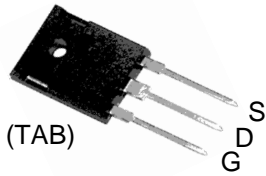
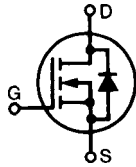


SMOS21N50, SMOS26N50

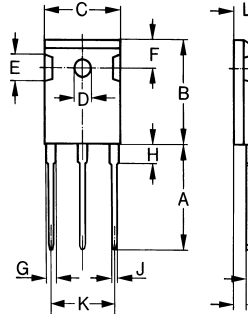
Power MOSFETs



G=Gate, D=Drain,
S=Source, TAB=Drain



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	0.610	0.640
D	3.55	3.65	0.140	0.144
E	4.32	5.49	0.170	0.216
F	5.4	6.2	0.212	0.244
G	1.65	2.13	0.065	0.084
H	-	4.5	-	0.177
J	1.0	1.4	0.040	0.055
K	10.8	11.0	0.426	0.433
L	4.7	5.3	0.185	0.209
M	0.4	0.8	0.016	0.031
N	1.5	2.49	0.087	0.102

Symbol	Test Conditions	Maximum Ratings	Unit
V_{DSS}	$T_J=25^\circ\text{C}$ to 150°C	500	V
V_{DGR}	$T_J=25^\circ\text{C}$ to 150°C ; $R_{GS}=1\text{M}\Omega$	500	V
V_{GS}	Continuous	± 20	V
V_{GSM}	Transient	± 30	V
I_{D25}	$T_C=25^\circ\text{C}$	21N50 26	A
I_{DM}	$T_C=25^\circ\text{C}$; pulse width limited by T_{JM}	21N50 26N50	84 104
I_{AR}	$T_C=25^\circ\text{C}$	21N50 26N50	21 26
E_{AR}	$T_C=25^\circ\text{C}$	30	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	$T_C=25^\circ\text{C}$	300	W
T_J		-55...+150	$^\circ\text{C}$
T_{JM}		150	$^\circ\text{C}$
T_{stg}		-55...+150	$^\circ\text{C}$
T_L	1.6mm(0.062 in.) from case for 10s	300	$^\circ\text{C}$
M_d	Mounting torque	1.13/10	Nm/lb.in.
Weight		6	g

SMOS21N50, SMOS26N50

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 =250μA	500			V
V _{GS(th)}	V _{DS} =V _{GS} ; I _D =4mA	2		4	V
I _{GSS}	V _{GS} =±20VDC; V _{DS} =0			±100	nA
I _{DSS}	V _{DS} =0.8V _{DSS} ; T _J =25°C V _{GS} =0V; T _J =125°C			200 1	μA mA

(T_J=25°C, unless otherwise specified)

Symbol	Test Conditions	Characteristic Values			Unit
		min.	typ.	max.	
R _{DS(on)}	V _{GS} =10V; I _D =0.5I _{D25} 21N50 26N50 Pulse test, t ≤ 300μs, duty cycle ≤ 2%			0.25 0.23 0.20	Ω
g _{ts}	V _{DS} =10V; I _D =0.5I _{D25} ; pulse test	11	21		S
C _{ies} C _{oes} C _{res}	V _{GS} =0V; V _{DS} =25V; f=1MHz		4200 450 135		pF
Q _{g(on)} Q _{gs} Q _{gd}	V _{GS} =10V; V _{DS} =0.5V _{DSS} ; I _D =0.5I _{D25}		135 28 62	160 40 85	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 =2Ω (External)		16 33 65 30	25 45 80 40	ns ns ns ns
R _{thJC}				0.42	K/W
R _{thCK}			0.25		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 21N50 26N50			21 26	A
I _{SM}	Repetitive; pulse width limited by T _{JM} 21N50 26N50			84 104	A
V _{SD}	I _F =I _S ; V _{GS} =0V; Pulse test, t ≤ 300μs, duty cycle d ≤ 2%			1.5	V
t _{rr}	I _F =I _S ; -di/dt=100A/μs; V _R =100V; T _J =25°C T _J =125°C			250 400	ns ns
Q _{RM}	T _J =25°C T _J =125°C		1 2		μC μC
I _{RM}	T _J =25°C T _J =125°C		10 15		A A

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