

◆ Features:

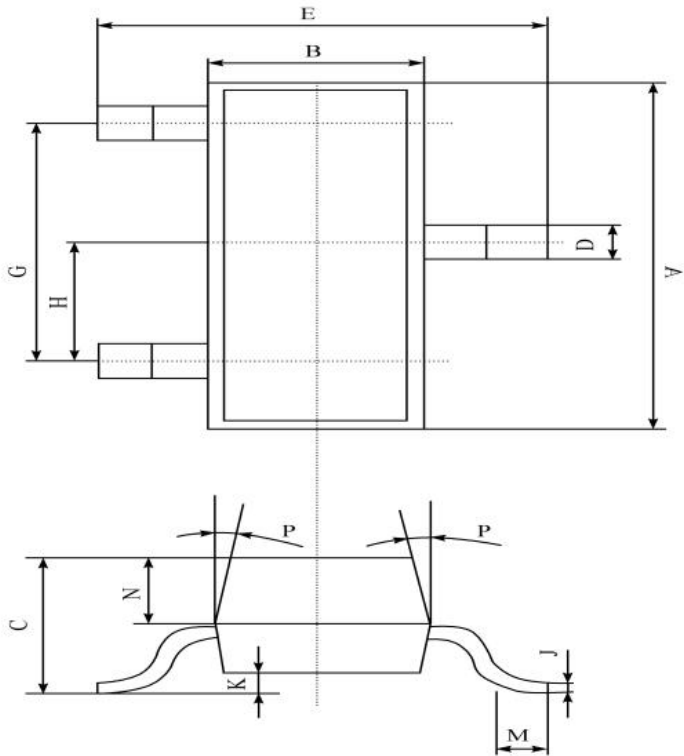
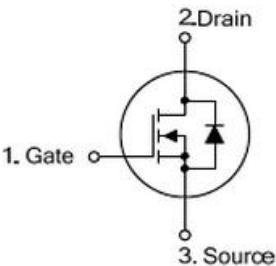
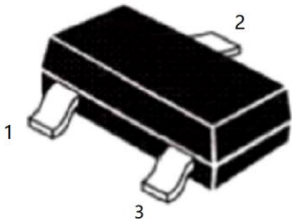
- ✧ Fast switching speed
开关速度快
- ✧ High input impedance and low level drive
高输入阻抗和低电平驱动
- ✧ Improved dv/dt capability, high ruggedness
提高 dv/dt 能力, 高耐用性

◆ Applications

- ✧ High efficiency switch mode power supplies
高效率开关电源
- ✧ Power factor correction
功率因数校正
- ✧ Electronic lamp ballast
电子整流器



SOT-23



SOT-23	
A	2.90 ± 0.10
B	1.30 ± 0.10
C	1.00 ± 0.10
D	0.40 ± 0.10
E	2.40 ± 0.20
G	1.90 ± 0.10
H	0.95 ± 0.05
J	0.13 ± 0.05
K	0.00-0.10
M	≥ 0.2
N	0.60 ± 0.10
P	7 ± 2°

(UNIT): mm

LOW Voltage N-Channel MOSFET

◆ Absolute Maximum Ratings (Tc=25°C)

Symbol	Parameters	Ratings	Unit
V_{DSS}	Drain-Source Voltage 漏源电压	30	V
V_{GS}	Gate-Source Voltage-Continuous 栅源电压	±12	V
I_D	Drain Current-Continuous (Note 2) 漏极持续电流	5.8	A
I_{DM}	Drain Current-Single Plused (Note 1) 漏极单次脉冲电流	22	A
P_D	Power Dissipation (Note 2) 功率损耗	2	W
T_j	Max.Operating junction temperature 最大结温	150	°C

◆ Electrical characteristics (Tc=25°C unless otherwise noted)

Symbol	Parameters	Min	Typ	Max	Units	Conditions
Static Characteristics						
B_{VDSS}	Drain-Source Breakdown VoltageCurrent (Note 1) 漏极击穿电压	30	--	--	V	$I_D=250\mu A$, $V_{GS}=0V$, $T_J=25^\circ C$
$V_{GS(th)}$	Gate Threshold Voltage 栅极开启电压	0.6	0.9	1.5	V	$V_{DS}=V_{GS}$, $I_D=250\mu A$
$R_{DS(on)}$	Drain-Source On-Resistance 漏源导通电阻	--	21	24.2	mΩ	$V_{GS}=5V$, $I_D=5.6A$
I_{GSS}	Gate-Body Leakage Current 栅极漏电流	--	--	±100	nA	$V_{GS}=±12V$, $V_{DS}=0$
I_{DSS}	Zero Gate Voltage Drain Current 零栅极电压漏极电流	--	--	1	μA	$V_{DS}=30V$, $V_{GS}=0$
gfs	Forward Transconductance 正向跨导	--	25	--	S	$V_{DS}=5V$, $I_D=5.8A$

**A09T****LOW Voltage N-Channel MOSFET**

Switching Characteristics						
T _{d (on)}	Turn-On Delay Time 开启延迟时间	--	4	--	ns	V _{DS} =10V, I _D =5A, R _G =2.7Ω,V _{GS} =4.5V (Note 2)
T _r	Rise Time 上升时间	--	15	--	ns	
T _{d (off)}	Turn-Off Delay Time 关闭延迟时间	--	22	--	ns	
T _f	Fall Time 下降时间	--	5	--	ns	
Q _g	Total Gate Charge 栅极总电荷	--	8	--	nC	V _{DS} =10V V _{GS} =4.5V I _D =5A (Note 2)
Q _{gs}	Gate-Source Charge 栅源极电荷	--	1.5	--	nC	
Q _{gd}	Gate-Drain Charge 栅漏极电荷	--	2	--	nC	
Dynamic Characteristics						
C _{iss}	Input Capacitance 输入电容	--	730	1000	pF	V _{DS} =15V, V _{GS} =0, f=1MHz
C _{oss}	Output Capacitance 输出电容	--	84	-	pF	
C _{rss}	Reverse Transfer Capacitance 反向传输电容	--	53	--	pF	
I _S	Continuous Drain-Source Diode Forward Current (Note 2) 二极管导通正向持续电流	--	--	5.8	A	
V _{SD}	Diode Forward On-Voltage 二极管正向导通电压	--	--	1.2	V	I _S =1A, V _{GS} =0
R _{th(j-c)}	Thermal Resistance, Junction to Case 结到外壳的热阻	--	--	62.5	°C/W	

Note 1: Repetitive Rating : Pulse width limited by maximum junction temperature

Note 2: Pulse test: PW ≤ 300us , duty cycle ≤ 2%.