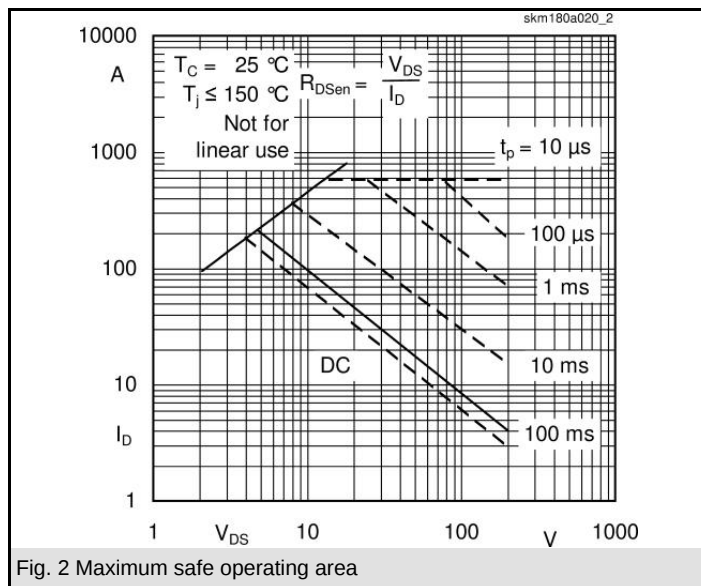
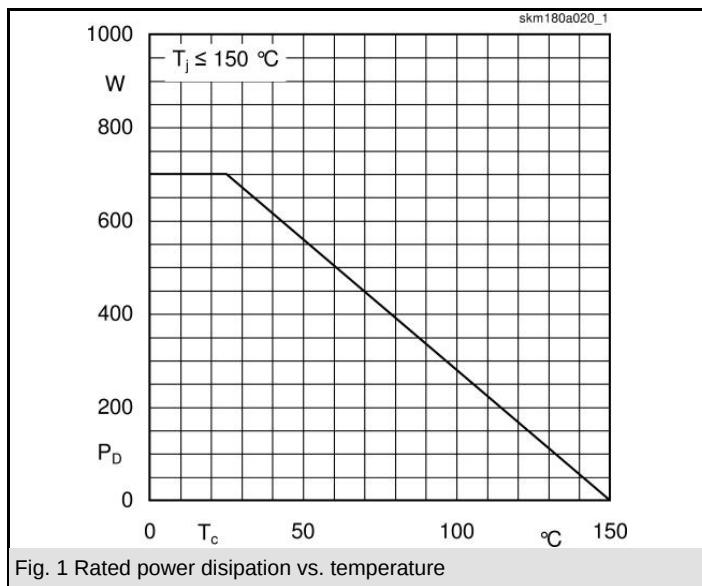
- Switched mode power supplies
- DC servo and robot drives
- DC choppers
- UPS equipment
- Plasma cutting
- Not suitable for linear amplification

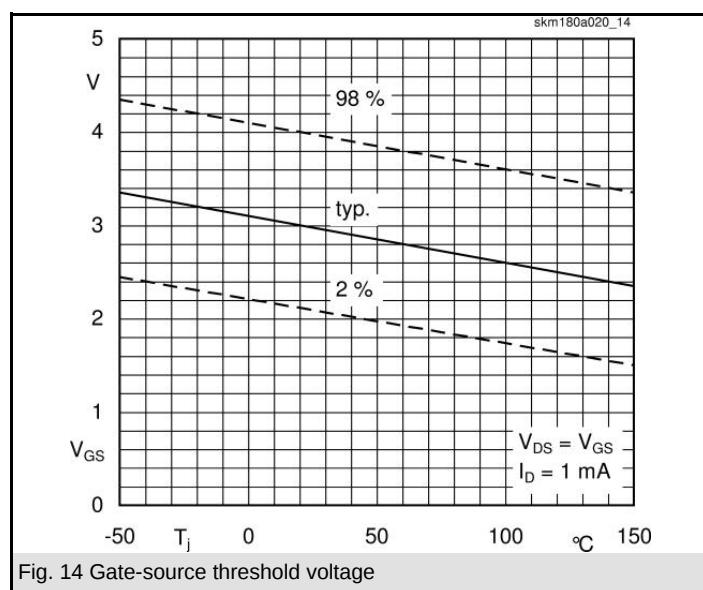
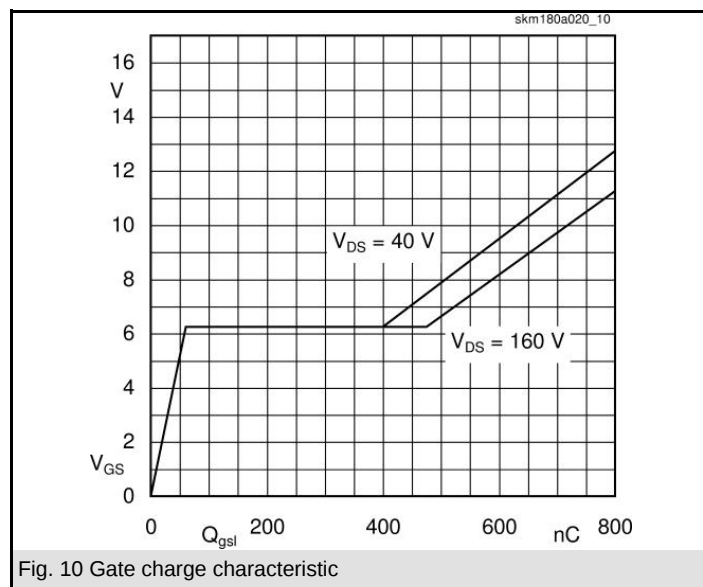
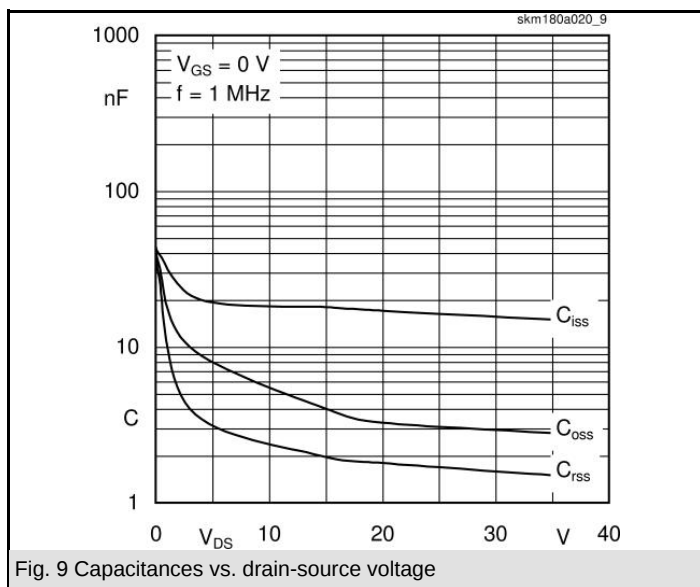
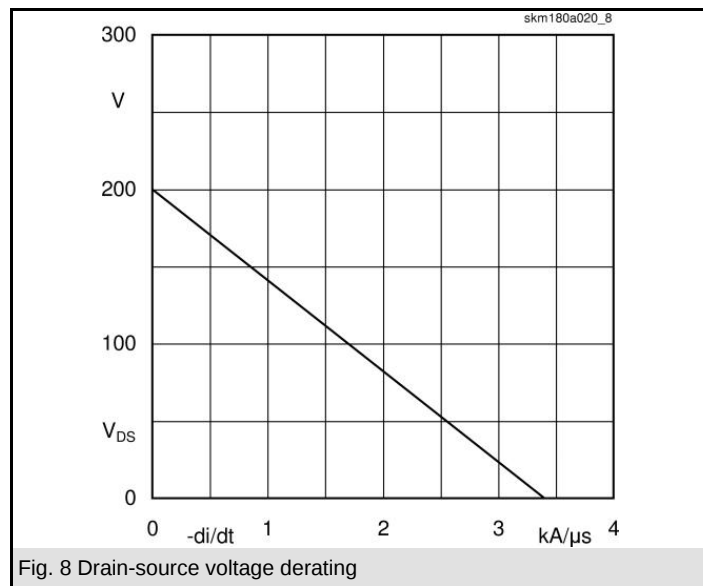
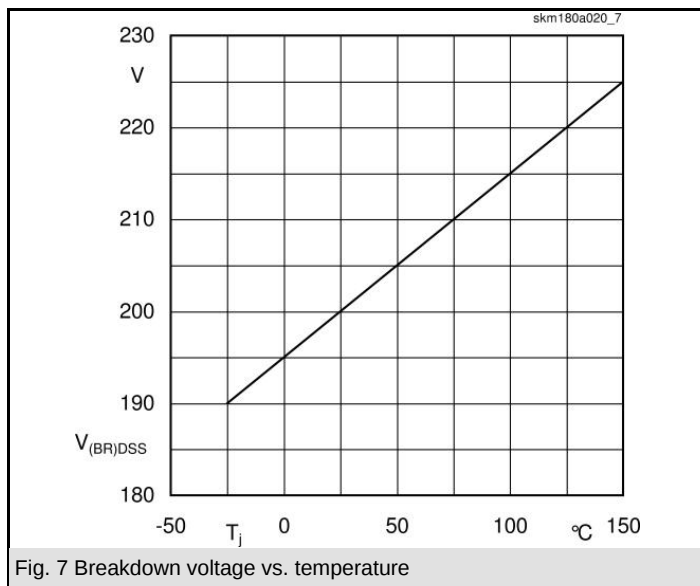
Absolute Maximum Ratings		T _c = 25 °C, unless otherwise specified	
Symbol	Conditions	Values	Units
V _{DS}	T _s = 25 (80) °C 1 ms	200	V
I _D		180 (135)	A
I _{DM}		540	A
V _{GS}		± 20	V
T _{vj} , (T _{stg})		- 40 ... + 150 (125)	°C
V _{isol}	AC, 1 min.	2500	V
Inverse diode			
I _F = - I _S		180	A
I _{FM} = - I _{SM}		540	A

Characteristics		$T_c = 25\text{ °C}$, unless otherwise specified		
Symbol	Conditions	min.	typ.	max.
$V_{(BR)DSS}$	$V_{GS} = 0\text{ V}$, $I_D = 0,25\text{ mA}$	200		
$V_{GS(th)}$	$V_{GS} = V_{DS}$, $I_D = 1\text{ mA}$	2,1	3	4
I_{DSS}	$V_{GS} = 0\text{ V}$, $V_{DS} = 200\text{ V}$, $T_j = 25\text{ (125) °C}$		50 (300)	250 (1000)
I_{GSS}	$V_{GS} = 20\text{ V}$, $V_{DS} = 0\text{ V}$		10	100
$R_{DS(on)}$	$V_{GS} = 10\text{ V}$, $I_D = 110\text{ A}$		9	11
g_{fs}	$V_{DS} = 25\text{ V}$, $I_D = 110\text{ A}$	80	100	
C_{CHC}	$V_{GS} = 0$, $V_{DS} = 25\text{ V}$, $f = 1\text{ MHz}$			160
C_{iss}			16	24
C_{oss}			3	4,5
C_{rss}			1,5	2
L_{DS}				20
$t_{d(on)}$	$V_{DD} = 100\text{ V}$, $I_D = 80\text{ A}$,		100	
t_r	$V_{GS} = 10\text{ V}$, $R_G = 3,3\text{ }\Omega$		200	
$t_{d(off)}$			900	
t_f			220	
Inverse diode				
V_{SD}	$I_F = 360\text{ A}$; $V_{GS} = 0\text{ V}$		1,3	1,5
t_{rr}	$T_j = 25\text{ (125) °C}$		0,5	
Q_{rr}	$T_j = 25\text{ °C}$		10 (12)	
I_{rr}	$T_j = \text{ °C}$			
Thermal characteristics				
$R_{th(j-c)}$	per MOSFET		0,18	K/W
$R_{th(c-s)}$	M_s , surface $10\text{ }\mu\text{m}$, per module		0,05	K/W
Mechanical data				
M_s	to heatsink (M6)	4	5	Nm
M_t	for terminals (M5)			Nm
w			130	g



MA

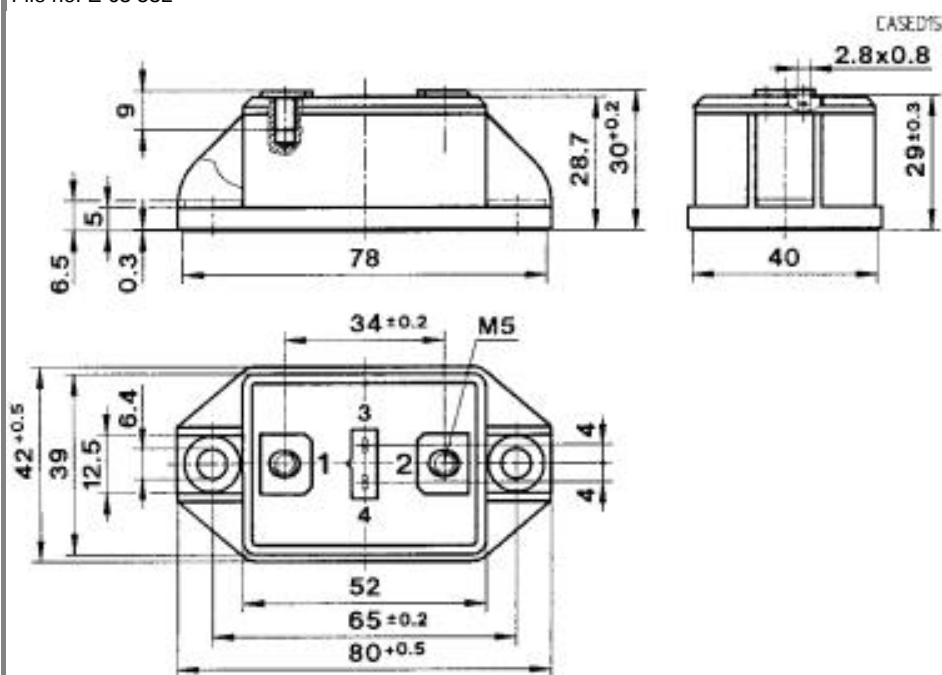




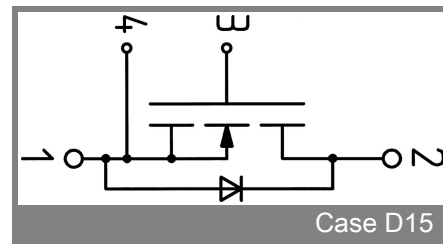
SKM 180A020

UL Recognized
File no. E 63 532

Dimensions in mm



Case D15



Case D15

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.