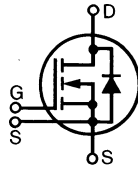
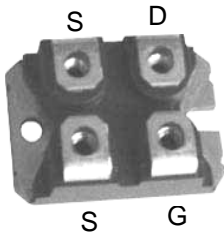
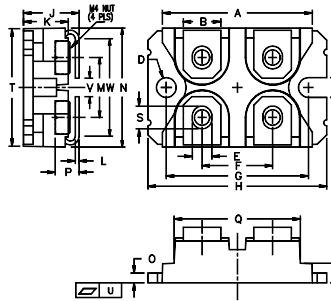


SMOS44N80

Power MOSFETs



Dimensions SOT-227(ISOTOP)



Dim.	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	31.50	31.88	1.240	1.255
B	7.80	8.20	0.307	0.323
C	4.09	4.29	0.161	0.169
D	4.09	4.29	0.161	0.169
E	4.09	4.29	0.161	0.169
F	14.91	15.11	0.587	0.595
G	30.12	30.30	1.186	1.193
H	37.80	38.20	1.489	1.505
J	11.68	12.22	0.460	0.481
K	8.92	9.60	0.351	0.378
L	0.76	0.84	0.030	0.033
M	12.60	12.85	0.496	0.506
N	25.15	25.42	0.990	1.001
O	1.98	2.13	0.078	0.084
P	4.95	5.97	0.195	0.235
Q	26.54	26.90	1.045	1.059
R	3.94	4.42	0.155	0.174
S	4.72	4.85	0.186	0.191
T	24.59	25.07	0.968	0.987
U	-0.05	0.1	-0.002	0.004
V	3.30	4.57	0.130	0.180
W	0.780	0.830	0.031	0.033

G=Gate, D=Drain, S=Source

Symbol	Test Conditions	Maximum Ratings	Unit
V _{DSS}	T _J =25°C to 150°C	800	V
V _{DGR}	T _J =25°C to 150°C; R _{GS} =1MΩ	800	V
V _{GS}	Continuous	±20	V
V _{GSM}	Transient	±30	V
I _{D25}	T _C =25°C; Chip capability	44	A
I _{DM}	T _C =25°C; pulse width limited by T _{JM}	176	A
I _{AR}	T _C =25°C	44	A
E _{AR}	T _C =25°C	64	mJ
dv/dt	I _S ≤ I _{DM} ; di/dt ≤ 100A/us; V _{DD} ≤ V _{DSS} T _J ≤ 150°C; R _G =2Ω	5	V/ns
P _D	T _C =25°C	700	W
T _J		-55...+150	°C
T _{JM}		150	
T _{stg}		-55...+150	
E _{AS}	T _C =25°C	4	J
V _{ISOL}	50/60Hz,RMS t=1 min I _{ISOL} ≤ 1mA t=1 s	2500 3000	V~
M _d	Mounting torque Terminal connection torque	1.5/13 1.5/13	Nm/lb.in.
Weight		30	g

SMOS44N80

Power MOSFETs

(T_J=25°C, unless otherwise specified)

Symbol	Test Conditions	Characteristic Values			Unit
		min.	typ.	max.	
V _{DSS}	V _{GS} =0V; I _D =3 mA	800			V
V _{GS(th)}	V _{DS} =V _{GS} ; I _D =8 mA	2		4.5	V
I _{GSS}	V _{GS} =±20V _{DC} ; V _{DS} =0			±200	nA
I _{DSS}	V _{DS} =V _{DSS} ; T _J =25°C V _{GS} =0V; T _J =125°C			100 2	uA mA
R _{DS(on)}	V _{GS} =10V; I _D =0.5I _{D25} Pulse test, t ≤ 300us; duty cycle d ≤ 2%			0.145	Ω

(T_J=25°C, unless otherwise specified)

Symbol	Test Conditions	Characteristic Values			Unit
		min.	typ.	max.	
g _{ts}	V _{DS} =15V; I _D =0.5I _{D25} ; pulse test	32	45		S
C _{ies} C _{oes} C _{res}	V _{GS} =0V; V _{DS} =25V; f=1MHz		14500 1300 330		pF
Q _{g(on)} Q _{gs} Q _{gd}	V _{GS} =10V; V _{DS} =0.5V _{DSS} ; I _D =0.5I _{D25}		380 70 170		nC
t _{d(on)} t _r t _{d(off)} t _f	V _{GS} =10V; V _{DS} =0.5V _{DSS} ; I _D =0.5I _{D25} R _G =1Ω (External)		35 48 100 24		ns ns ns ns
R _{thJC}				0.18	K/W
R _{thCK}			0.05		K/W

Source-Drain Diode

(T_J=25°C, unless otherwise specified)

Symbol	Test Conditions	Characteristic Values			Unit
		min.	typ.	max.	
I _S	V _{GS} =0V			44	A
I _{SM}	Repetitive; pulse width limited by T _{JM}			175	A
V _{SD}	I _F =I _S ; V _{GS} =0V; Pulse test, t ≤ 300us, duty cycle d ≤ 2%			1.3	V
t _{rr}				250	ns
Q _{RM} I _{RM}	I _F =25A; -di/dt=100A/us; V _R =100V;		1.2 8		uC A