

-30V_{DS}/±20V_{GS} P-Channel Advanced Mode MOSFET

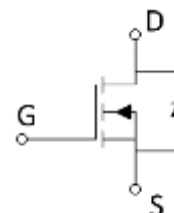
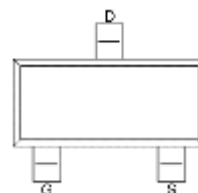
Features

- V_{DS}=-30V, I_D=-9A
- R_{DS(ON)}=18mΩ (TYP.) V_{GS}=10V
- Reliable and Rugged
- Avalanche Rated
- Low On-Resistance

SOT23-3L

Applications

- Load Switch
- Power management in portable/desktop PCs
- DC/DC conversiong



Ordering Information

Device	package	Device Marking	Package Qty.
ASDM30P09BZ	SOT-23-3L	30P09	3000/PCS
HM30P09	SOT-23	3009	3000/PCS

Absolute Maximum Ratings (T_C=25°C, unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage (V _{GS} =0V)	V _{DS}	-30	V
Gate-Source Voltage (V _{GS} =0V, static)	V _{GS}	±20	V
Continuous Drain Current (T _C =25°C)	I _D	-9	A
Pulesd Drain Current	I _{DM}	38	A
Maximum Power Dissipation (T _C =25°C)	P _D	1.7	W
Operating, Storage Temperature Range	T _J , T _{STG}	-55~150	°C
Thermal Resistance, Junction-to-Ambient	R _{θJA}	417	°C/ W

Electrical Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	BV _{DSS}	V _{GS} =0V, I _D =250μA	-30	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =24V, V _{GS} =0V	-	-	1	μA
Gate -Source Leakage Current	I _{GSS}	V _{GS} =±12V, V _{DS} =0V	-	-	±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D =250μA	0.5	1.8	1.1	V
Drain-Source On-stage Resistance	R _{DS(ON)}	V _{GS} =10V, I _D =5.8A	-	15	20	mΩ
		V _{GS} =4.5V, I _D =5A	-	20	25	

Dynamic Characteristics

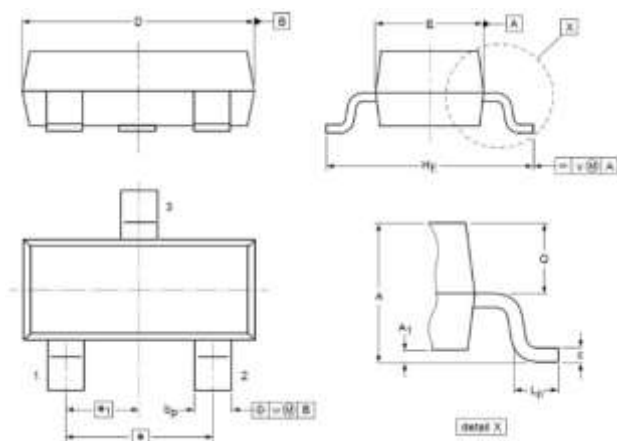
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input capacitance	C_{iss}	$V_{DS}=15V$	-	2400	-	pF
Output capacitance	C_{oss}	$V_{GS}=0V$	-	315	-	
Reverse transfer capacitance	C_{rss}	$f=1MHz$	-	260	-	
Gate Resistance	R_g	$f=1MHz$	-	1.4	-	Ω
Total Gate Charge	Q_g	$V_{DS}=15V$	-	44.5	-	nC
Gate Source Charge	Q_{gs}	$V_{GS}=4.5V$	-	4.5	-	
Gate Drain Charge	Q_{gd}	$I_D=5.8A$	-	10	-	
Turn-on delay Time	$t_{d(on)}$	$V_{GS}=10V$	-	9	-	ns
Rise time	t_r	$V_{DS}=15V$	-	8	-	
Turn-off delay Time	$t_{d(off)}$	$R_L=2.7\Omega$	-	28	-	
Fall time	t_f	$R_G=3\Omega$	-	10	-	

Reverse Diode Characteristics

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Body Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_{SD}=1A$	-	-	1.2	V
Reverse Recovery Time	t_{rr}	$V_{GS}=0V, I_{SD}=5A$	-	-	-	ns
Reverse Recovery Charge	Q_{rr}	$di/dt=100A/\mu s$	-	-	-	nC

Physical Dimensions

SOT23



符号	尺寸(mm)			符号	尺寸(mm)		
	最小值	典型值	最大值		最小值	典型值	最大值
A	0.90	1.03	1.10	A1	0.01	0.05	0.10
bp	0.38	0.42	0.48	c	0.09	0.13	0.15
D	2.80	2.92	3.00	E	1.20	1.33	1.40
e	-	1.90	-	e1	-	0.95	-
HE	2.10	2.40	2.50	Lp	0.15	0.23	0.45
Q	0.45	0.49	0.55	v	-	0.20	-
W	-	0.10	-				

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