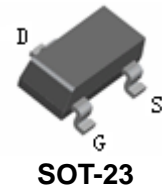
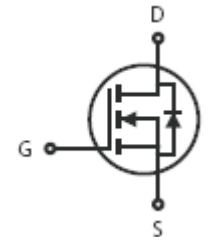


SI2300

N-Channel Enhancement Mode Field Effect Transistor

FEATURES

- $V_{DS}=20V, R_{DS(ON)}=40m @ V_{GS}=4.5V, I_D=5.0A$
- $V_{DS}=20V, R_{DS(ON)}=60m @ V_{GS}=2.5V, I_D=4.0A$
- $V_{DS}=20V, R_{DS(ON)}=75m @ V_{GS}=1.8V, I_D=1.0A$
- Electrostatic Sensitive Devices.



APPLICATIONS

- Power Management in Note book.
- Portable Equipment.
- Battery Powered System.
- Load Switch.
- DSC.

ORDERING INFORMATION

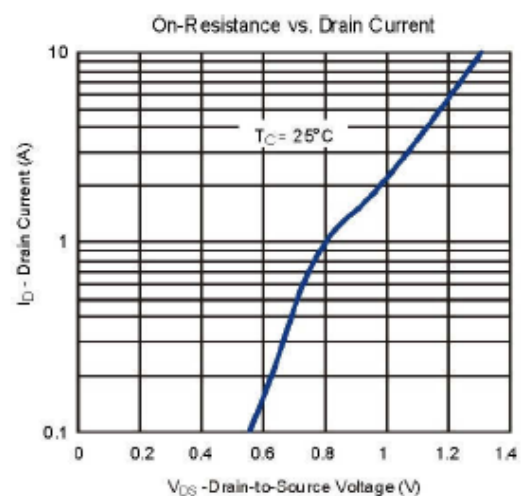
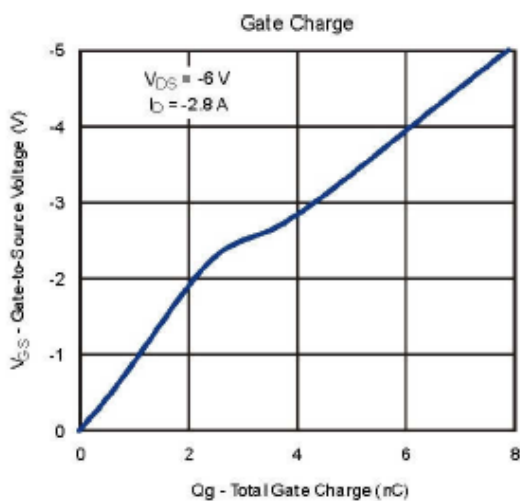
Type No.	Marking	Package Code
SI2300	C009T.	SOT-23

MAXIMUM RATING @ $T_a=25^\circ C$ unless otherwise specified

Symbol	Parameter	Value	Units
V_{DSS}	Drain-Source voltage	20	V
V_{GSS}	Gate -Source voltage	± 10	V
I_D	Maximum Drain current $T_A=25^\circ C$	3.8	A
I_{DM}	Pulsed Drain current	15	A
P_D	Power Dissipation	1.25	W
$R_{\theta JA}$	Thermal resistance, Junction-to-Ambient	100	$^\circ C/W$
T_J, T_{stg}	Operating Junction and Storage Temperature	-55 to 150	$^\circ C$

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

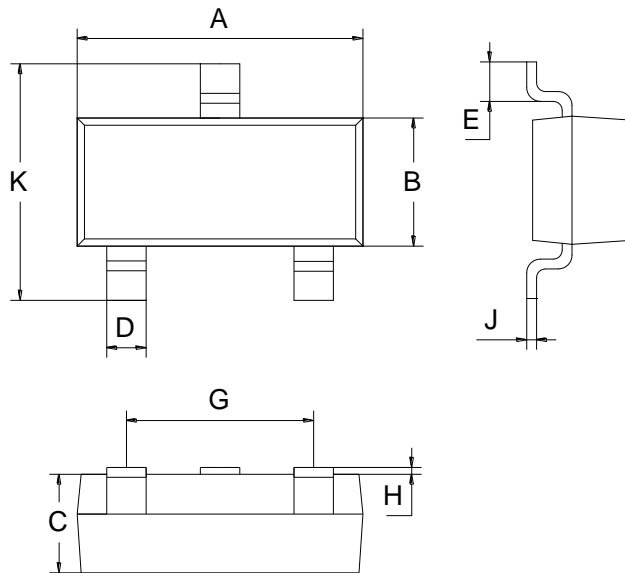
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	20	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	0.6	0.78	1.5	
Gate-body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=10V$	-	-	100	nA
		$V_{DS}=0V, V_{GS}=-10V$	-	-	-100	
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$	-	-	1	μA
Drain-Source on-resistance	$R_{DS(ON)}$	$V_{GS}=4.5V, I_D=5.0A$	-	32	40	m Ω
		$V_{GS}=2.5V, I_D=4.0A$	-	50	60	
		$V_{GS}=1.8V, I_D=1.0A$	-	62	75	
Diode forward voltage	V_{SD}	$V_{GS}=0V, I_S=1.25A$	-	0.825	1.2	V
On-State Drain Current	$I_{D(ON)}$	$V_{DS}=5V, V_{GS}=4.5V$	18	-	-	A
Forward Transconductance	g_F	$V_{DS}=5V, I_D=5A$	5	-	-	S
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=4.5V, I_D=3.5A$	-	16.8	-	nC
Gate-Source Charge	Q_{gs}		-	2.5	-	
Gate-Drain Charge	Q_{gd}		-	5.4	-	
Gate Resistance	R_g	$V_{DS}=0V, V_{GS}=0V, f=1MHz$	-	7.5	-	Ω
Input capacitance	C_{ISS}	$V_{DS}=15V, V_{GS}=0V, f=1.0MHz$	-	888	-	pF
Output capacitance	C_{OSS}		-	144	-	
Reverse transfer capacitance	C_{RSS}		-	115	-	
Turn-On Delay Time	$t_{D(ON)}$	$V_{DD}=10V, R_L=10\Omega, I_D=1A, V_{GS}=4.5V, R_{GEN}=6\Omega$	-	31.8	-	ns
Rise Time	t_R		-	14.5	-	
Turn-Off Delay Time	$t_{D(OFF)}$		-	50.3	-	
Fall Time	t_F		-	31.9	-	



PACKAGE OUTLINE

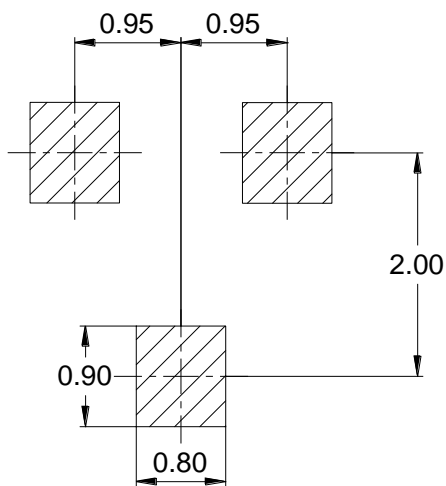
Plastic surface mounted package

SOT-23



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60
All Dimensions in mm		

SOLDERING FOOTPRINT



Unit: mm