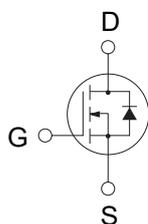
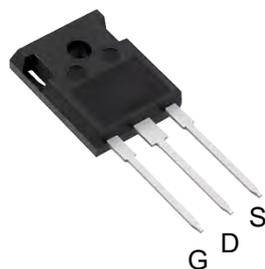
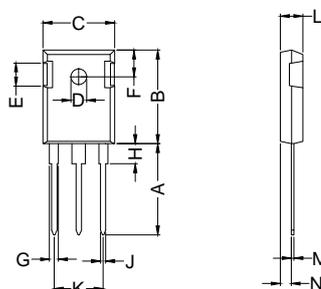


# SMOS110N25B2

## N Channel Enhancement Mode Power MOSFETs



Dimensions TO-247AD



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	19.81	20.32	0.780	0.800
B	20.80	21.46	0.819	0.845
C	15.75	16.26	0.620	0.640
ØD	3.15	3.65	0.124	0.144
E	4.32	5.49	0.170	0.216
F	5.40	6.30	0.213	0.248
G	1.65	2.18	0.065	0.086
H	3.80	4.50	0.150	0.177
J	1.00	1.40	0.039	0.055
K	10.80	11.10	0.425	0.437
L	4.70	5.30	0.185	0.209
M	0.40	0.80	0.016	0.031
N	1.50	2.49	0.059	0.098

G=Gate  
D=Drain  
S=Source



Symbol	Test Conditions	Maximum Ratings	Unit
V <sub>DSS</sub>	T <sub>J</sub> =25°C to 150°C	250	V
V <sub>DGR</sub>	T <sub>J</sub> =25°C to 150°C; R <sub>GS</sub> =1MΩ	250	V
V <sub>GS</sub>	Continuous	±30	V
V <sub>GSM</sub>	Transient	±40	V
I <sub>D25</sub>	T <sub>C</sub> =25(100)°C	90(65)	A
I <sub>DM</sub>	T <sub>C</sub> =25°C; pulse width limited by T <sub>JM</sub>	352	A
I <sub>A</sub>	T <sub>C</sub> =25°C	80	A
E <sub>AS</sub>	T <sub>C</sub> =25°C	560	mJ
dv/dt	I <sub>S</sub> ≤ I <sub>DM</sub> ; di/dt ≤ 100A/us; V <sub>DD</sub> ≤ V <sub>DSS</sub> T <sub>J</sub> ≤ 150°C; R <sub>G</sub> = 2Ω	1000	V/ns
P <sub>D</sub>	T <sub>C</sub> =25°C	400	W
T <sub>J</sub>		-55...+175	°C
T <sub>JM</sub>		175	
T <sub>stg</sub>		-55...+175	
T <sub>L</sub>	1.6mm(0.063 in.) from case for 10s	300	°C
M <sub>d</sub>	Mounting torque	1.13/10	Nm/lb.in.
Weight	typical	6	g

**Sirectifier®**

# SMOS110N25B2

## N Channel Enhancement Mode Power MOSFETs

(T<sub>J</sub>=25°C, unless otherwise specified)

Symbol	Test Conditions	Characteristic Values			Unit
		min.	typ.	max.	
V <sub>DSS</sub>	V <sub>GS</sub> =0V; I <sub>D</sub> =1 mA	250			V
V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> ; I <sub>D</sub> =0.27mA	2.0	3.0	4.0	V
I <sub>GSS</sub>	V <sub>GS</sub> =±30V <sub>DC</sub> ; V <sub>DS</sub> =0			±100	nA
I <sub>DSS</sub>	V <sub>DS</sub> =0.8V <sub>DSS</sub> ; T <sub>J</sub> =25°C V <sub>GS</sub> =0V; T <sub>J</sub> =125°C			1	μA
				100	μA
R <sub>DS(on)</sub>	V <sub>GS</sub> =10V; I <sub>D</sub> =0.5*I <sub>D25</sub> =45A Pulse test, t≤300us, duty cycle d≤2%		25	28	mΩ

(T<sub>J</sub>=25°C, unless otherwise specified)

Symbol	Test Conditions	Characteristic Values			Unit
		min.	typ.	max.	
g <sub>ts</sub>	V <sub>DS</sub> =10V; I <sub>D</sub> =I <sub>D25</sub> ; pulse test	70	140		S
C <sub>ies</sub>	V <sub>GS</sub> =0V; V <sub>DS</sub> =25V; f=1MHz		4200		pF
C <sub>oes</sub>			270		
C <sub>res</sub>			3		
Q <sub>g(on)</sub>	V <sub>GS</sub> =10V; V <sub>DS</sub> =0.5V <sub>DSS</sub> ; I <sub>D</sub> =0.5I <sub>D25</sub>		21		nC
Q <sub>gs</sub>			16		
Q <sub>gd</sub>			5		
t <sub>d(on)</sub>	V <sub>GS</sub> =10V; V <sub>DS</sub> =0.5V <sub>DSS</sub> ; I <sub>D</sub> =0.5I <sub>D25</sub> R <sub>G</sub> =1Ω (External)		16		ns
t <sub>r</sub>			17		ns
t <sub>d(off)</sub>			30		ns
t <sub>f</sub>			8		ns
R <sub>thJC</sub>				0.44	K/W
R <sub>thCK</sub>			0.11		K/W

### Source-Drain Diode

(T<sub>J</sub>=25°C, unless otherwise specified)

Symbol	Test Conditions	Characteristic Values			Unit
		min.	typ.	max.	
I <sub>S</sub>	V <sub>GS</sub> =0V			88	A
I <sub>SM</sub>	Repetitive; pulse width limited by T <sub>JM</sub>			350	A
V <sub>SD</sub>	I <sub>F</sub> =88A; V <sub>GS</sub> =0V; Pulse test, t≤300us, duty cycle d≤2%			1.35	V
t <sub>rr</sub>	I <sub>F</sub> =0.5Is; -di/dt=100A/us; V <sub>R</sub> =100V;		150		ns
Q <sub>RM</sub>			640		nC
I <sub>RM</sub>			5		A



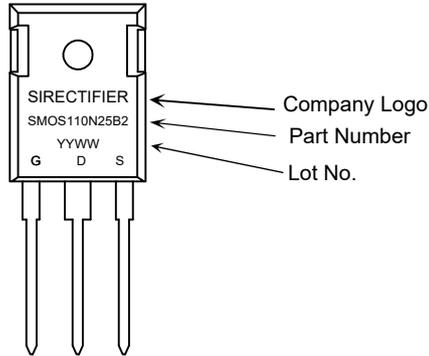
# SMOS110N25B2

## N Channel Enhancement Mode Power MOSFETs

### Marking

SMOS110N25B2

(TO-247AD)



### Ordering Information

Part Number	Package	Shipping	Marking Code
SMOS110N25B2	TO-247AD	30pcs / Tube	SMOS110N25B2