



SEMITRANS™ M1

Power MOSFET Modules

SKM 121AR

Features

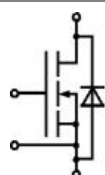
- N Channel, enhancement mode
- Avalanche characteristics
- Short internal connections avoid oscillations
- Isolated copper baseplates
- All electrical connections on top for easy busbaring
- Large clearance (10mm) and creepage distances (13mm)
- UL recognized, file no. E 63 532

Typical Applications

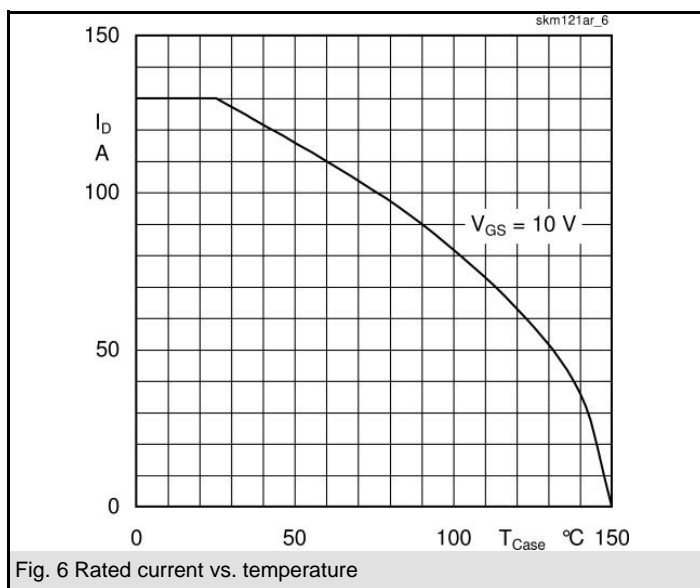
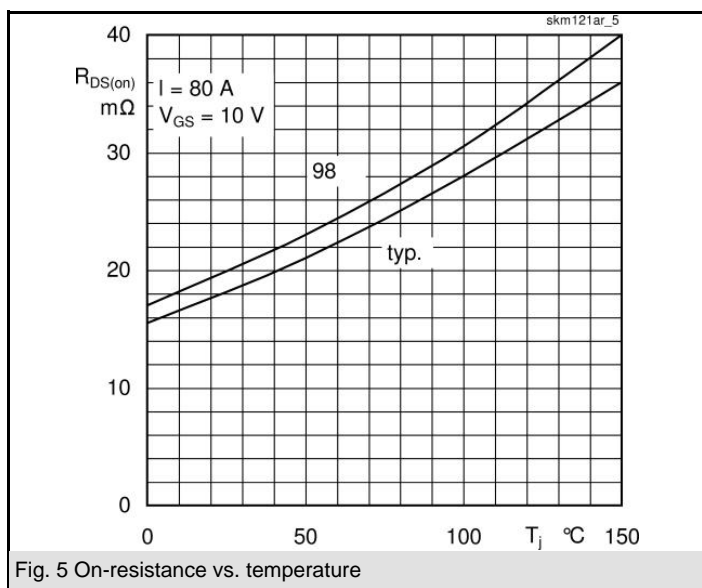
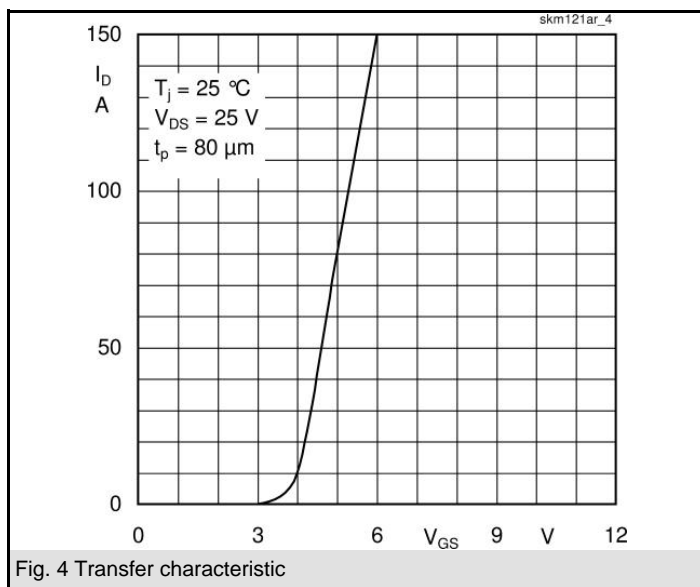
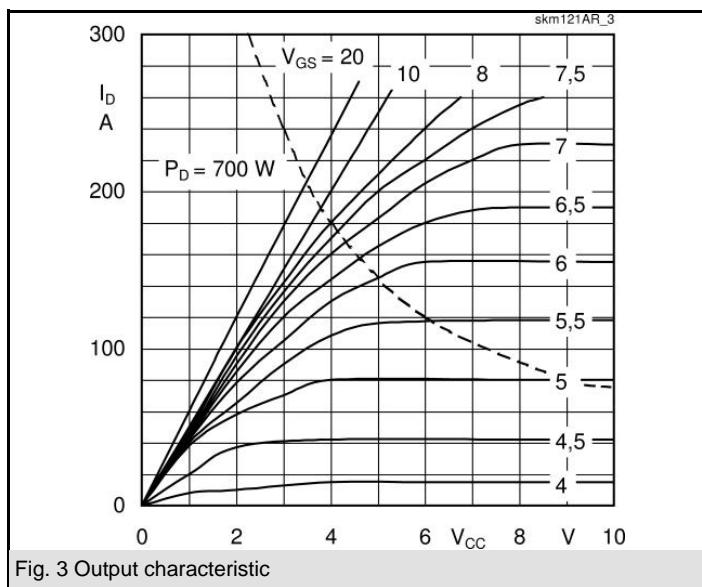
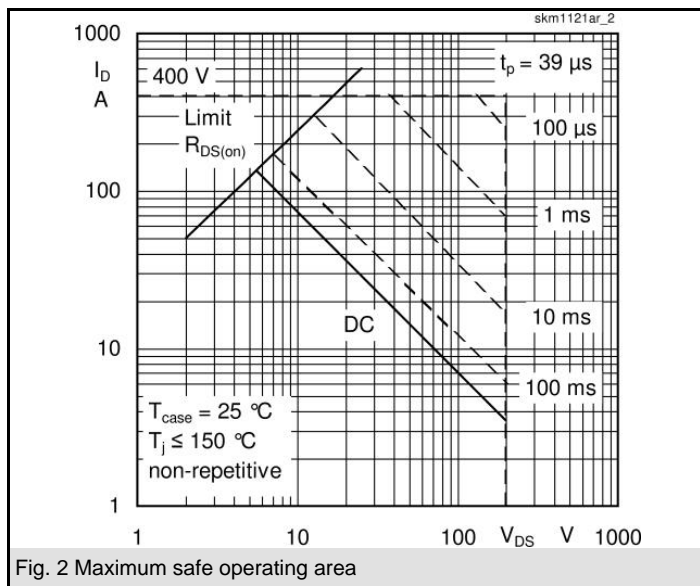
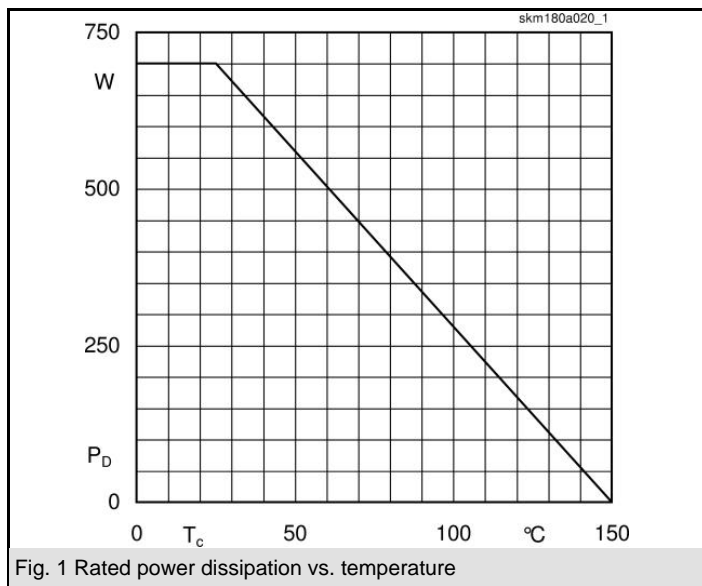
- Switched mode power supplies
- DC servo and robot drives
- DC choppers
- UPS equipment
- Plasma cutting
- Not suitable for linear amplification

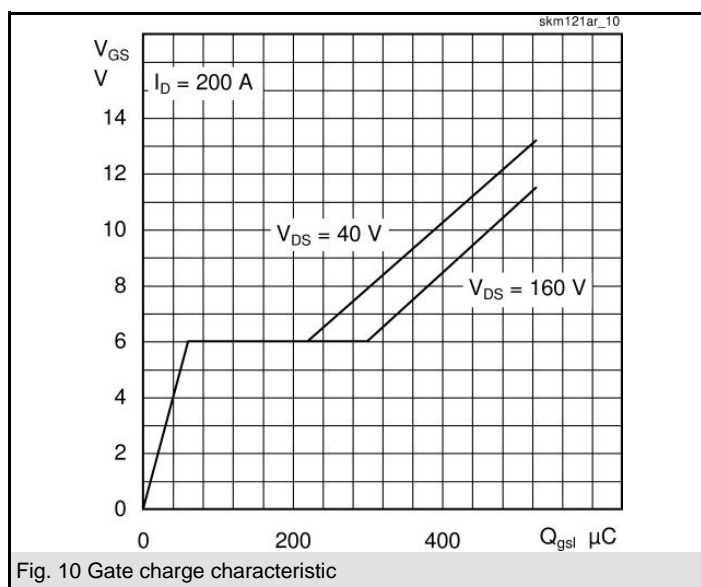
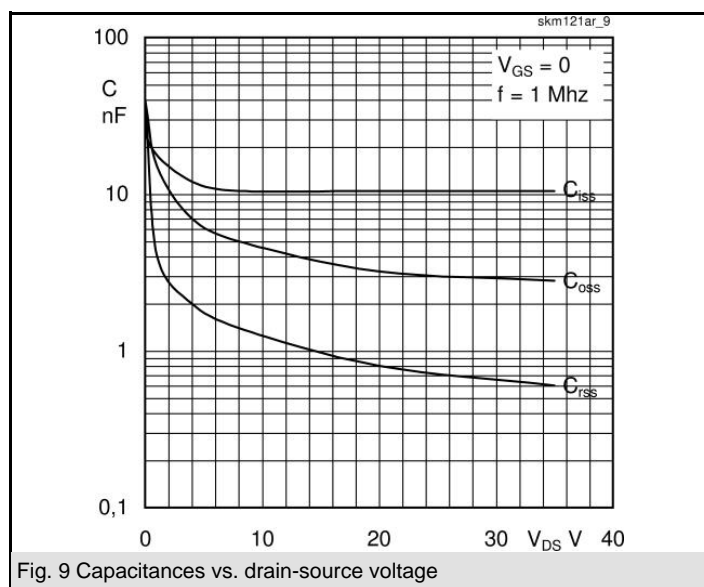
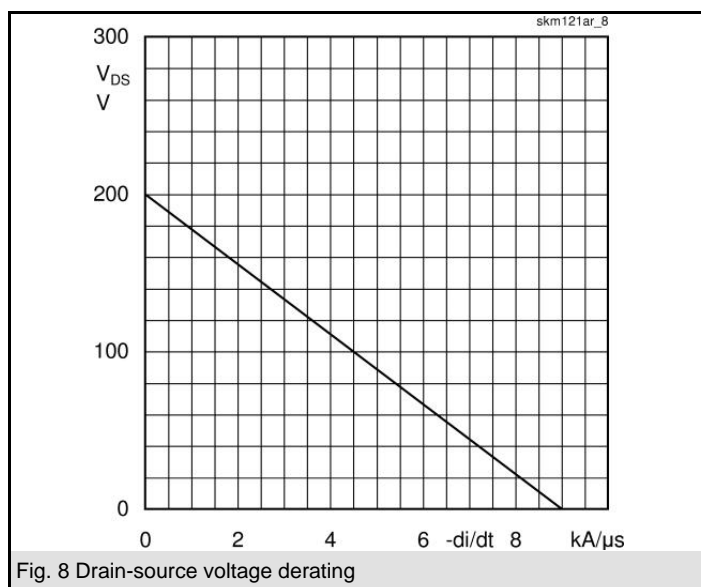
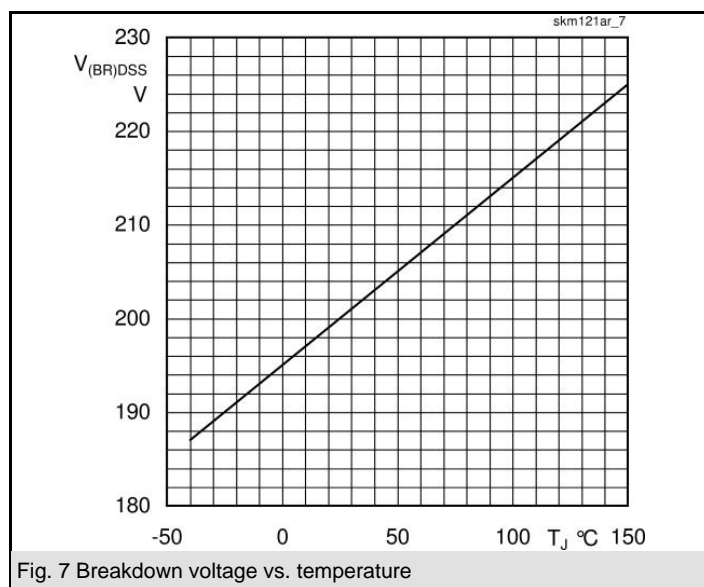
Absolute Maximum Ratings		T _c = 25 °C, unless otherwise specified	
Symbol	Conditions	Values	Units
V _{DS}	T _s = 25 (80) °C 1 ms	200	V
I _D		130 (95)	A
I _{DM}		390	A
V _{GS}		± 20	V
T _{vj} , (T _{stg})	AC, 1 min.	- 40 ... + 150 (125)	°C
V _{isol}		2500	V
Inverse diode			
I _F = - I _S		130	A
I _{FM} = - I _{SM}		390	A

Characteristics		T _c = 25 °C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
V _{(BR)DSS}	V _{GS} = 0 V, I _D = 0,25 mA	200			V
V _{GS(th)}	V _{GS} = V _{DS} , I _D = 1 mA	2,1	3	4	V
I _{DSS}	V _{GS} = 0 V, V _{DS} = 200 V, T _j = 25 (125) °C		50 (300)	250 (1000)	µA
I _{GSS}	V _{GS} = 20 V, V _{DS} = 0 V		10	100	nA
R _{DS(on)}	V _{GS} = 10 V, I _D = 80 A		18	20	mΩ
g _{fs}	V _{DS} = 25 V, I _D = 80 A	60	75		S
C _{CHC}	V _{GS} = 0, V _{DS} = 25 V, f = 1 MHz			160	pF
C _{iss}			10	13	nF
C _{oss}			3	4,5	nF
C _{rss}			0,7	1	nF
L _{DS}				20	nH
t _{d(on)}	V _{DD} = 100 V, I _D = 80 A, V _{GS} = 10 V, R _G = 3,3 Ω		60		ns
t _r			60		ns
t _{d(off)}			240		ns
t _f			70		ns
Inverse diode					
V _{SD}	I _F = 260 A; V _{GS} = 0 V		1,05	1,4	V
t _{rr}	T _j = 25 (150) °C		400		ns
Q _{rr}	T _j = 25 °C		4,3		µC
I _{rr}	T _j = °C				A
Thermal characteristics					
R _{th(j-c)}	per MOSFET			0,18	K/W
R _{th(c-s)}	M _s , surface 10 µm, per module			0,05	K/W
Mechanical data					
M _s	to heatsink (M6)	4		5	Nm
M _t	for terminals (M5)	2,5		3,5	Nm
w				130	g



MA

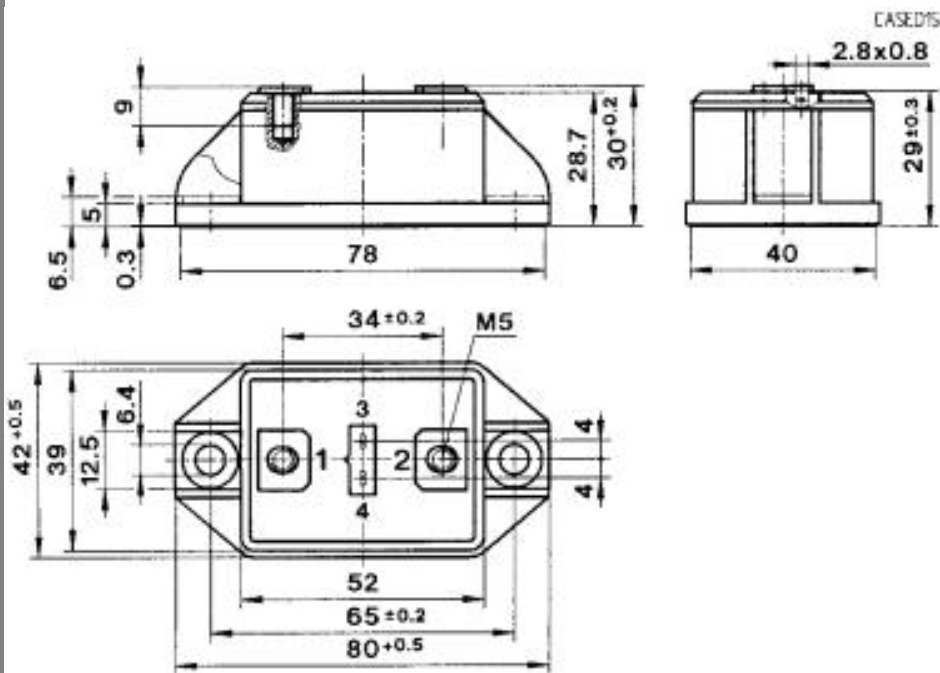




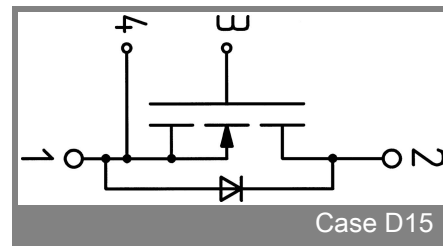
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UL Recognized
File no. E 63 532

Dimensions in mm



Case D 15



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.