

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
110V	180mΩ@10V	3A
	210mΩ@4.5V	



合肥矽普半导体

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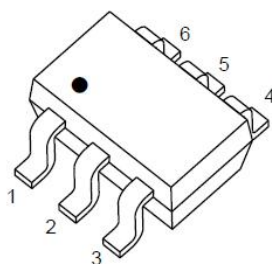
Feature

- High power and current handling capability
- Surface mount package

Application

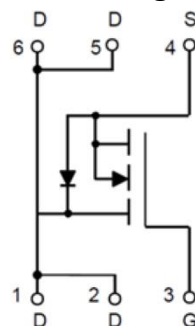
- Battery Switch
- DC/DC Converter

Package

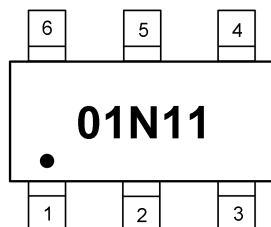


SOT-23-6L

Circuit diagram



Marking



01N11 :Device Code

Order Information

Device	Package	Unit/Tape
SP01N11TS	SOT-23-6L	3000

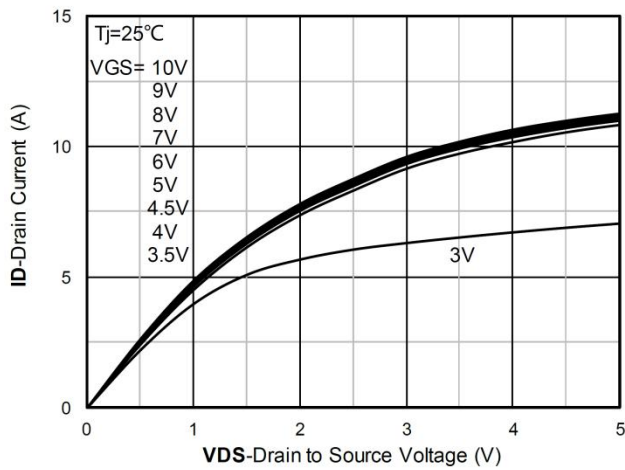
Absolute maximum ratings (Ta=25°C, unless otherwise noted)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	110	V
Gate-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current	I_D	3	A
Pulse Drain Current Tested	I_{DM}	12	A
Power Dissipation	P_D	1.15	W
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	108	$^{\circ}C/W$
Storage Temperature Range	T_{STG}	-55 to 150	$^{\circ}C$
Operating Junction Temperature Range	T_J	-55 to 150	$^{\circ}C$

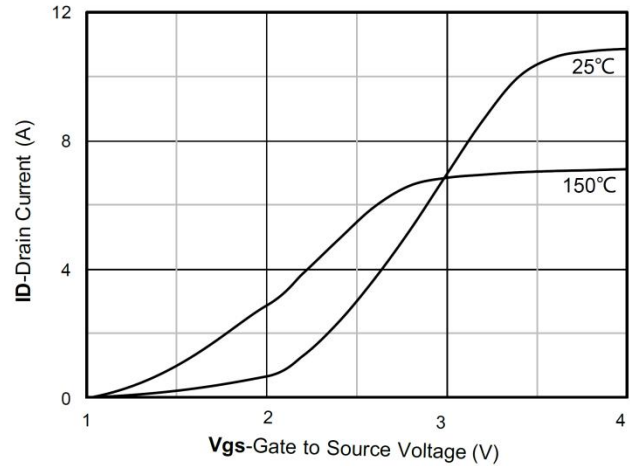
Electrical characteristics (Ta=25°C, unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	VGS=0V , ID=250uA	110	-	-	V
Drain-Source Leakage Current	IDSS	VDS=88V , VGS=0V , TJ=25℃	-	-	1	uA
Gate-Source Leakage Current	IGSS	VGS=±20V , VDS=0V	-	-	±100	nA
Gate Threshold Voltage	VGS(th)	VGS=VDS , ID =250uA	1.0	1.5	2.5	V
Static Drain-Source On-Resistance	RDS(ON)	VGS =10V, ID =2A	-	180	210	mΩ
		VGS =4.5V, ID =1.5A	-	210	260	
Dynamic characteristics						
Input Capacitance	Ciss	VDS=20V , VGS=0V , f=1MHz	-	360	-	pF
Output Capacitance	Coss		-	25	-	
Reverse Transfer Capacitance	Crss		-	13	-	
Total Gate Charge	Qg	VDS=20V , VGS=10V , ID=1.3A	-	12	-	nC
Gate-Source Charge	Qgs		-	1.85	-	
Gate-Drain Charge	Qgd		-	2.9	-	
Switching Characteristics						
Turn-On Delay Time	td(on)	VDD=50V VGS=10V , RG=1Ω, ID=1.3A	-	6	-	nS
Rise Time	tr		-	10	-	
Turn-Off Delay Time	td(off)		-	12	-	
Fall Time	tf		-	8	-	
Diode Characteristics						
Diode Forward Voltage	VSD	VGS=0V , IS=1A , TJ=25℃	-	-	1.2	V

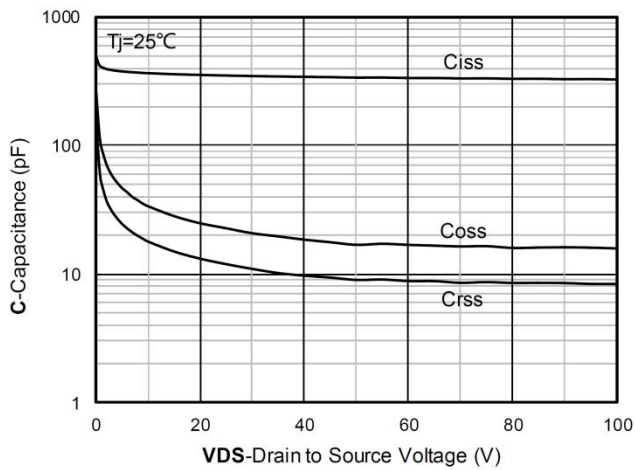
Typical Characteristics



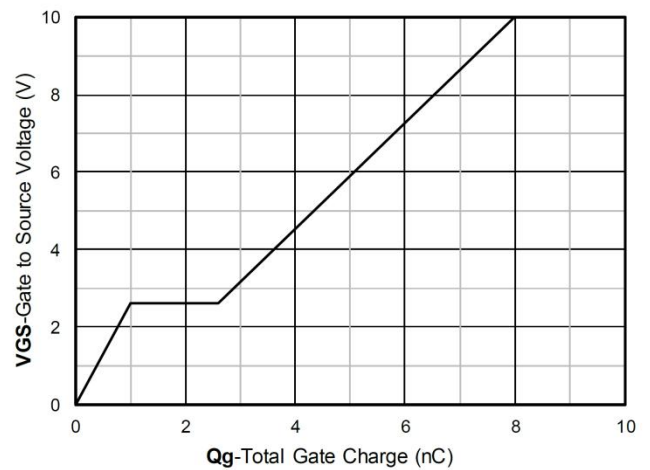
Output Characteristics



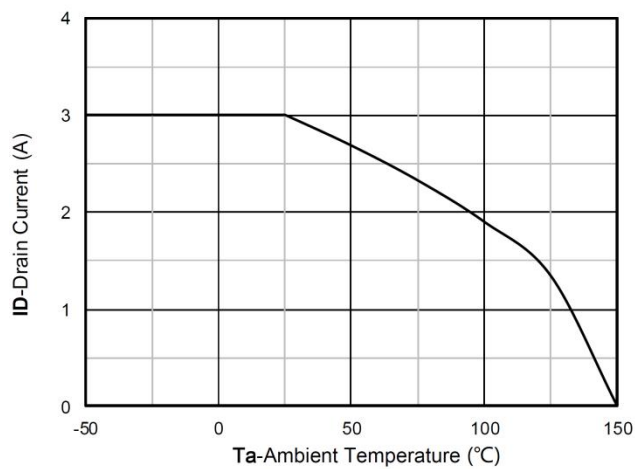
Transfer Characteristics



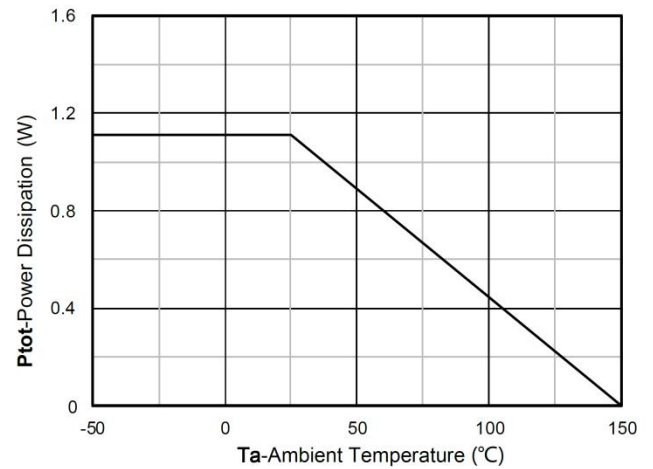
Capacitance Characteristics



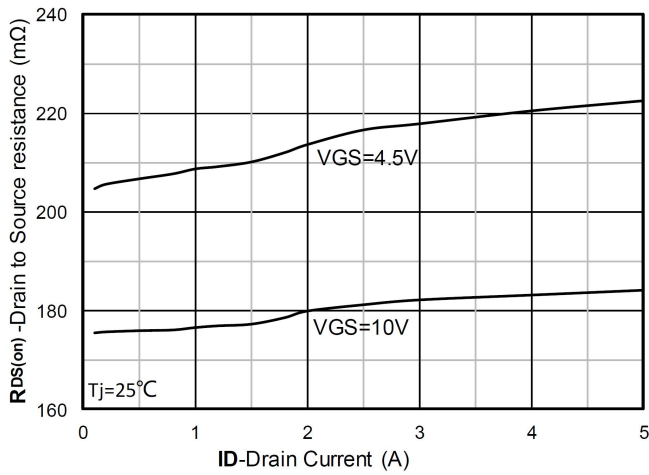
Gate Charge



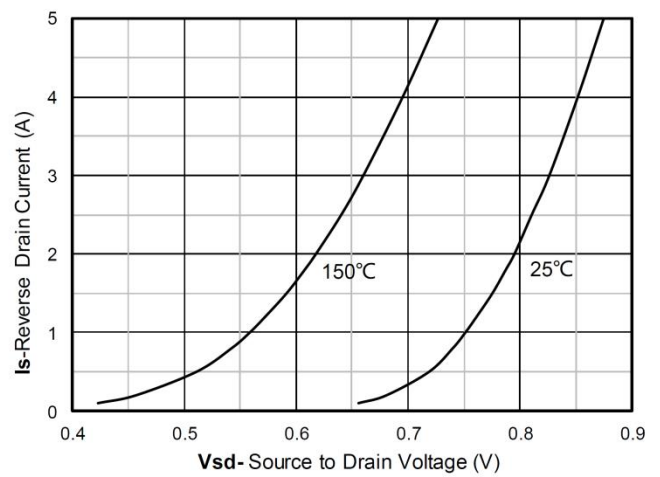
Current dissipation



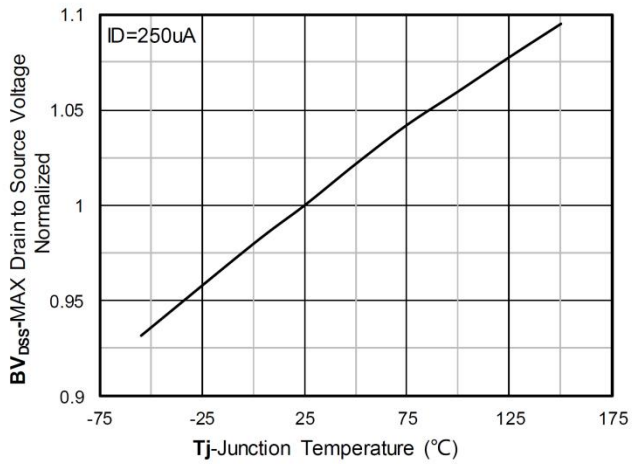
Power dissipation



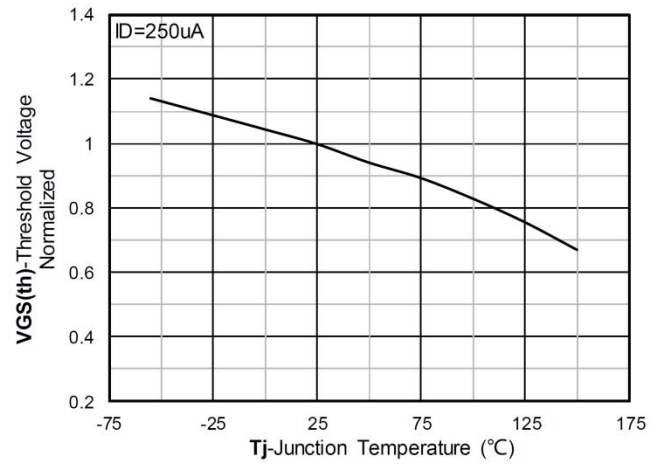
$R_{DS(on)}$ VS Drain Current



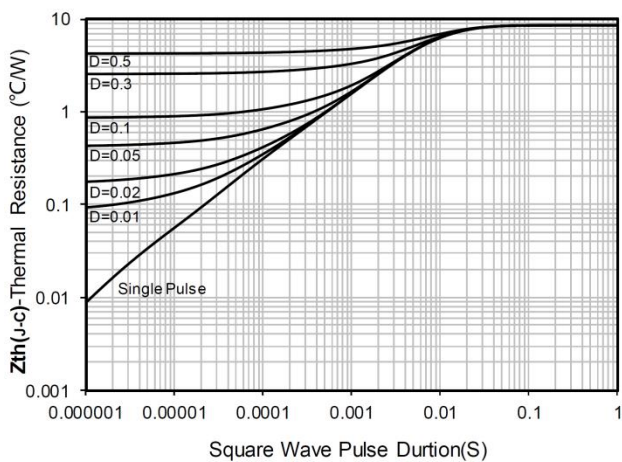
Forward characteristics of reverse diode



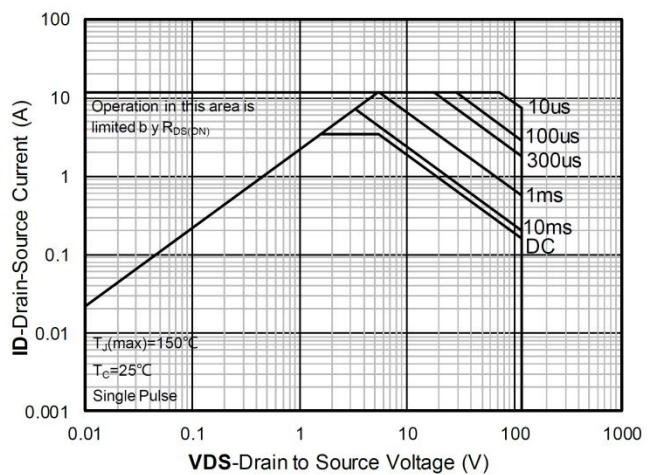
Normalized breakdown voltage



Normalized Threshold voltage

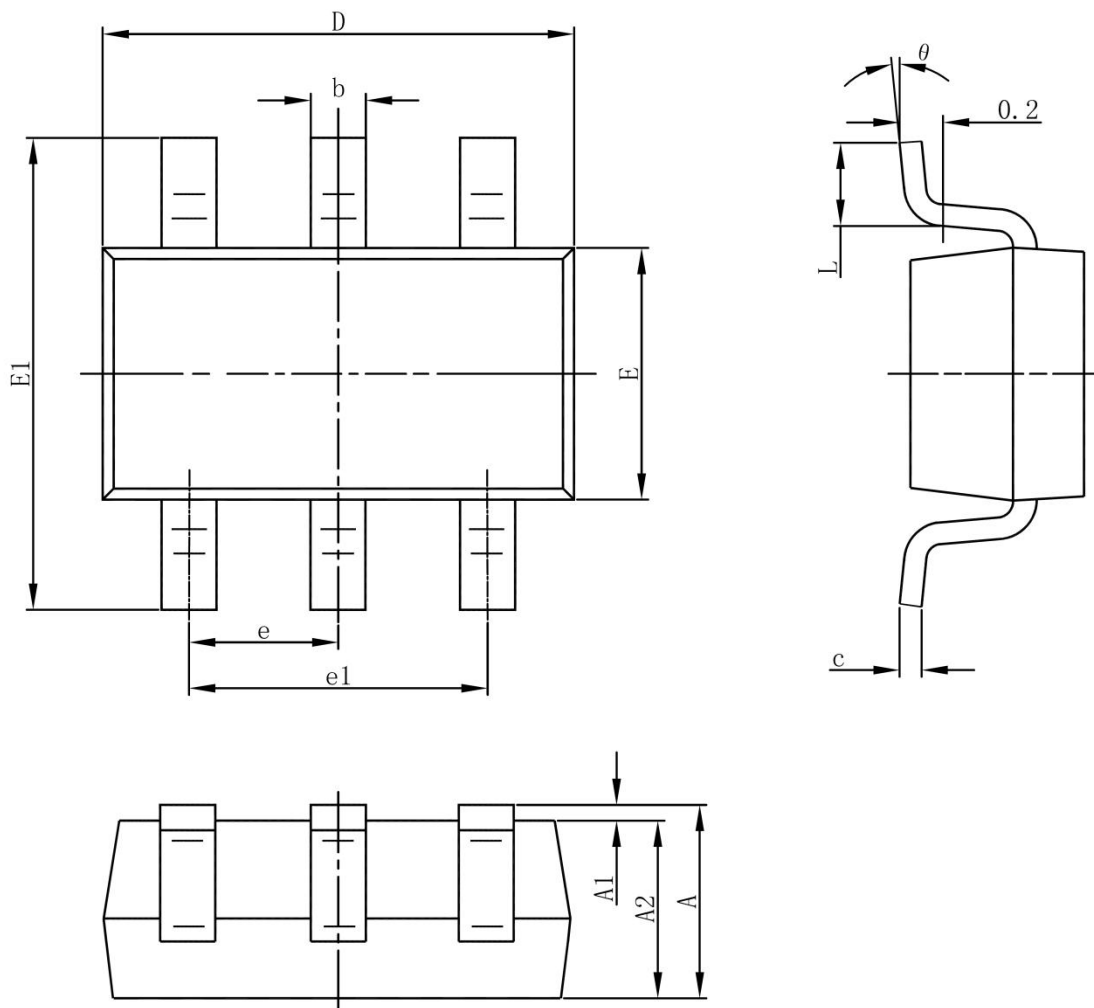


Maximum Transient Thermal Impedance



Safe Operation Area

SOT-23-6L Package Information



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°