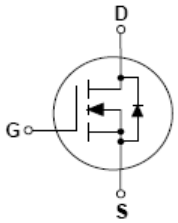
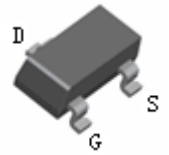
2312

N-Channel Enhancement Mode Power Mosfet

FEATURES

- Advanced trench process technology
- Lower on-resistance
- Reliable and Rugged
- Electrostatic Sensitive Devices.





SOT-23

APPLICATIONS

- Power Management in Notebook.
- Portable Equipment.
- Battery Powered System.

ORDERING INFORMATION

Type No.	Marking	Package Code
2312	2312	SOT-23

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	**Parameter**	**Value**	**Units**
V_{DSS}	Drain-Source voltage	20	V
V_{GSS}	Gate -Source voltage	±8	V
I_D	Maximum Drain current	4.9	A
I_{DM}	Pulsed Drain current	15	A
P_D	Power Dissipation	0.75	W
$R_{\theta JA}$	Thermal resistance,Junction-to-Ambient (PCB mounted)	140	℃/W
T_J, T_{stg}	Operating Junction and Storage Temperature Range	-55~+150	℃

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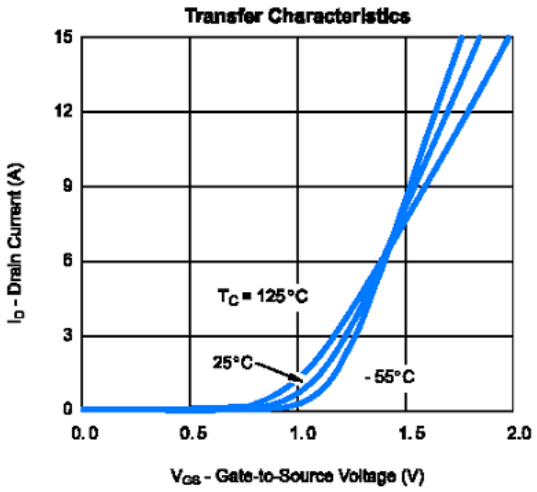
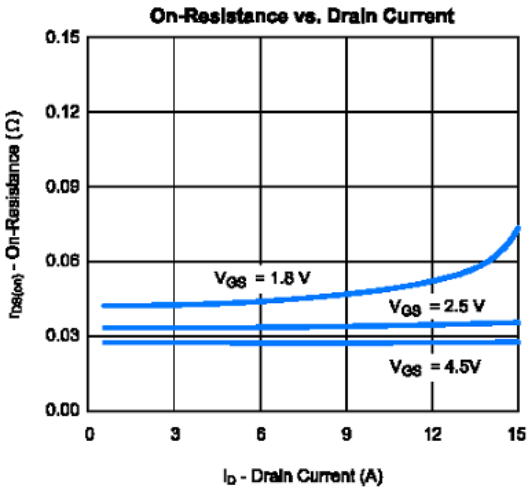
ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=250μA	20	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	0.4	-	1.2	
Forward Transconductance	gfs	V_{DS}=15V,I_D=5.0A	-	40	-	S
Gate-body Leakage	I_{GSS}	V_{DS}=0V, V_{GS}=8V	-	-	100	nA
		V_{DS}=0V, V_{GS}=-8V	-	-	-100	
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V, V_{GS}=0V	-	-	1	μA
Drain-Source on-resistance	$R_{DS(ON)}$	V_{GS}=4.5V,I_D=5.0A	-	21	31	mΩ
		V_{GS}=2.5V,I_D=4.5A	-	24	37	
		V_{GS}=1.8V,I_D=4.0A	-	50	85	
Diode forward voltage	V_{SD}	V_{GS}=0V,I_S=1.8A	-	-	1.2	V
Total Gate Charge	Qg	V_{DS}=10V,V_{GS}=4.5V, I_D=5.0A	-	11.2	14	nC
Gate-Source Charge	Qgs		-	1.4	-	
Gate-Drain Charge	Qgd		-	2.2	-	
Input capacitance	C_{ISS}	V_{DS}=8V,V_{GS}=0V,f=1.0MHz	-	500	-	pF
Output capacitance	C_{OSS}		-	300	-	
Reverse transfer capacitance	C_{RSS}		-	140	-	
Turn-On Delay Time	$t_{D(ON)}$	V_{DD} = 10V, I_D=1A, R_G= 6Ω, V_{GEN}= 4.5V, R_L= 10Ω	-	15	25	ns
Rise Time	t_R		-	40	60	
Turn-Off Delay Time	$t_{D(OFF)}$		-	48	70	
Fall Time	t_f		-	31	45	
Max. Diode Forward Current	I_S		-	-	1.7	A

TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified





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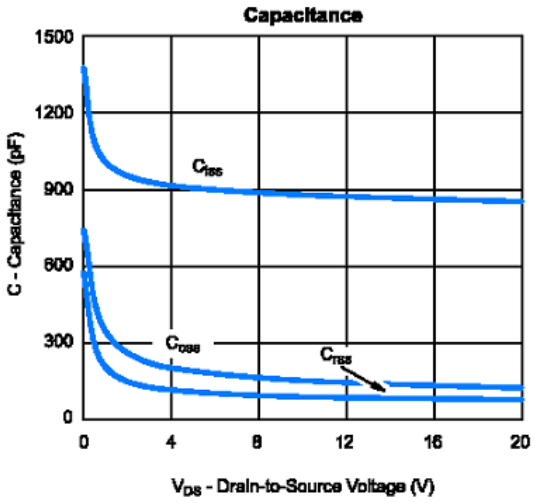

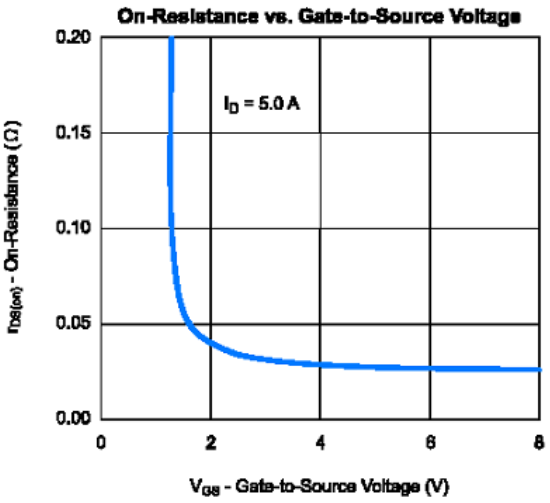

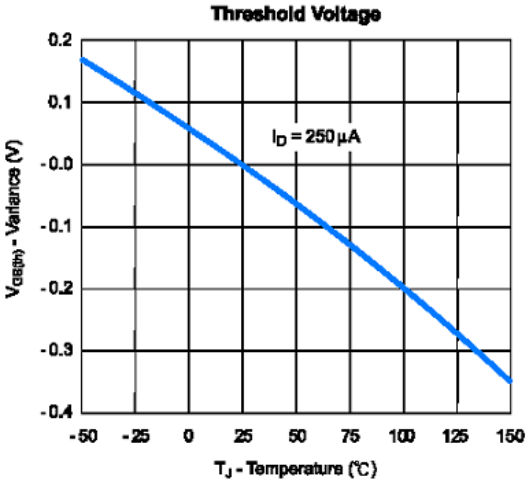

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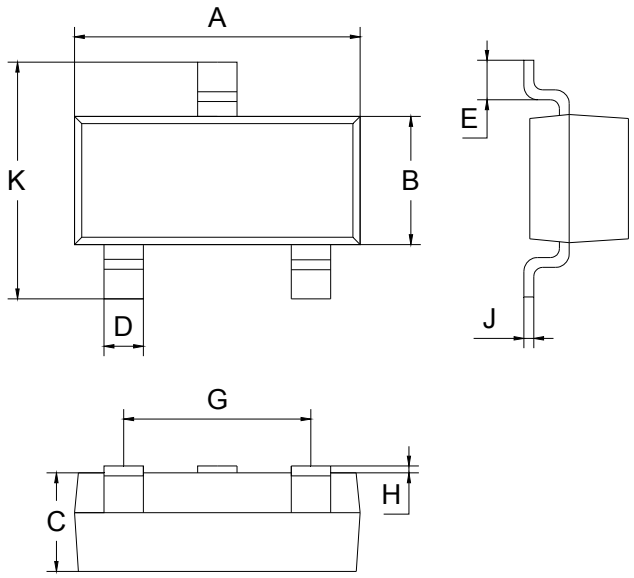
PACKAGE OUTLINE

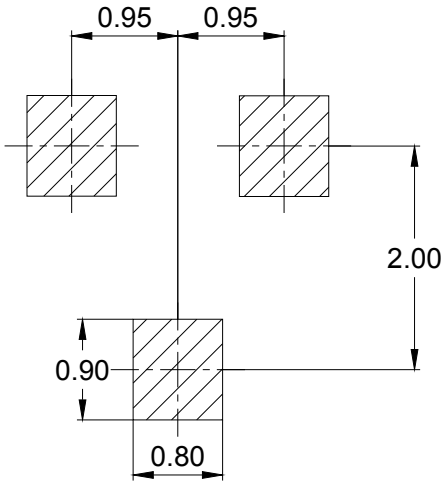
Plastic surface mounted package

SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	1.0 Typical	
D	0.4 Typical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	0.1 Typical	
K	2.20	2.60
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit : mm

PACKAGE INFORMATION

Device	Package	Shipping
2312	SOT-23	3000/Tape&Reel