

General Description

The MY2300A is the high cell density trenchd N-CH MOSFET, which provides excellent $R_{DS(ON)}$ and efficiency for most of the small power switching and load switch applications.

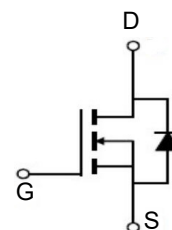
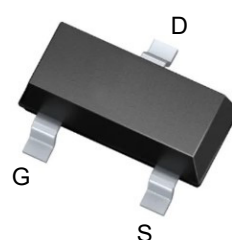


Features

V_{DSS}	20	V
I_D	6	A
$R_{DS(ON)}$ (at $V_{GS}=4.5V$)	20	m Ω
$R_{DS(ON)}$ (at $V_{GS}=2.5V$)	30	m Ω

Application

- Green Device Available
- Super Low Gate Charge
- Excellent Cdv/dt effect decline



Package Marking and Ordering Information

Product ID	Pack	Marking	Qty(PCS)
MY2300A	SOT-23-3L	MY2300A	3000

Absolute Maximum Ratings ($T_A=25^{\circ}C$ unless otherwise noted)

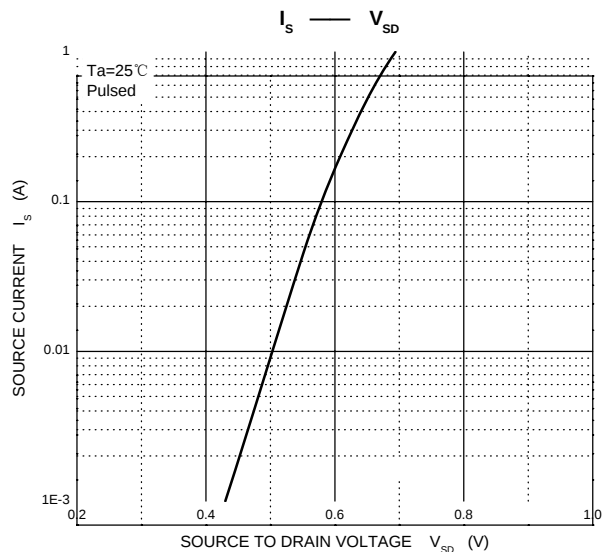
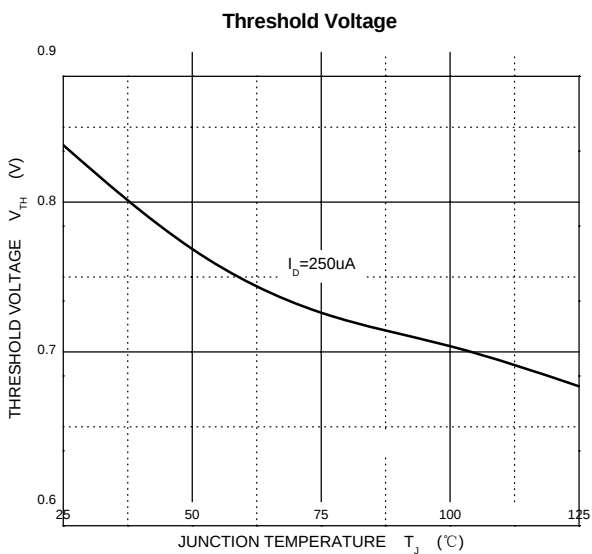
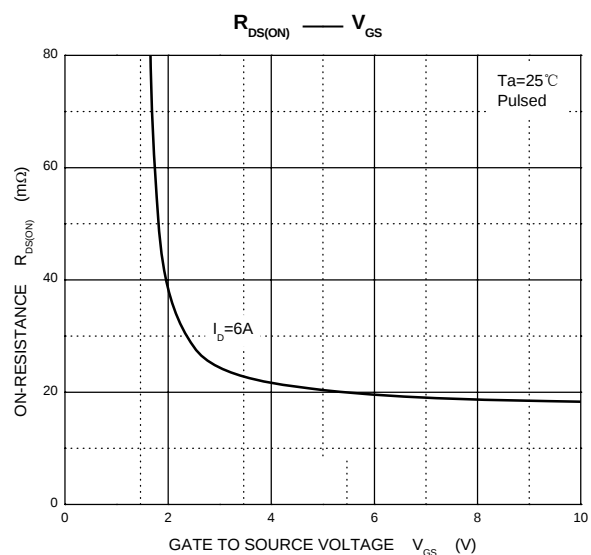
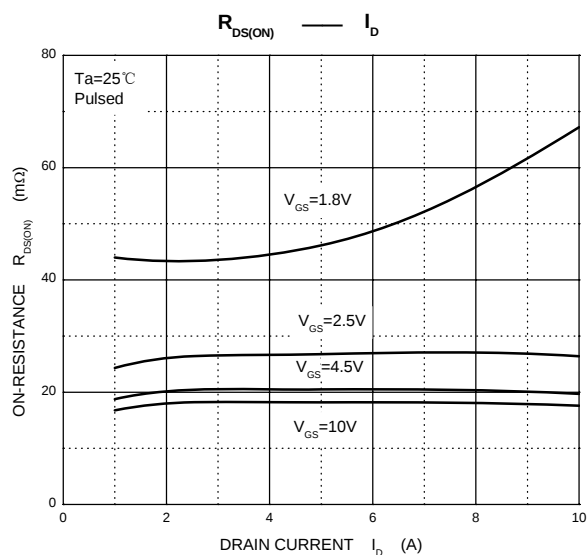
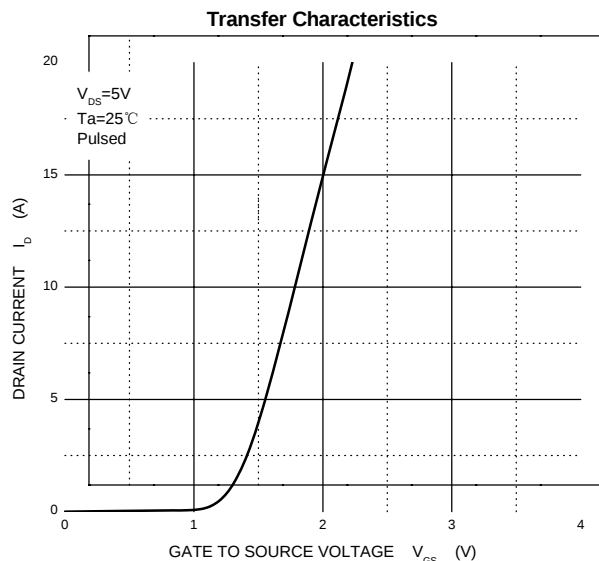
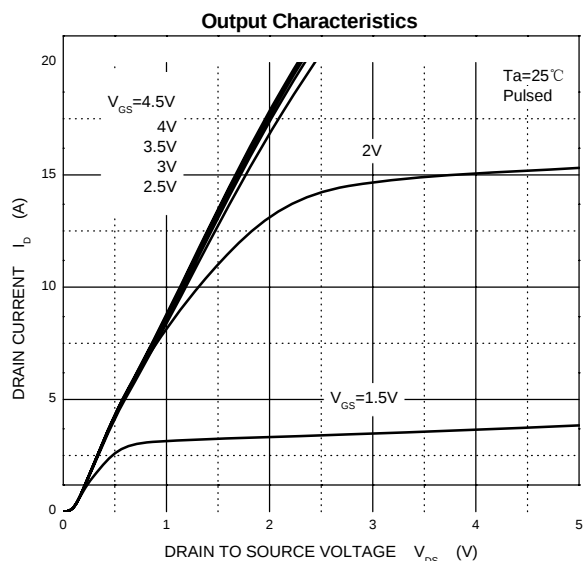
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	
Continuous Drain Current	I_D	6	A
Pulsed Drain Current	I_{DM}	25	
Maximum Body-Diode Continuous Current	I_S	2	
Power Dissipation	P_D	0.35	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	357	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{stg}	-55 ~ +150	

Electrical Characteristics ($T_J=25\text{ }^{\circ}\text{C}$, unless otherwise noted)

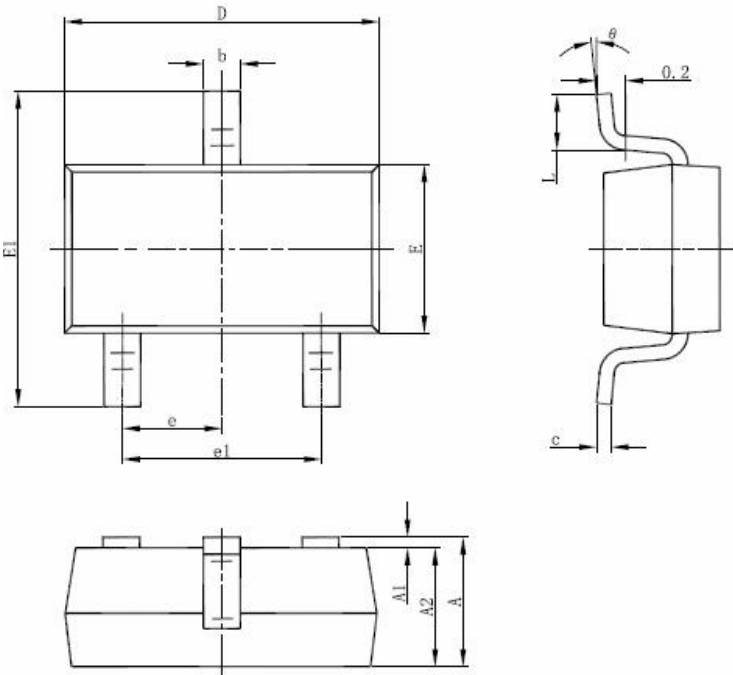
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	20			V
Gate-source leakage current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 12V$			± 100	nA
Zero gate voltage drain current	I_{DSS}	$V_{DS}=16V, V_{GS}=0V$			1.0	μA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.5	0.7	1.0	V
Drain-source on-state resistance	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=5.0A$		20	30	m Ω
		$V_{GS}=2.5V, I_D=4.0A$		30	40	
		$V_{GS}=1.8V, I_D=2.0A$			73	
Diode forward voltage	V_{SD}	$V_{GS}=0V, I_S=1A$		0.75	1	V
Forward transconductance	g_{fs}	$V_{DS}=5V, I_D=3.8A$	4			S
DYNAMIC PARAMETERS*						
Input capacitance	C_{iss}	$V_{DS}=10V, V_{GS}=0V, f=1MHz$		630		pF
Output capacitance	C_{oss}			164		
Reverse transfer capacitance	C_{rss}			137		
Gate resistance	R_g	$V_{DS}=0V, V_{GS}=0V, f=1MHz$		1.5		Ω
SWITCHING PARAMETERS*						
Turn-on delay time	$t_{d(on)}$	$V_{GS}=5V, V_{DS}=10V,$ $R_L=1.7\Omega, R_{GEN}=6\Omega$		5.5		ns
Rise time	t_r			14		
Turn-off delay time	$t_{d(off)}$			29		
Fall time	t_f			10.2		

*These parameters have no way to verify.

Typical Electrical and Thermal Characteristics



Package Mechanical Data-SOT-23-3L



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E	1.500	1.700	0.059	0.067
E1	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°