

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-60V	60mΩ@10V	-5A
	75mΩ@4.5V	



合肥矽普半导体

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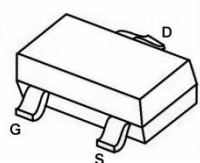
Feature

Advanced Trench technology
Low Gate Charge and $R_{DS(on)}$
100% Single Pulse avalanche energy Test

Applications

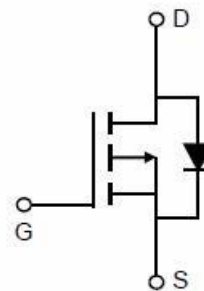
Power switching application
PWM Application
DC-DC Converter

Package

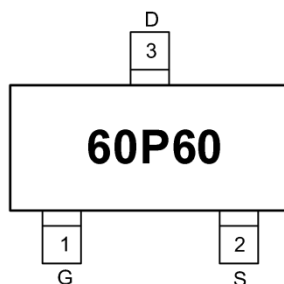


SOT-23-3L

Circuit diagram



Marking



Order Information

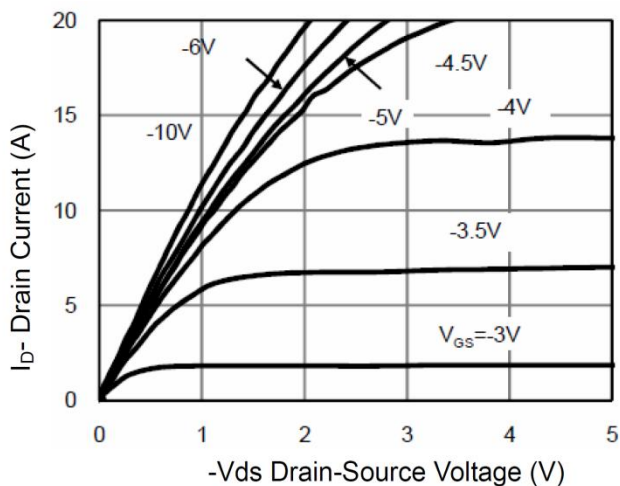
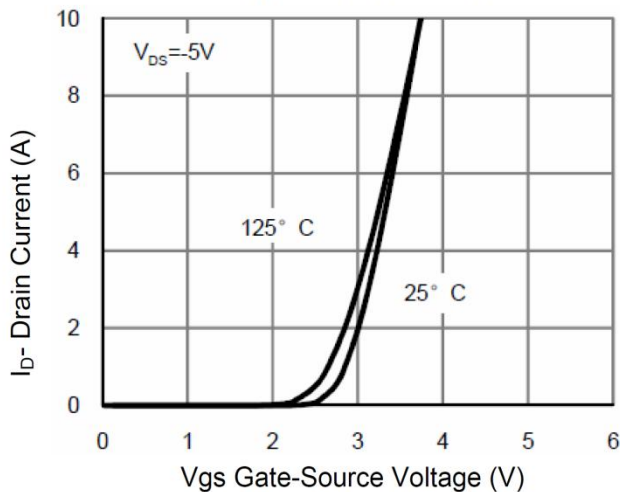
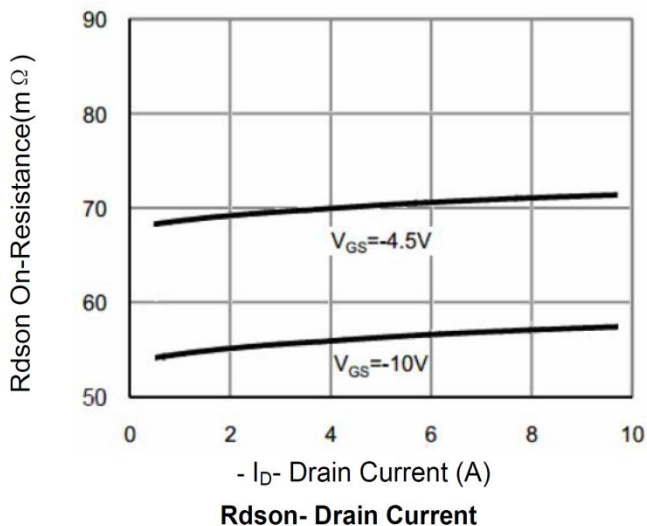
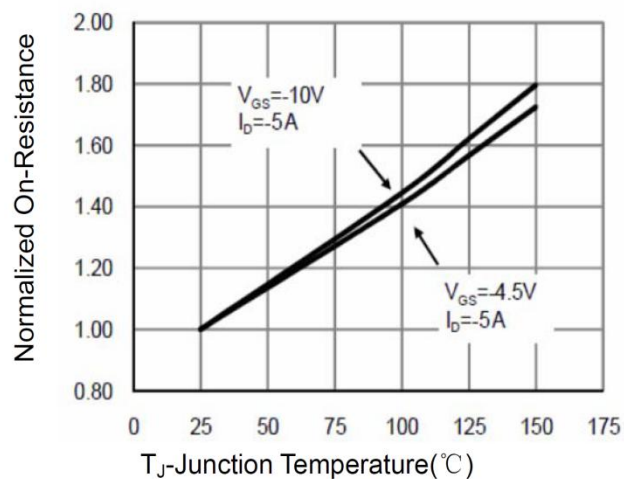
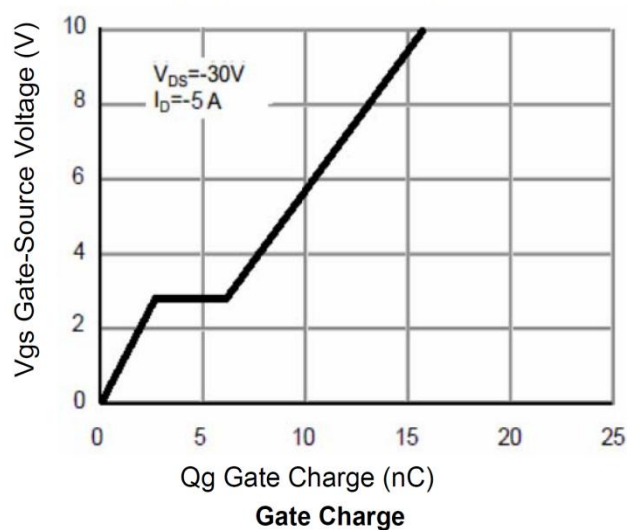
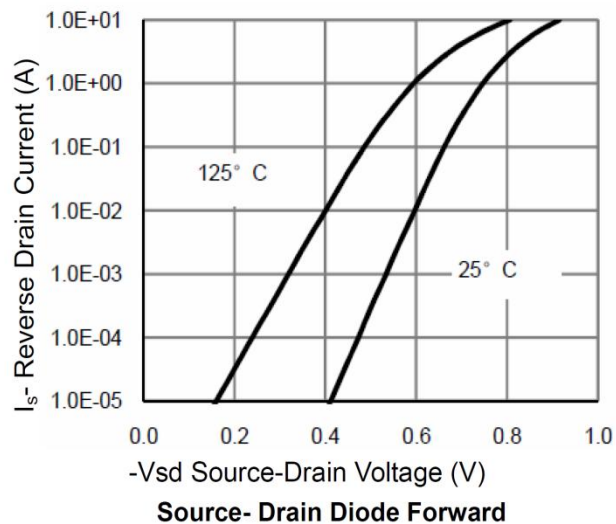
Device	Package	Unit/Tape
SP20P18T1	SOT-23-3L	3000

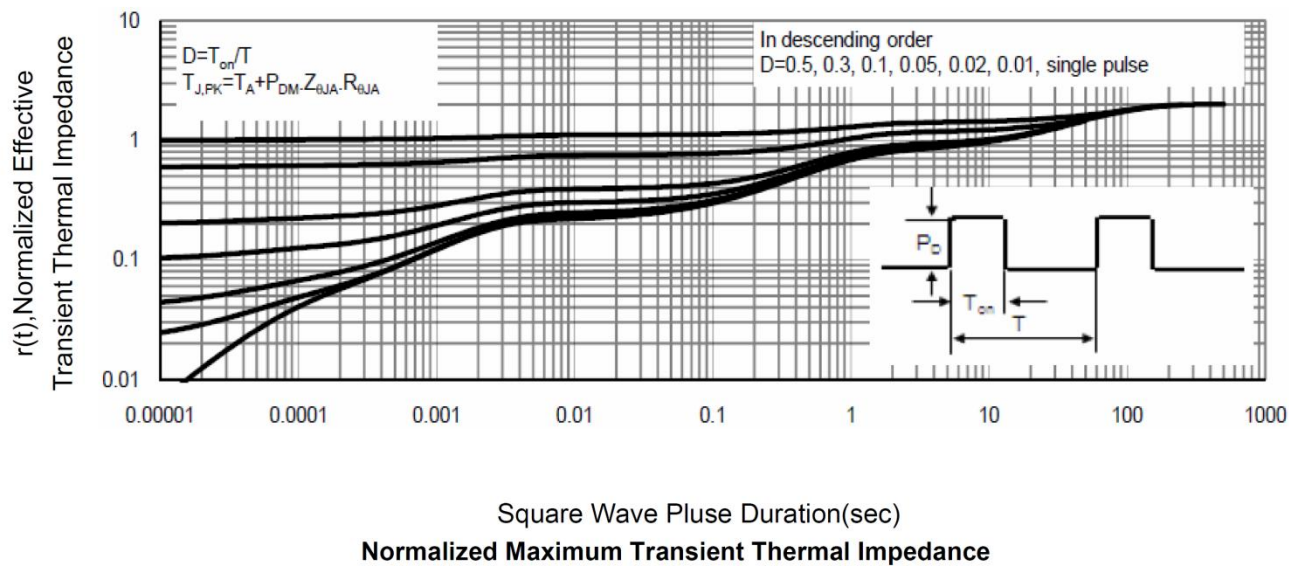
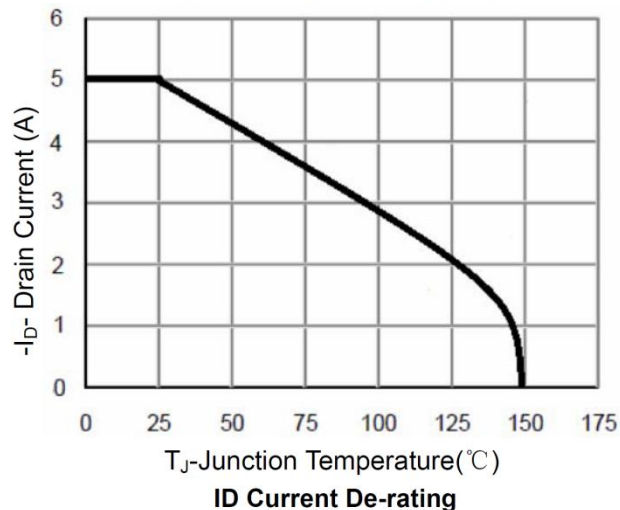
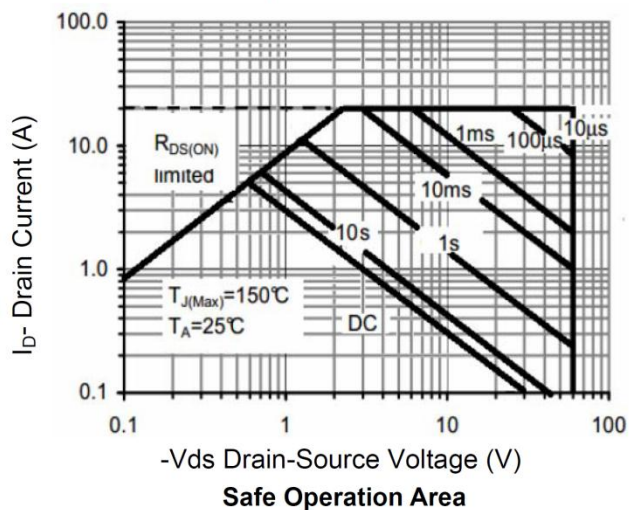
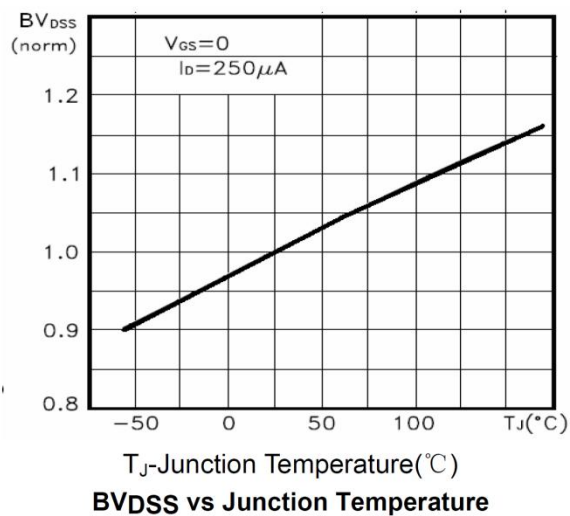
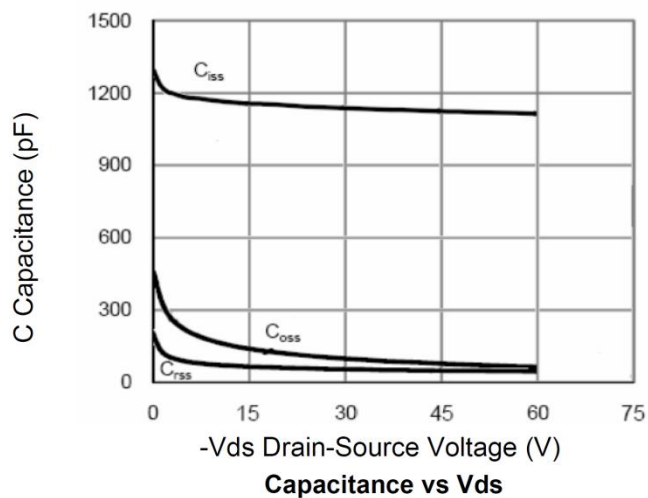
**Absolute maximum ratings (Ta=25°C unless otherwise noted)**

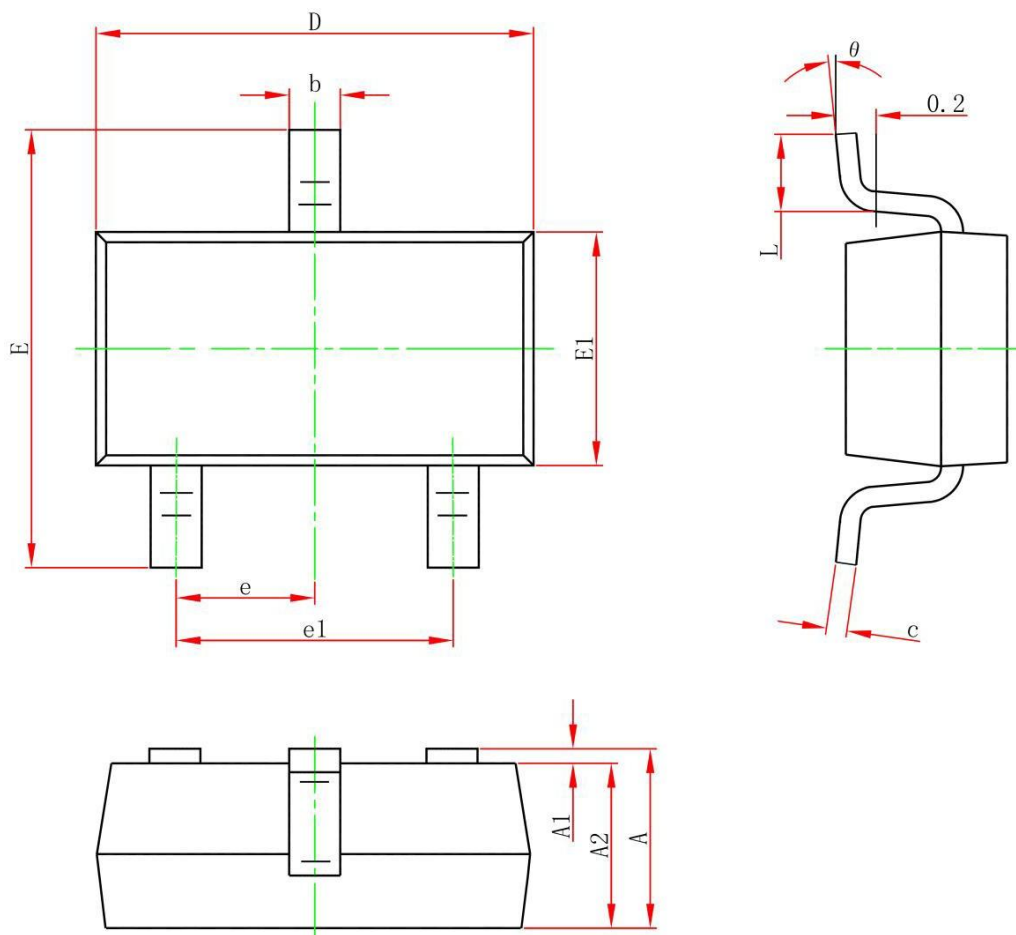
Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current (Tc=25°C)	I_D	-5	A
Pulsed Drain Current	I_{DM}	-20	A
Total Power Dissipation (Tc=25°C)	P_D	26	W
Thermal Resistance Junction-Case	$R_{\theta JC}$	4.81	°C/W
Storage Temperature Range	T_{STG}	-55 to 150	°C
Operating Junction Temperature Range	T_J	-55 to 150	°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	-60	-	-	V
Drain-Source Leakage Current	IDSS	VDS= -48V , 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	-2.0	-3.0	V
Static Drain-Source On-Resistance	RDS(ON)	VGS= -10V , ID= -3.2A	-	60	80	mΩ
		VGS= -4.5V , ID= -3A	-	75	100	
Dynamic Characteristics						
Input Capacitance	Ciss	VDS= -30V , VGS=0V , f=1MHz	-	240	-	pF
Output Capacitance	Coss		-	124	-	
Reverse Transfer Capacitance	Crss		-	22	-	
Switching Characteristics						
Total Gate Charge	Qg	VDS= -30V , VGS= -10V , ID= -8A	-	11	-	nC
Gate-Source Charge	Qgs		-	2.6	-	
Gate-Drain Charge	Qgd		-	4.8	-	
Turn-On Delay Time	Td(on)	VDD=-30V,ID=-8A, VGS=-10V,RGEN=3Ω	-	8	-	ns
Rise Time	Tr		-	4	-	
Turn-Off Delay Time	Td(off)		-	32	-	
Fall Time	Tf		-	7	-	
Source-Drain Diode Characteristics						
Diode Forward Voltage	VSD	VGS=0V , IS= -1A , TJ=25℃	-	-	1.2	V

**Typical Characteristics****Output Characteristics****Transfer Characteristics****Rdson- Drain Current****Rdson-Junction Temperature****Gate Charge****Source- Drain Diode Forward**



**SOT-23-3L Package Information**

Symbol	Dimensions in millimeters	
	Min.	Max.
A	1.050	1.250
A1	0.000	0.100
A2	1.050	1.150
b	0.300	0.500
c	0.100	0.200
D	2.820	3.020
E1	1.500	1.700
E	2.650	2.950
e	0.950 Typ.	
e1	1.800	2.000
L	0.300	0.600
θ	0°	8°