

General Description

We declare that the material of product compliance with Rohs requirements and Halogen Free.
ESD protected
Low RDS(on)

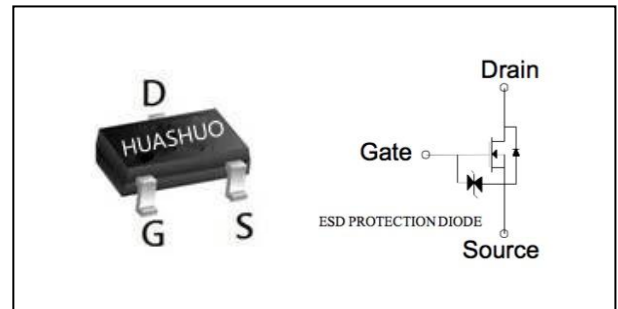
Product Summary

V_{DS}	60	V
$R_{DS(ON),max}$	7.5	Ω
I_D	0.18	A

Features

- Low side load switch
- Level shift circuitis
- DC-DC converter
- Portable applications i.e. DSC, PDA, Cell Phone, etc.

SOT-23S Pin Configuration



Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V_{DS}	Drain-Source Voltage	60	V
V_{GS}	Gate-Source Voltage	± 20	V
$I_D@T_A=25^\circ\text{C}$	Continuous Drain Current, V_{GS} @ 10V	0.18	A
I_{DM}	Pulsed Drain Current	0.36	A
$P_D@T_A=25^\circ\text{C}$	Total Power Dissipation	0.15	W
T_{STG}	Storage Temperature Range	-40 to 150	$^\circ\text{C}$
T_J	Operating Junction Temperature Range	-40 to 150	$^\circ\text{C}$
$V_{ESD(G-S)}$	Gate-Source ESD : HBM_C=100pF, R=1.5K Ω	1000	V



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

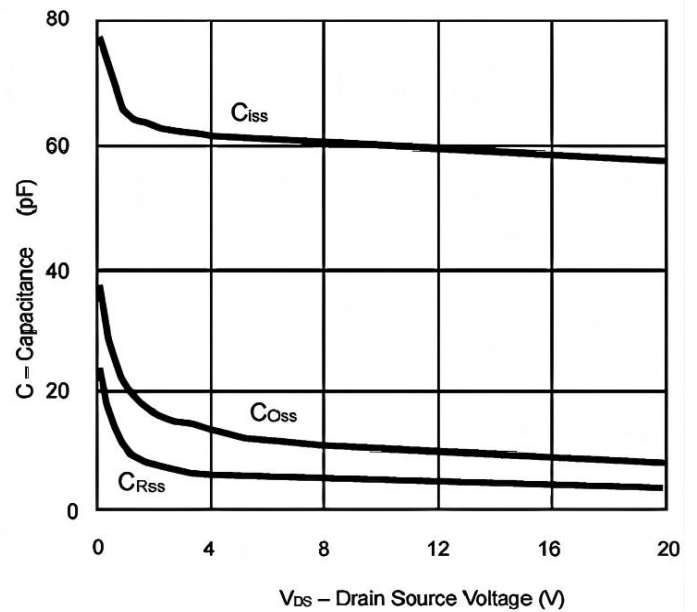
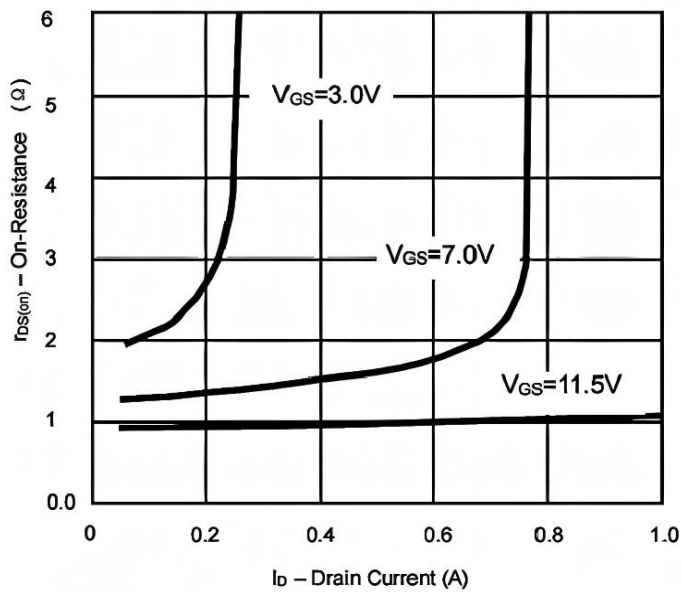
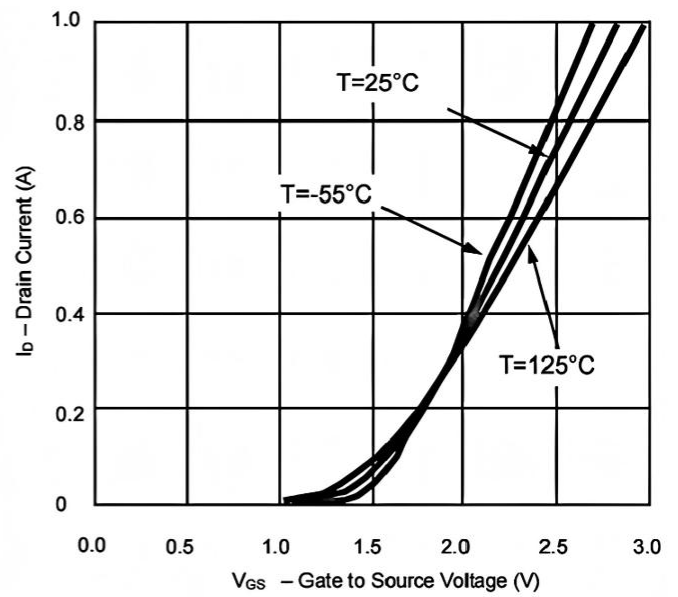
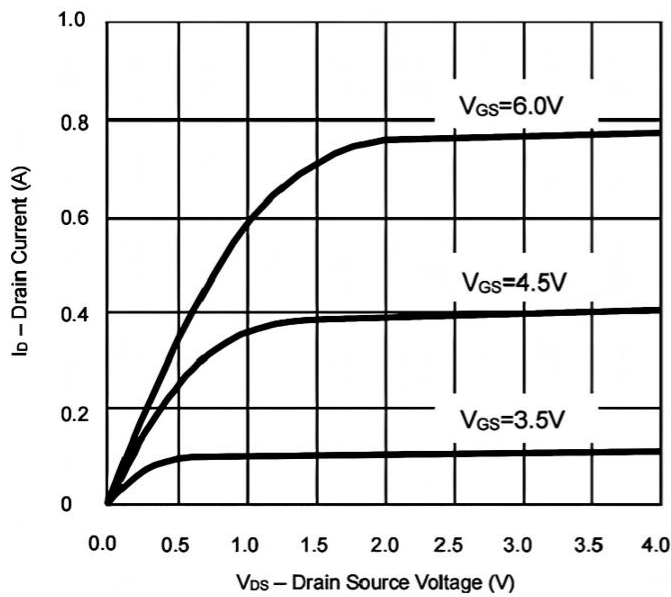
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V$, $I_D=10\mu A$	60	---	---	V
$R_{DS(ON)}$	Static Drain-Source On-Resistance	$V_{GS}=10V$, $I_D=0.05A$	---	---	7.5	Ω
		$V_{GS}=5V$, $I_D=0.1A$	---	---	7.5	
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS}=V_{DS}$, $I_D=250\mu A$	0.5	---	1.5	V
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=40V$, $V_{GS}=0V$, $T_J=25^{\circ}\text{C}$	---	---	0.5	μA
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=\pm 20V$, $V_{DS}=0V$	---	---	± 10	μA
Q_g	Total Gate Charge (4.5V)	$V_{DS}=6V$, $V_{GS}=4.5V$, $I_D=0.2A$	---	0.23	---	nC
Q_{gs}	Gate-Source Charge		---	0.05	---	
Q_{gd}	Gate-Drain Charge		---	0.06	---	
$T_{d(on)}$	Turn-On Delay Time	$V_{DD}=30V$, $V_{GS}=10V$, $R_G=25\Omega$, $I_D=0.2A$, $R_L=150\Omega$,	---	---	20	ns
$T_{d(off)}$	Turn-Off Delay Time		---	---	20	
C_{iss}	Input Capacitance	$V_{DS}=25V$, $V_{GS}=0V$, $f=1\text{MHz}$	---	14.5	---	pF
C_{oss}	Output Capacitance		---	5	---	
C_{rss}	Reverse Transfer Capacitance		---	0.2	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I_S	Continuous Source Current	$V_G=V_D=0V$, Force Current	---	---	0.2	A
V_{SD}	Diode Forward Voltage	$V_{GS}=0V$, $I_S=0.2A$, $T_J=25^{\circ}\text{C}$	---	---	1	V
t_{rr}	Reverse Recovery Time	$I_F=0.2A$, $dI/dt=100A/\mu s$	---	11.3	---	nS
Q_{rr}	Reverse Recovery Charge		---	7.5	---	nC
I_{rrm}	Reverse Recovery Current		---	0.66	---	A



Typical Characteristics

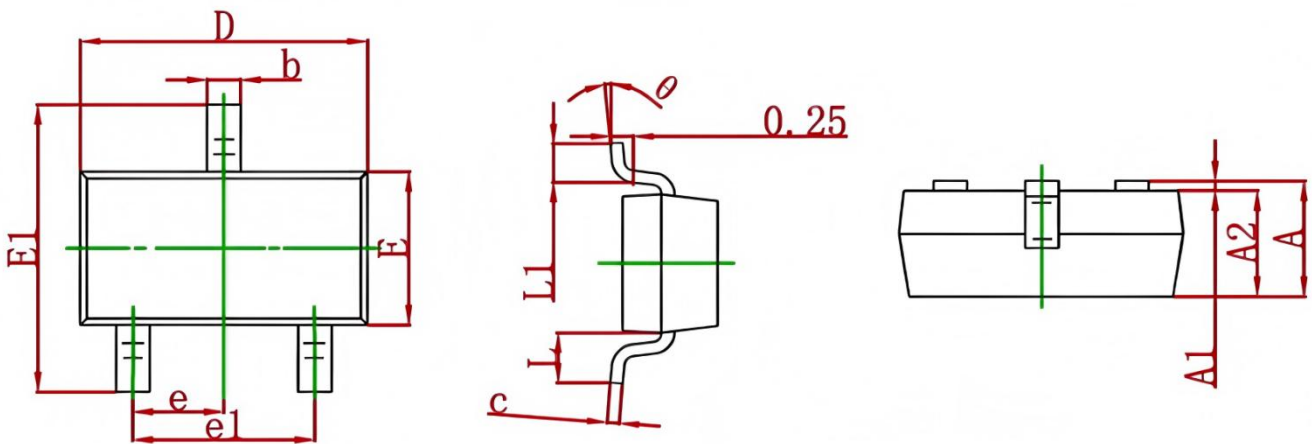




Ordering Information

Part Number	Package code	Packaging
HSS2N7002KL	SOT-23S	3000/Tape&Reel

SOT-23S Package Outline



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
C	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°



HSS2N7002KL TOP Marking

