

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	8.5mΩ@10V	10.3A
	11mΩ@4.5V	



合肥矽普半导体

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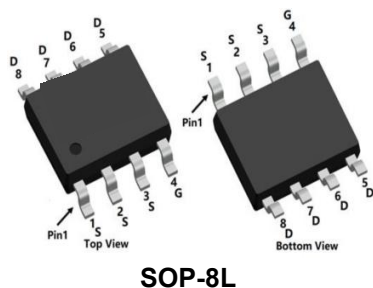
Feature

- Fast Switching
- Low Gate Charge and Rdson
- 100% Single Pulse avalanche energy Test

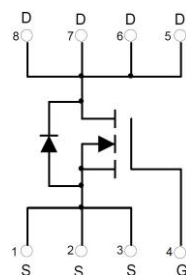
Applications

- Power Switching Application
- Hard switched and high frequency circuits
- Uninterruptible Power Supply

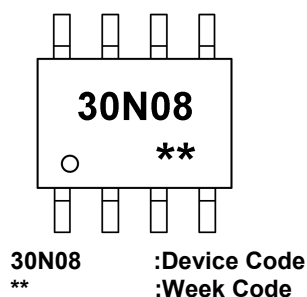
Package



Circuit Diagram



Marking



Order Information

Device	Package	Unit/Tape
SP30N08P8	SOP-8L	4000

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

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current (Tc=25°C)	I_D	10.3	A
Pulsed Drain Current	I_{DM}	41.2	A
Single Pulse Avalanche Energy ¹	E_{AS}	6	mJ
Power Dissipation (Tc=25°C)	P_D	2.3	W
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	54	°C/W
Storage Temperature Range	T_{STG}	-55 to 150	°C
Operating Junction Temperature Range	T_J	-55 to 150	°C

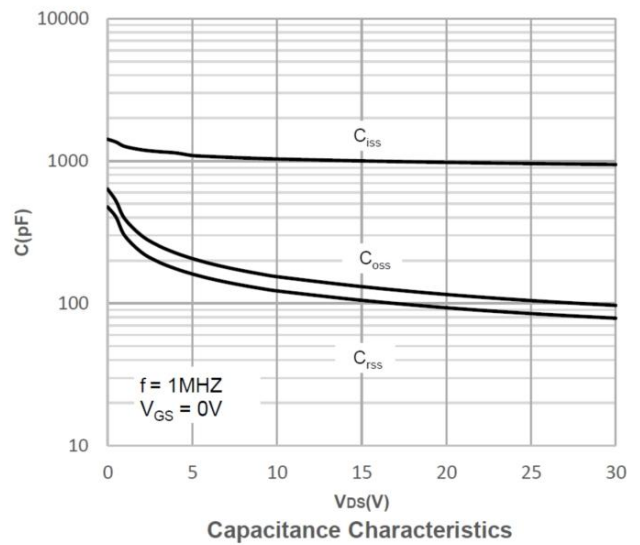
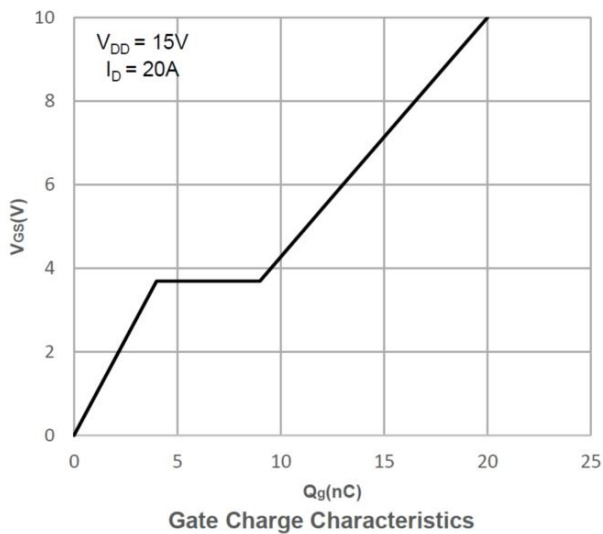
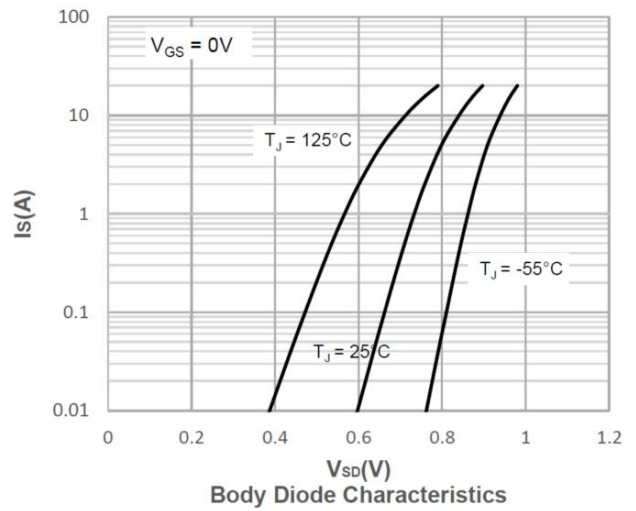
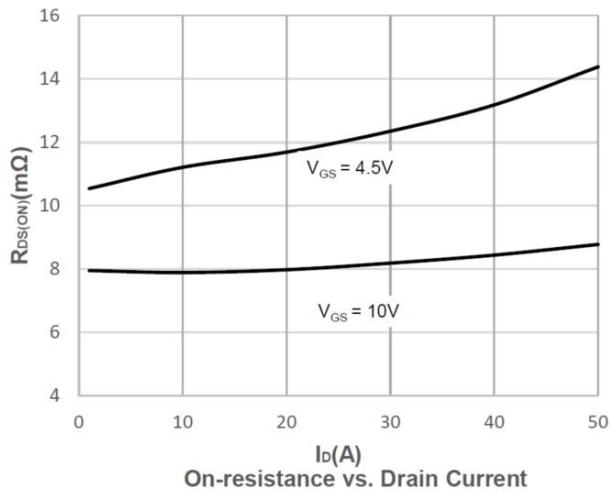
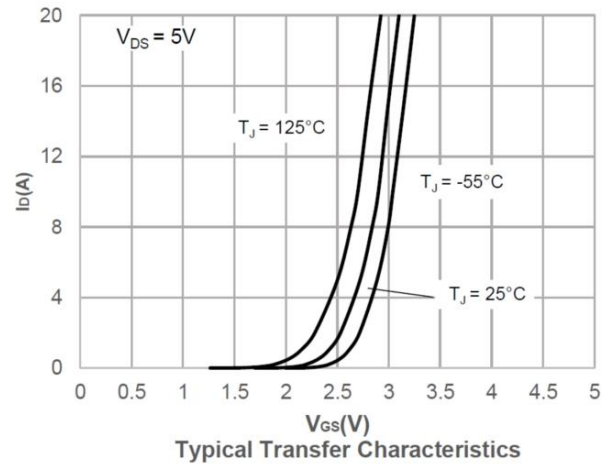
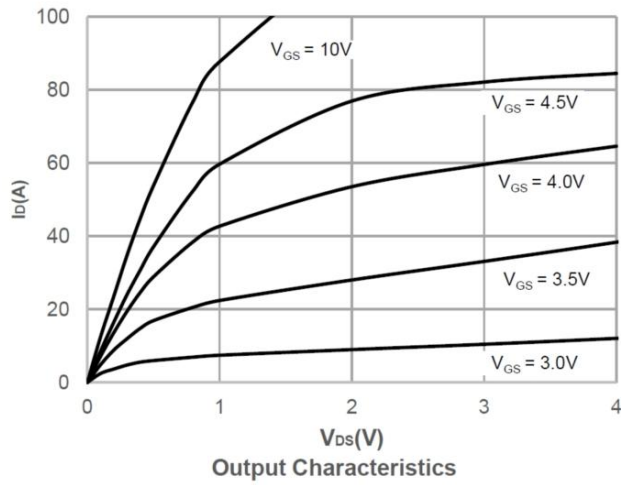
Electrical characteristics (Ta=25°C, unless otherwise noted)

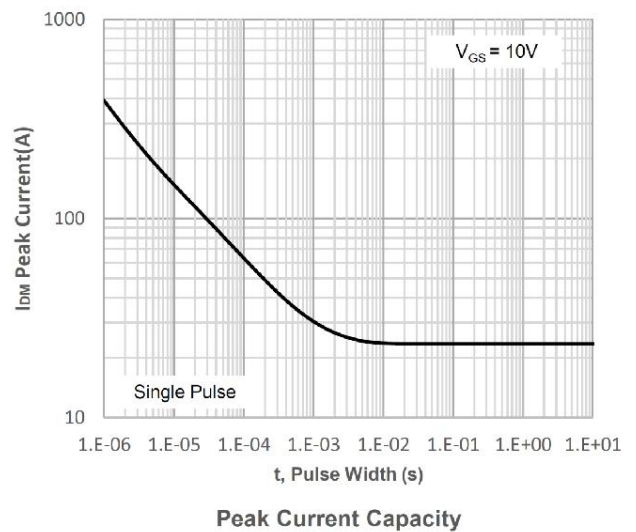
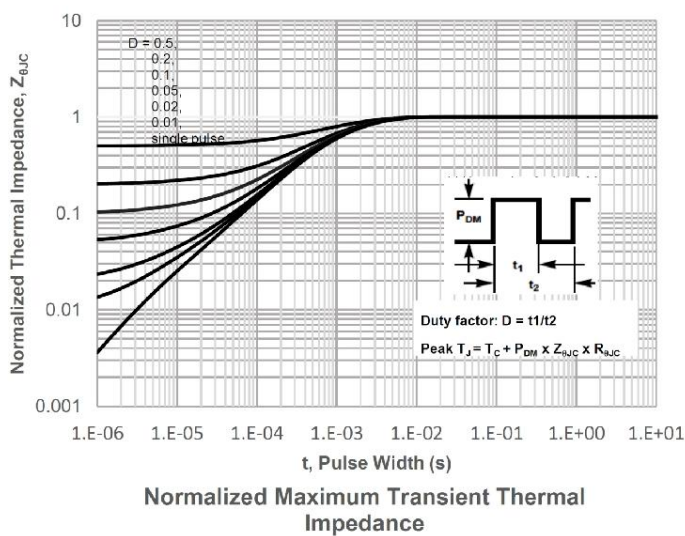
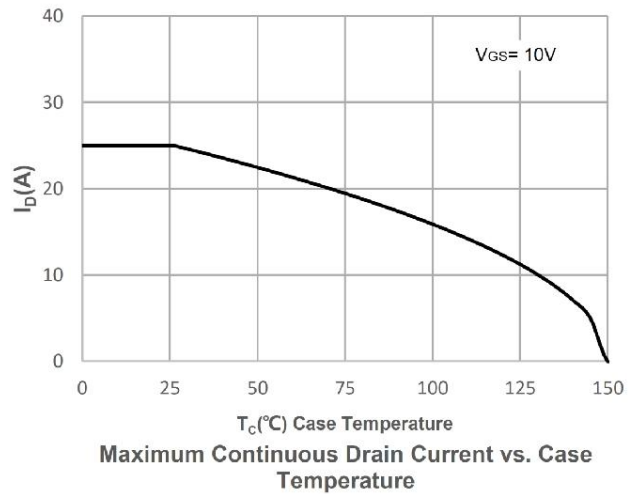
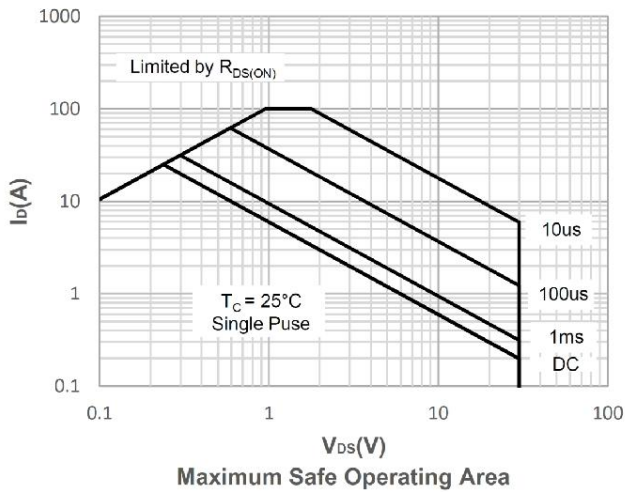
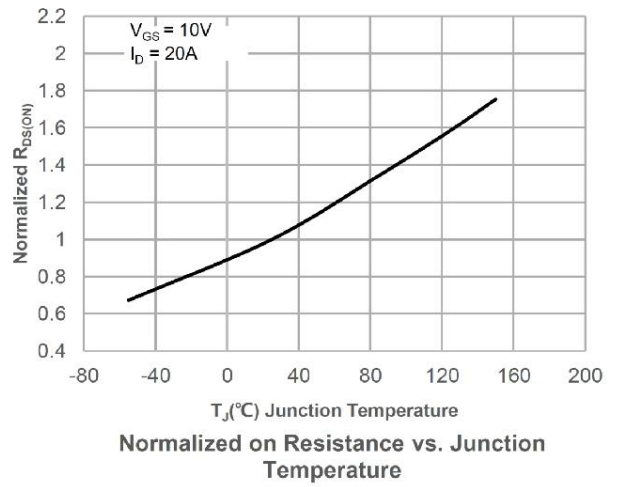
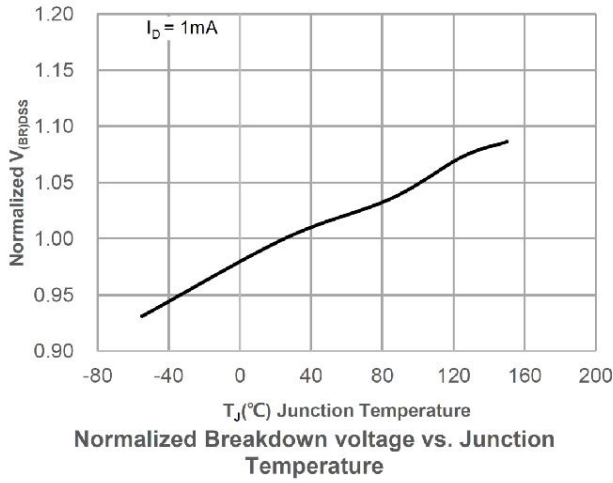
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	VGS=0V , ID=250uA	30	-	-	V
Drain-Source Leakage Current	IDSS	VDS=24V , VGS=0V	-	-	1	uA
Gate-Source Leakage Current	IGSS	VGS=±20V , VDS=0V	-	-	±100	nA
Gate Threshold Voltage	VGS(th)	VGS=VDS , ID =250uA	1.0	1.5	2.2	V
Static Drain-Source On-Resistance	RDS(ON)	VGS=10V , ID=5A	-	8.5	10.5	mΩ
		VGS=4.5V , ID=4A	-	11	15	
Dynamic characteristics						
Input Capacitance	Ciss	VDS=15V , VGS=0V , f=1MHz	-	1317	-	pF
Output Capacitance	Coss		-	163	-	
Reverse Transfer Capacitance	Crss		-	131	-	
Total Gate Charge	Qg	VDS=25V , VGS=10V , ID=12A	-	12.6	-	nC
Gate-Source Charge	Qgs		-	4.2	-	
Gate-Drain Charge	Qgd		-	5.1	-	
Switching Characteristics						
Turn-On Delay Time	Td(on)	VDD=15V , VGS=10V , RG=3.3Ω, ID=10A	-	6.2	-	nS
Rise Time	Tr		-	59	-	
Turn-Off Delay Time	Td(off)		-	27.6	-	
Fall Time	Tf		-	8.4	-	
Diode Characteristics						
Diode Forward Voltage	VSD	VGS=0V , IS=1A	-	-	1.2	V
Maximum Body-Diode Continuous Current	IS		-	-	10.3	A
Reverse Recovery Time	Trr	IS=50A, di/dt=100A/us, TJ=25℃	-	21	-	nS
Reverse Recovery Charge	Qrr		-	8	-	nC

Note :

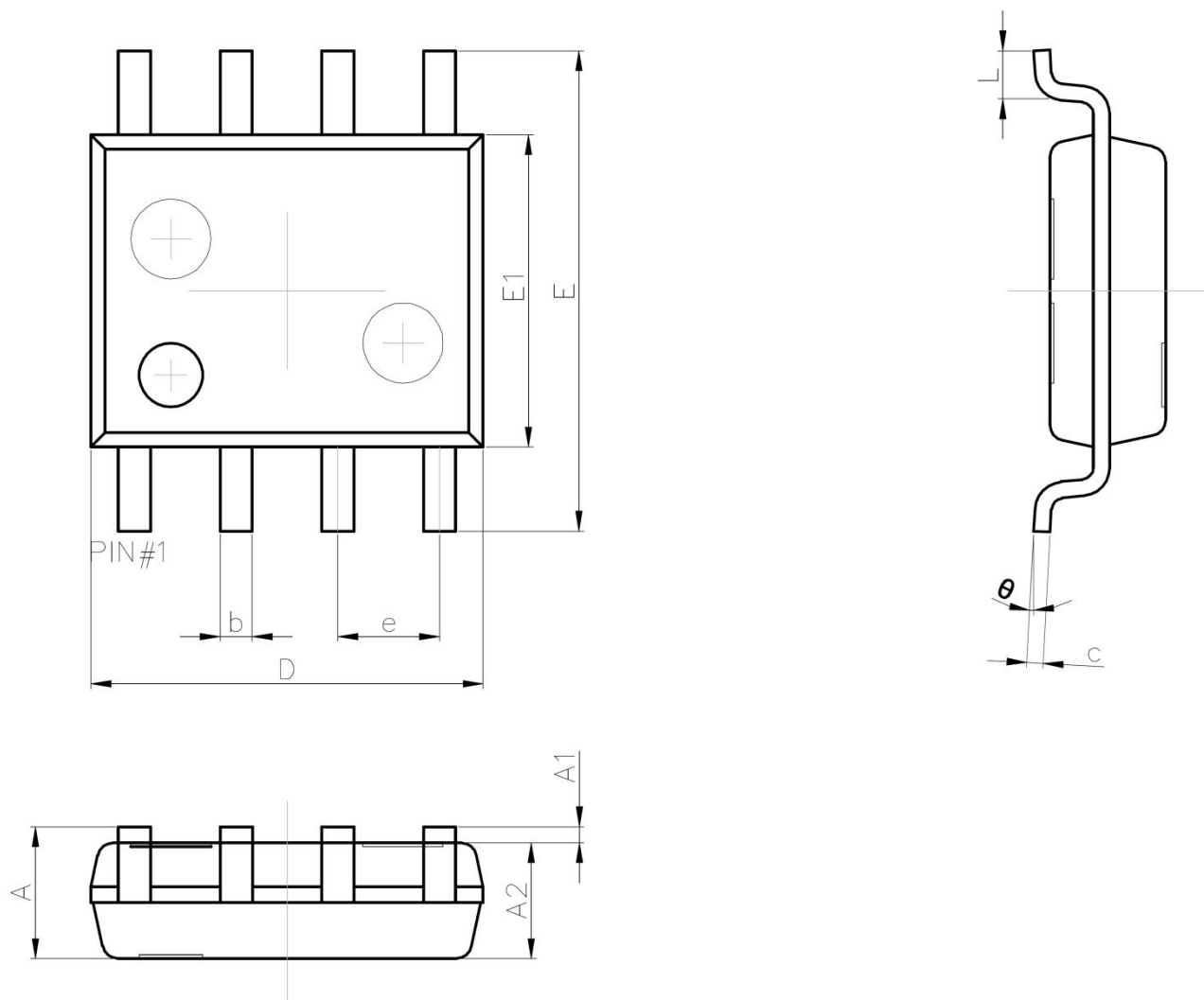
1. The test condition is $V_{DD}=25V, V_{GS}=10V, L=0.1mH, R_G=25\Omega$

Typical Characteristics





SOP-8L Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	1.35	1.75
A1	0.10	0.25
A2	1.35	1.55
b	0.33	0.51
c	0.17	0.25
D	4.80	5.00
e	1.27 REF.	
E	5.80	6.20
E1	3.80	4.00
L	0.40	1.27
θ	0°	8°