

SKM 313B010



Power MOSFET Modules

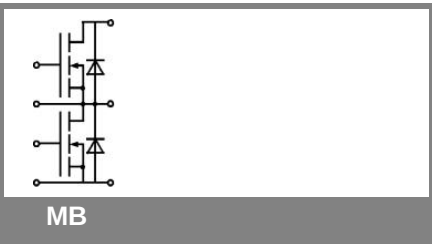
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Features

- N Channel, enhancement mode
- Avalanche characteristics
- Short internal connections avoid oscillations
- Isolated copper baseplates
- All electrical connections on top for easy busbaring
- Large clearance (13mm) and creepage distances (20mm)
- UL recognized, file no. E 63 532

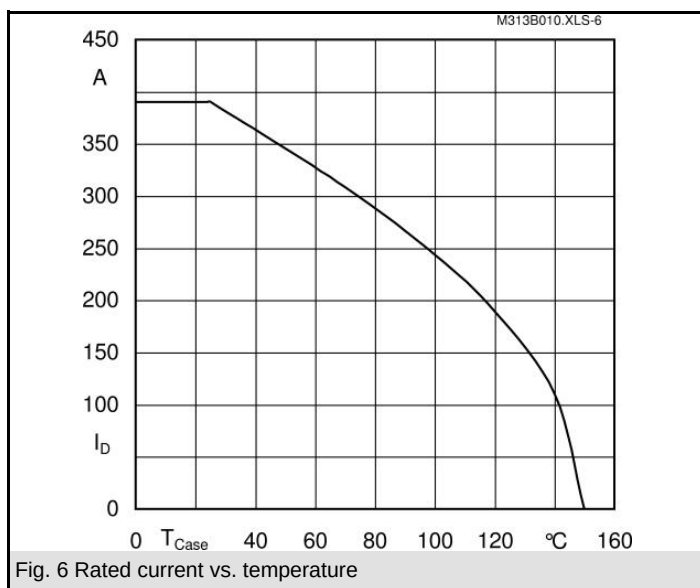
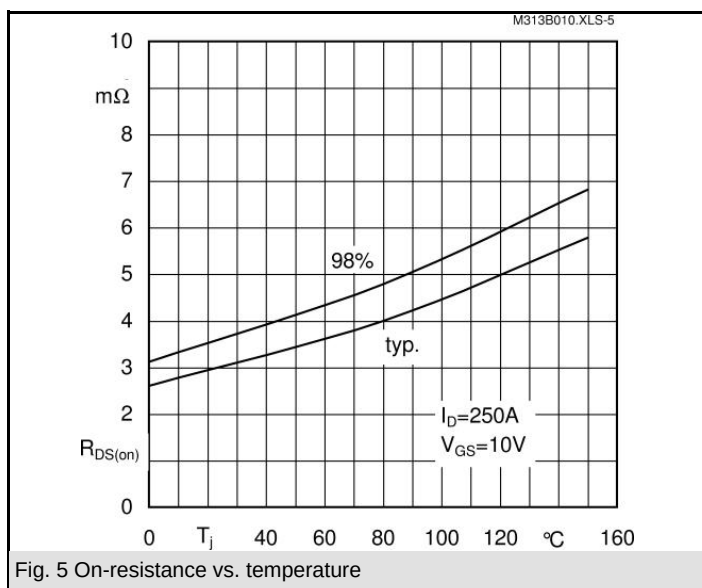
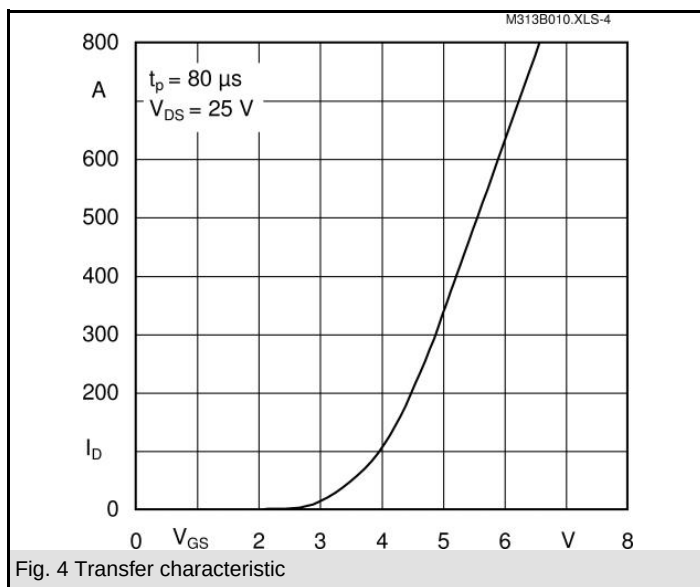
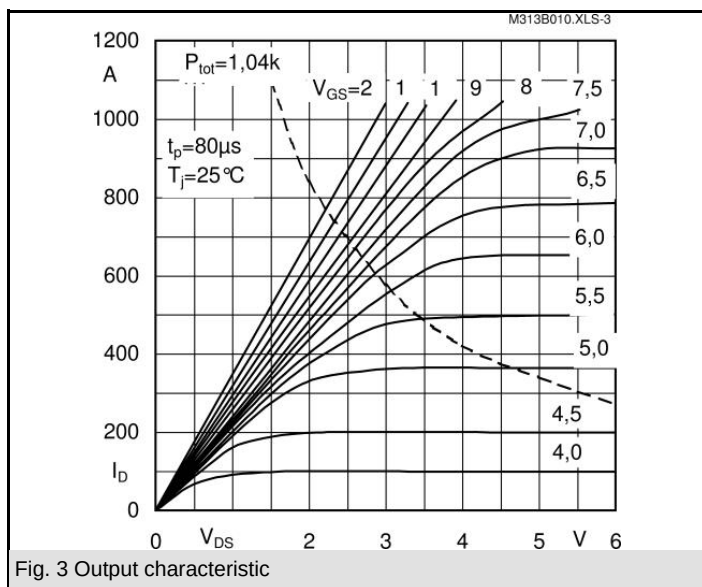
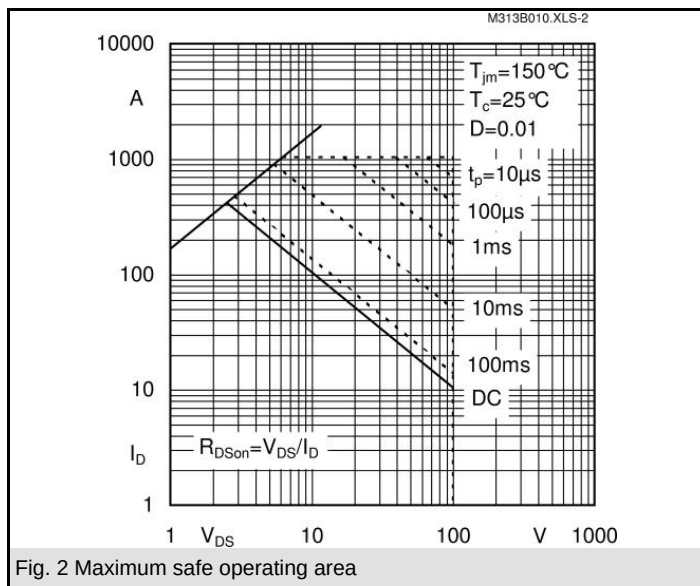
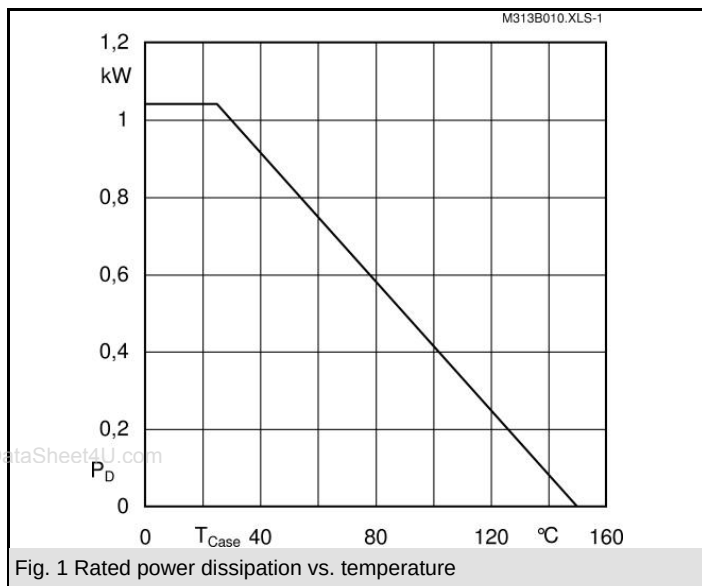
Typical Applications

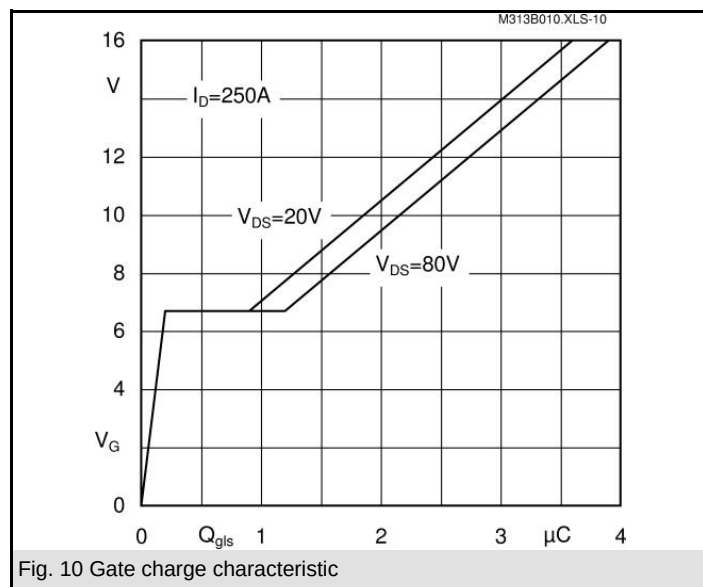
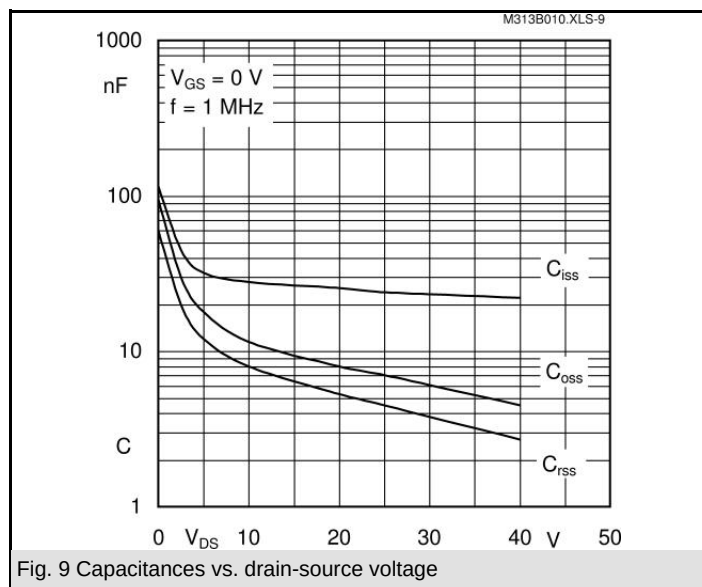
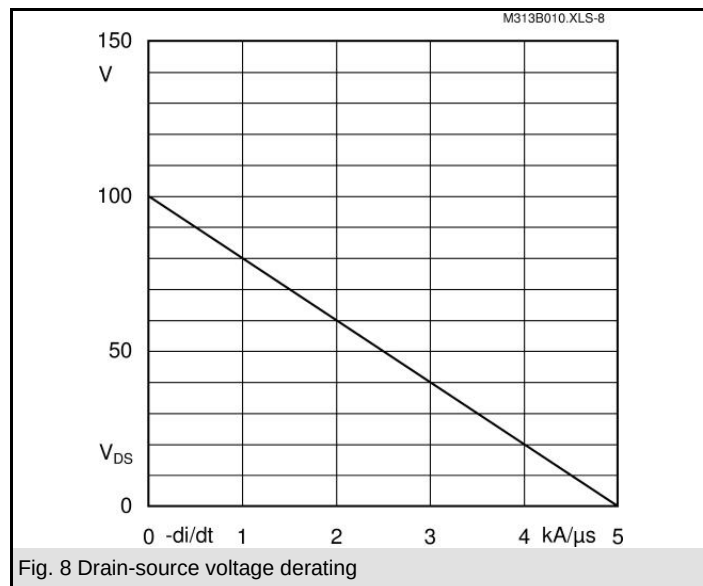
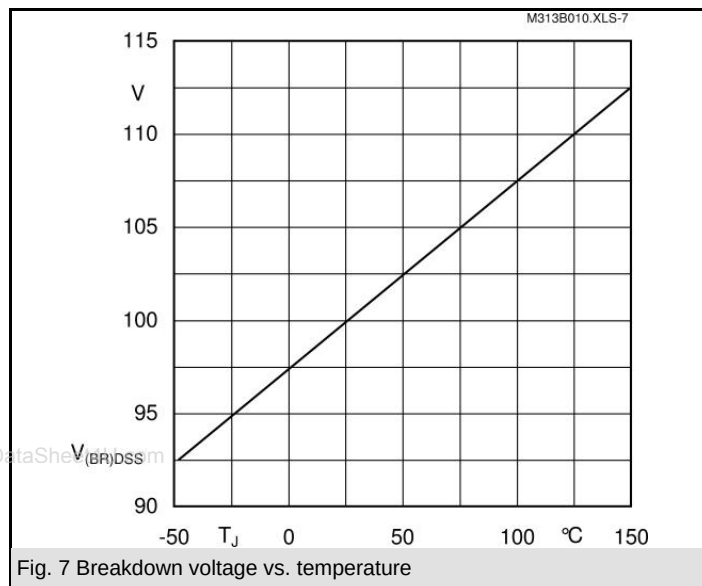
- Switched mode power supplies
- DC servo and robot drives
- DC choppers
- UPS equipment
- Plasma cutting
- Not suitable for linear amplification



Absolute Maximum Ratings		T _C = 25 °C, unless otherwise specified	
Symbol	Conditions	Values	Units
V _{DS}	T _s = 25 (80) °C 1 ms	100	V
I _D		390 (290)	A
I _{DM}		1170	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		380	A
I _{FM} = - I _{SM}		1140	A

Characteristics		T _c = 25 °C, unless otherwise specified			
Symbol	Conditions	min.	typ.	max.	Units
V _{(BR)DSS}	V _{GS} = 0 V, I _D = 0,5 mA	100			V
V _{GS(th)}	V _{GS} = V _{DS} , I _D = 5 mA	2,1	3	4	V
I _{DSS}	V _{GS} = 0 V, V _{DS} = 100 V, T _j = 25 (125) °C			100	µA
I _{GSS}	V _{GS} = 20 V, V _{DS} = 0 V			1000	nA
R _{DS(on)}	V _{GS} = 10 V, I _D = 300 A		3	3,5	mΩ
g _{fs}	V _{DS} = 25 V, I _D = 300 A	150	200		S
C _{CHC}	V _{GS} = 0, V _{DS} = 25 V, f = 1 MHz			700	pF
C _{iss}			24	32	nF
C _{oss}			7,3	11	nF
C _{rss}			4,3	6,5	nF
L _{DS}				20	nH
t _{d(on)}	V _{DD} = 30 V, I _D = 250 A, V _{GS} = ± 10 V, R _G = 4,7 Ω		100		ns
t _r			100		ns
t _{d(off)}			700		ns
t _f			250		ns
Inverse diode					
V _{SD}	I _F = 300 A; V _{GS} = 0 V		1,2	1,5	V
t _{rr}	T _j = 25 (150) °C		160		ns
Q _{rr}	T _j = 25 °C		10		µC
I _{rr}	T _j = °C				A
Thermal characteristics					
R _{th(j-c)}	per MOSFET			0,12	K/W
R _{th(c-s)}	M _s , surface 10 µm, per module			0,038	K/W
Mechanical data					
M _s	to heatsink (M6)	4		5	Nm
M _t	for terminals (M5)	2,5		5	Nm
w				325	g



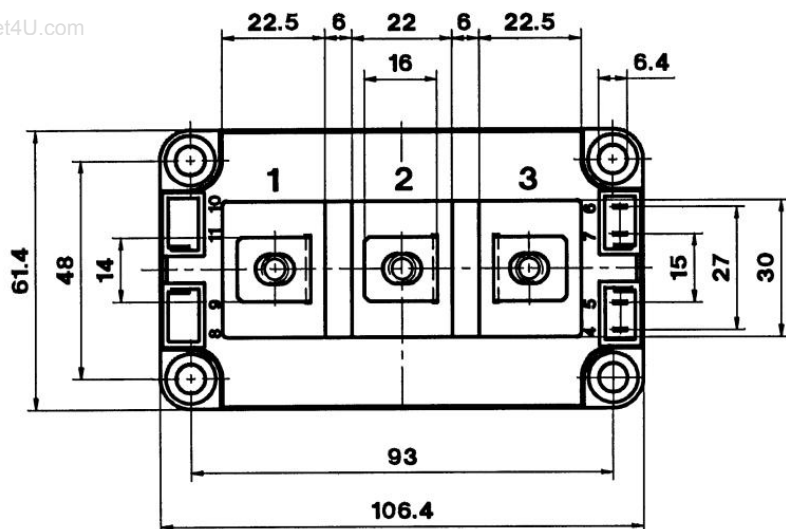
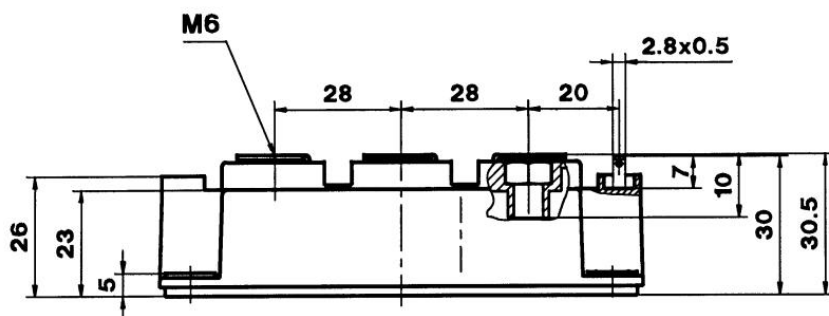


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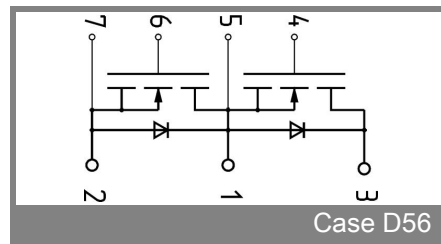
UL Recognized
File no. E 63 532

Dimensions in mm

CASED56



Case D 56



Case D56

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

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