

Descriptions

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

Features

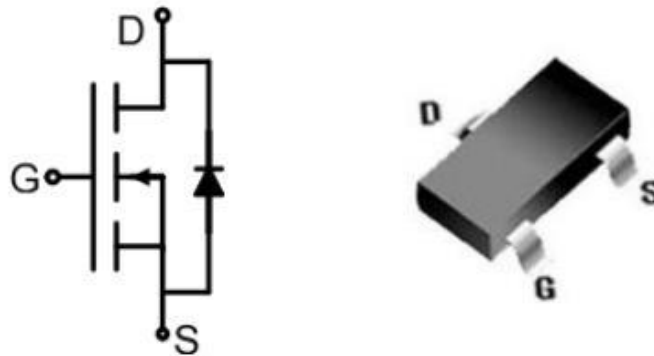
- Lead Free Product is Acquired

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	2.0	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

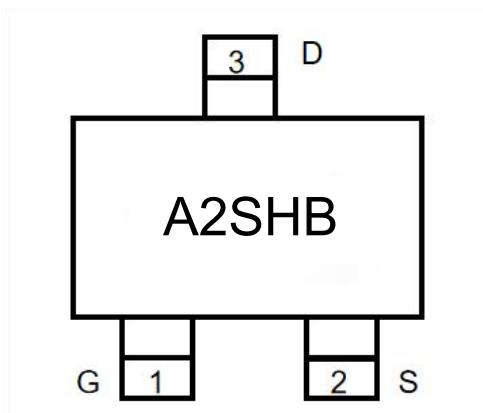
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Units
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 20V, V_{GS} = 0V$	-	-	1.0	μA
Gate-Body Leakage Current	I_{GSS}	$V_{GS} = \pm 12V, V_{DS} = 0V$	-	-	± 100	μA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS} = V_{DS}, I_D = 250\mu A$	0.4	0.7	1.0	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	$V_{GS} = 4.5V, I_D = 3.0A$	-	45	55	Ω
		$V_{GS} = 2.5V, I_D = 2.0A$	-	62	85	Ω
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	$V_{DS} = 10V, V_{GS} = 0V, F = 1.0MHz$	-	230	-	pF
Output Capacitance	C_{oss}		-	25	-	
Reverse Transfer Capacitance	C_{rss}		-	17	-	
Total Gate Charge	Q_g	$V_{GS} = 4.5V$ $V_{DS} = 10V, I_D = 1.5A$	-	2.0	-	nC
Gate Source Charge	Q_{gs}		-	0.3	-	
Gate Drain ("Miller") Charge	Q_{gd}		-	0.6	-	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	$t_d(ON)$	$V_{GS} = 10V, V_{DD} = 10V,$ $I_D = 1.5A, R_G = 3\Omega$	-	0.6	-	ns
Rise Time	t_r		-	3.0	-	
Turn-Off Delay Time	$T_d(OFF)$		-	5.0	-	
Fall Time	t_f		-	2.0	-	
DRAIN-SOURCE DIODE CHARACTERISTICS MAX RATINGS						
Drain to Source Diode Forward Current	V_{SD}	$V_{GS} = 0V, I_S = 1.5A$	-	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

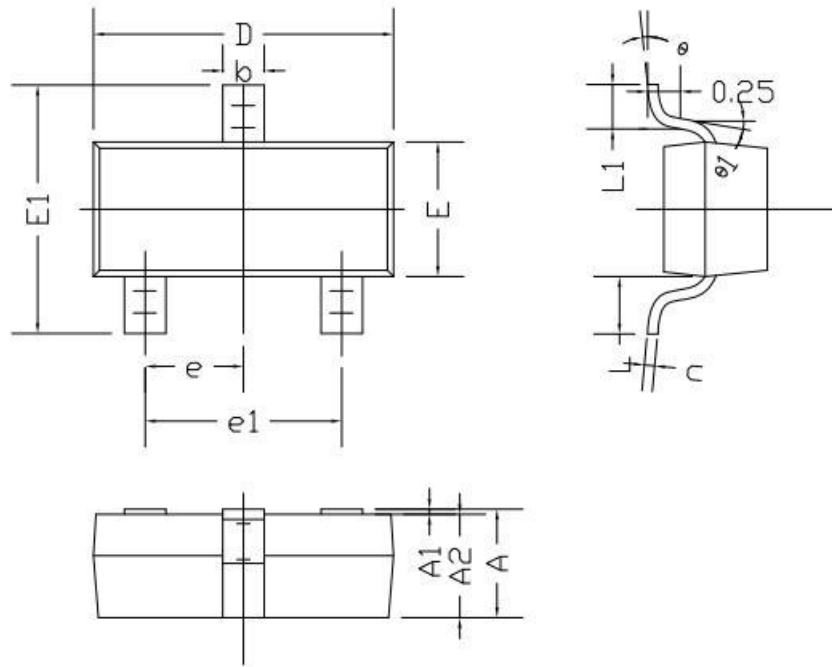
Packaging SPEC

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°