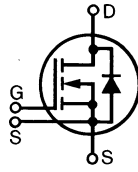
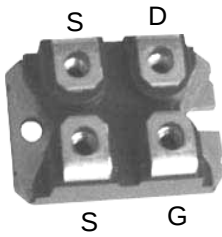
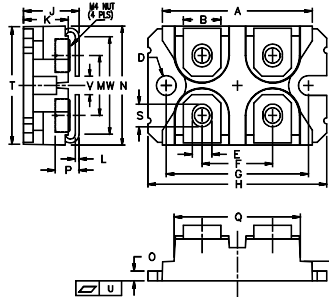


SMOS44N80

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}	$T_J=25^{\circ}\text{C}$ to 150°C	800	V
V_{DGR}	$T_J=25^{\circ}\text{C}$ to 150°C ; $R_{GS}=1\text{M}\Omega$	800	
V_{GS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	
I_{D25}	$T_C=25^{\circ}\text{C}$; Chip capability	44	A
I_{DM}	$T_C=25^{\circ}\text{C}$; pulse width limited by T_{JM}	176	A
I_{AR}	$T_C=25^{\circ}\text{C}$	44	A
E_{AR}	$T_C=25^{\circ}\text{C}$	64	mJ
dv/dt	$I_S \leq I_{DM}$; $di/dt \leq 100\text{A}/\mu\text{s}$; $V_{DD} \leq V_{DSS}$ $T_J \leq 150^{\circ}\text{C}$; $R_G=2\Omega$	5	V/ns
P_D	$T_C=25^{\circ}\text{C}$	700	W
T_J		-55...+150	$^{\circ}\text{C}$
T_{JM}		150	
T_{stg}		-55...+150	
E_{AS}	$T_C=25^{\circ}\text{C}$	4	J
V_{ISOL}	50/60Hz,RMS $t=1\text{ min}$ $I_{ISOL} \leq 1\text{mA}$ $t=1\text{ s}$	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			100	µA
	V _{GS} =0V; T _J =125°C			2	mA
R _{DS(on)}	V _{GS} =10V; I _D =0.5I _{D25} Pulse test, t ≤ 300µs; 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}	V _{GS} =0V; V _{DS} =25V; f=1MHz		14500		pF
C _{oes}			1300		
C _{res}			330		
Q _{g(on)}	V _{GS} =10V; V _{DS} =0.5V _{DSS} ; I _D =0.5I _{D25}		380		nC
Q _{gs}			70		
Q _{gd}			170		
t _{d(on)}	V _{GS} =10V; V _{DS} =0.5V _{DSS} ; I _D =0.5I _{D25} R _G =1Ω (External)		35		ns
t _r			48		ns
t _{d(off)}			100		ns
t _f			24		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 ≤ 300µs, duty cycle d ≤ 2%			1.3	V
t _{rr}	I _F =25A; -di/dt=100A/µs; V _R =100V;			250	ns
Q _{RM}			1.2		µC
I _{RM}			8		A