

Descriptions

This is 20V 3A N-CHANNEL MOSFET in a SOT-23 Plastic Package

Features

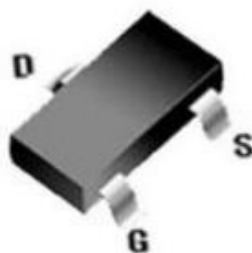
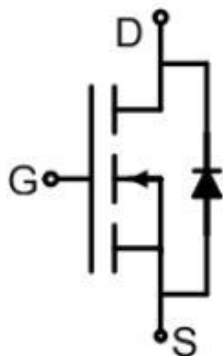
- Lead Free Product is Acquired

Parameter	Value	Unit
V_{DS}	20	V
$R_{DS(ON)MAX. V_{GS}=4.5V}$	55	m Ω
$R_{DS(ON)MAX. V_{GS}=2.5V}$	85	m Ω
I_D	3.0	A

Applications

- Load Switch
- Power Management
- PWM applications

Equivalent Circuit & Pinning



SOT-23

Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Value	Units
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	3.0	A
Pulsed Drain Current	I_{DM}	12	
Maximum Power Dissipation	P_D	1.0	W
Thermal Resistance,Junction-to-Ambient	$R_{\theta JA}$	115	°C/W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 ~ +150	°C

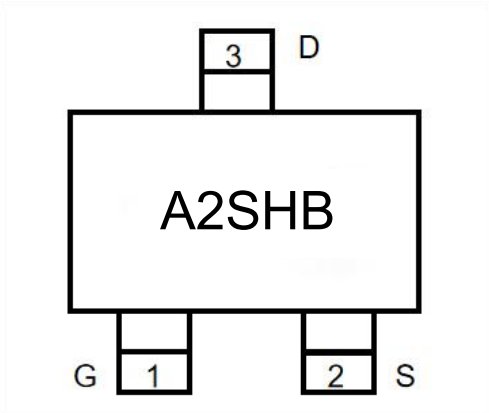
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	V(BR)DSS	VGS = 0V, ID = 250μA	20	-	-	V
Zero Gate Voltage Drain Current	IDSS	VDS =20V, VGS = 0V	-	-	1.0	μA
Gate-Body Leakage Current	IGSS	VGS = ±12V, VDS = 0V	-	-	±100	μA
ON CHARACTERISTICS						
Gate Threshold Voltage	VGS(th)	VGS = VDS, ID =250μA	0.4	0.7	1.0	V
Static Drain-Source On-Resistance	RDS(ON)	VGS =4.5V, ID =3.0A	-	45	55	mΩ
		VGS =2.5V, ID =2.0A	-	62	85	mΩ
DYNAMIC CHARACTERISTICS						
Input Capacitance	Ciss	VDS=10V, VGS=0V F=1.0MHZ	-	230	-	pF
Output Capacitance	Coss		-	25	-	
Reverse Transfer Capacitance	Crss		-	17	-	
Total Gate Charge	Qg	VGS=4.5V VDS=10V,ID=1.5A	-	2.0	-	nC
Gate Source Charge	Qgs		-	0.3	-	
Gate Drain (“Miller”) Charge	Qgd		-	0.6	-	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	td (ON)	VGS=10V,VDD=10V, ID=1.5A,RG=3Ω	-	0.6	-	ns
Rise Time	tr		-	3.0	-	
Turn-Off Delay Time	Td(OFF)		-	5.0	-	
Fall Time	tf		-	2.0	-	
DRAIN-SOURCE DIODE CHARACTERISTICS MAX RATINGS						
Drain to Source Diode Forward Current	VSD	VGS=0V,IS=1.5A	-	0.75	1.2	V

Notes :

1. Repetitive Rating: Pulse width limited by maximum junction temperature.
2. Surface Mounted on FR4 Board, $t \leq 10$ sec.
3. Pulse Test Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$
4. Guaranteed by design, not subjected to production

Marking Instructions



Note:
A2SHB: Marking code

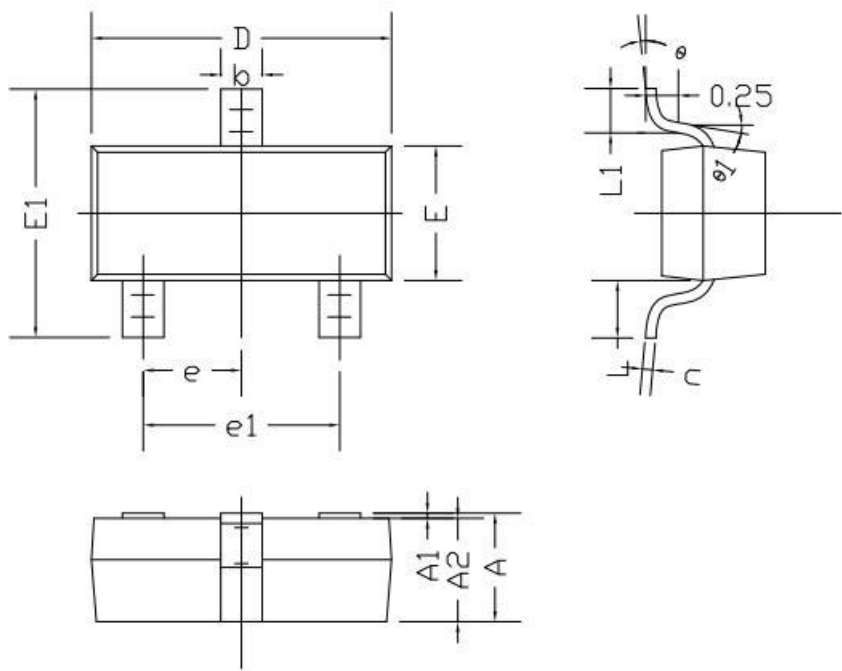
Packaging SPEC

REEL

Package Type	Units/Reel
SOT-23	3000

Package Outline Dimensions

SOT-23



COMMON DIMENSION (MM)		
PKG	SSOT23-3L (小SOT23)	
SYMBOL	MIN	MAX
A	0.90	1.15
A1	0.00	0.10
A2	0.90	1.05
b	0.30	0.50
c	0.08	0.15
D	2.80	3.00
E	1.20	1.40
E1	2.25	2.55
e	0.95BSC	
e1	1.90BSC	
L1	0.55REF	
L	0.30	0.50
θ	0°	8°
θ1	2°	12°