

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	6mΩ@10V	18A
	9.4mΩ@4.5V	



合肥矽普半导体

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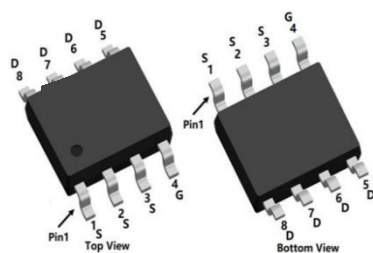
Feature

- Fast Switching
- Low Gate Charge and Rdson
- Advanced Split Gate Trench Technology
- 100% Single Pulse avalanche energy Test

Applications

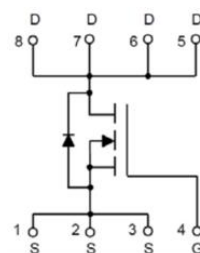
- Power switching application
- DC-DC Converters

Package

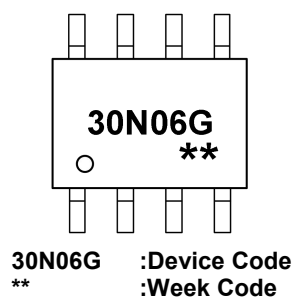


SOP-8L

Circuit Diagram



Marking



Order Information

Device	Package	Unit/Tape
SP30N06GP8	SOP-8L	4000

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

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	18	A
Continuous Drain Current (Ta=100°C)	I_D	12	A
Pulse Drain Current Tested	I_{DM}	72	A
Single Pulse Avalanche Energy ¹	E_{AS}	72	mJ
Power Dissipation	P_D	3	W
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	41.67	°C/W
Storage Temperature Range	T_J	-55 to 150	°C
Operating Junction Temperature Range	T_{STG}	-55 to 150	°C

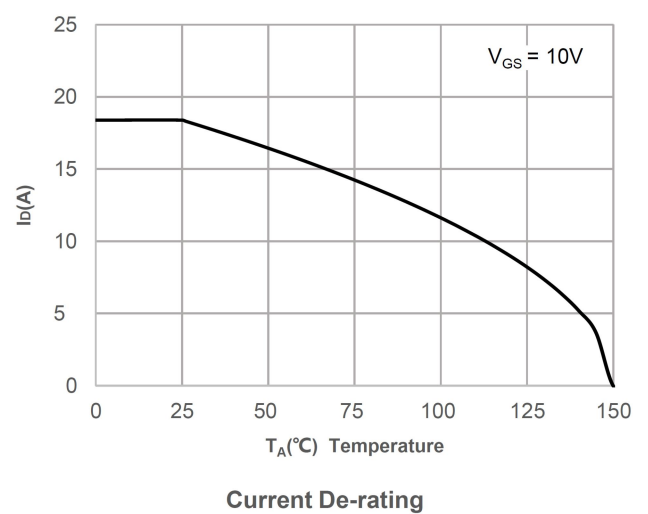
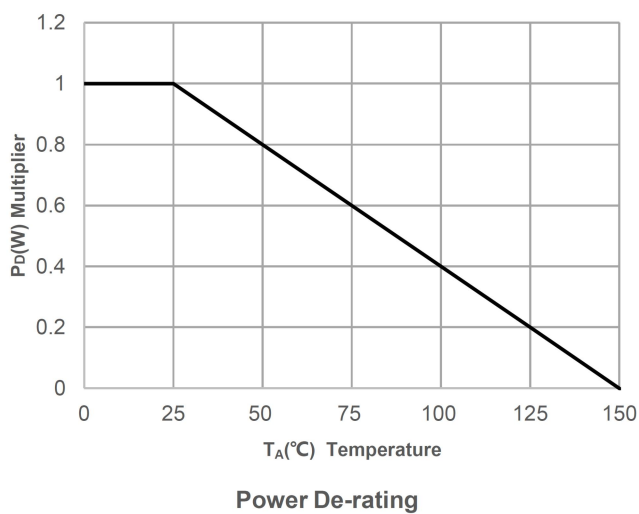
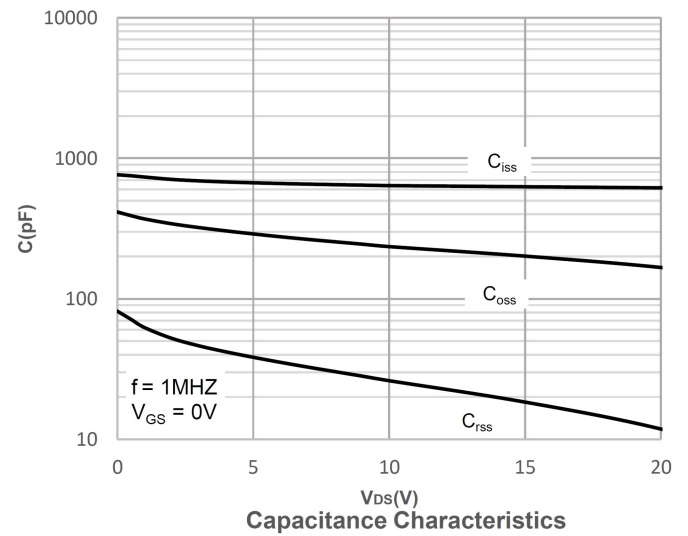
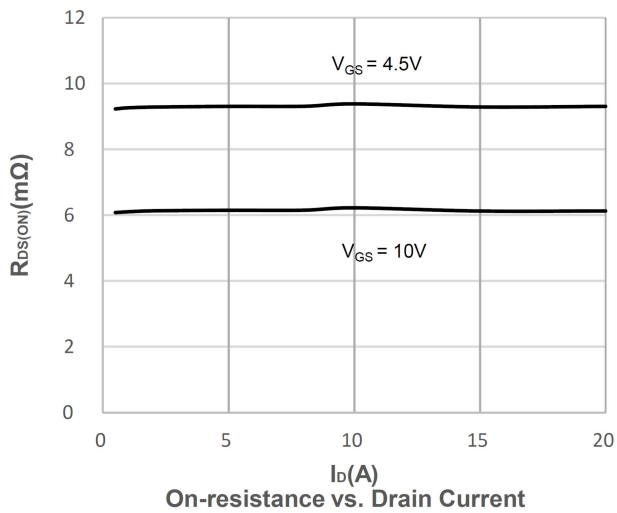
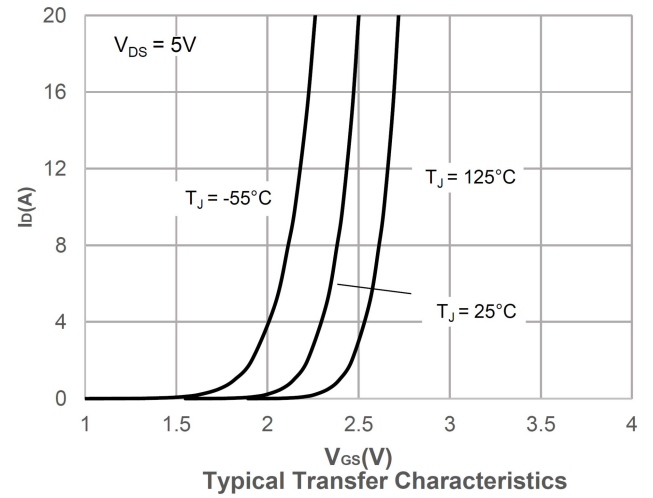
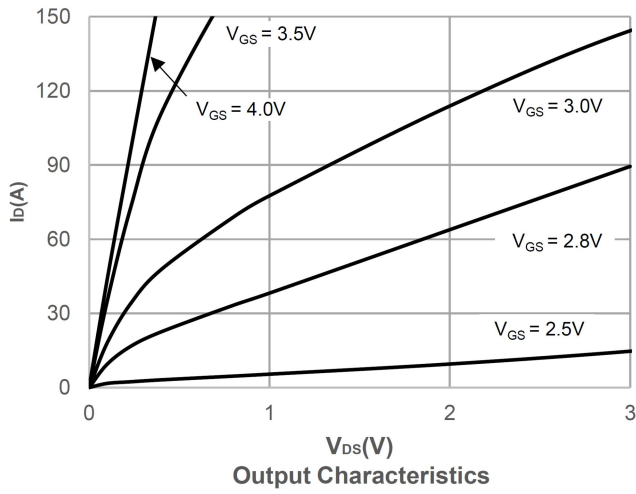
Electrical characteristics (Ta=25°C, unless otherwise noted)

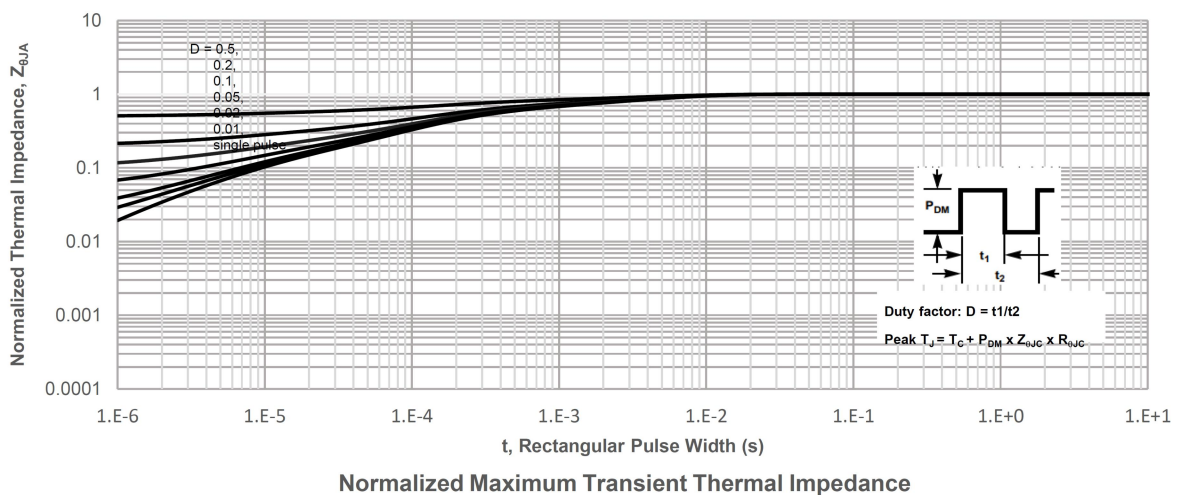
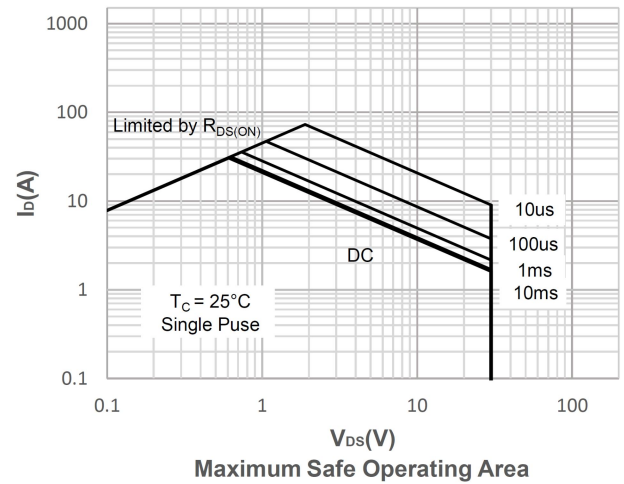
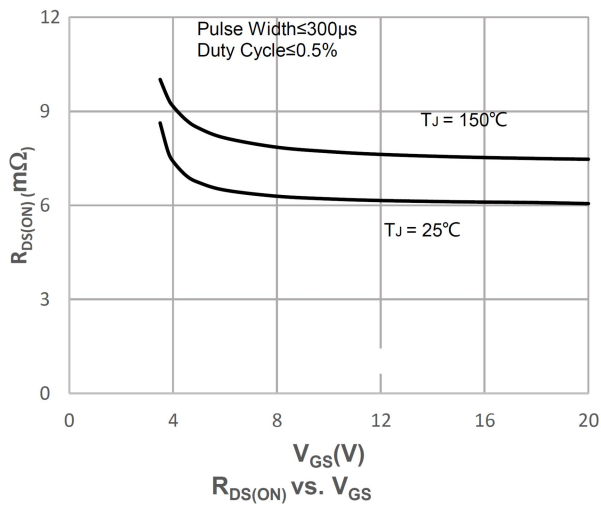
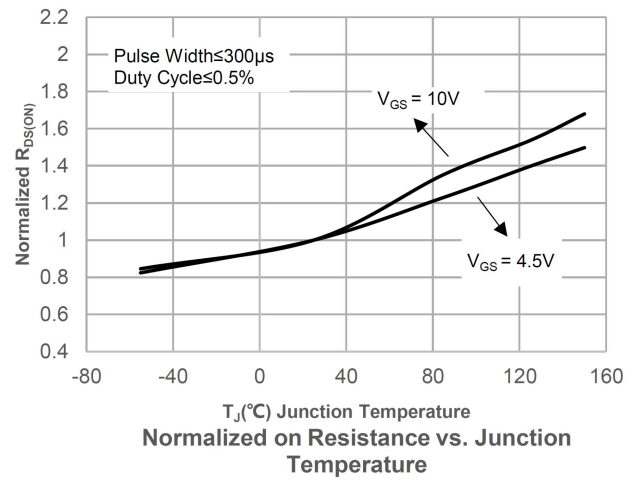
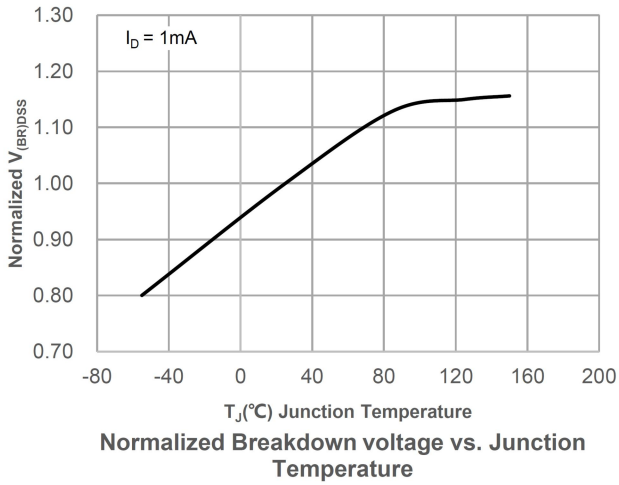
Characteristics	Symbol	Test Condition	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	VGS=0V , ID=250uA	30	-	-	V
Drain Cut-Off Current	I _{DSS}	VDS=30V , VGS=0V	-	-	1	uA
Gate Leakage Current	I _{GSS}	VGS= ± 20V , VDS=0V	-	-	±100	nA
Gate Threshold Voltage	V _{GS(th)}	VGS=VDS , ID =250uA	1	1.7	2.5	V
Drain-Source ON Resistance	R _{DS(ON)}	VGS=10V , ID=12A	-	6	8	mΩ
		VGS=4.5V , ID=12A	-	9.4	11	
Dynamic Characteristics						
Input Capacitance	C _{iss}	VDS=15V,VGS=0V,f=1MHZ	-	625	-	pF
Output Capacitance	C _{oss}		-	240	-	
Reverse Transfer Capacitance	C _{rss}		-	25	-	
Total Gate Charge	Q _g	VGS=10V,VDS=15V,ID=12A	-	7.1	-	nC
Gate-Source Charge	Q _{gs}		-	2.2	-	
Gate-Drain Charge	Q _{gd}		-	3.1	-	
Switching Characteristics						
Turn-On Delay Time	t _{d(on)}	VGS=10V,VDD=15V, ID=12A, RGEN=2Ω	-	7	-	nS
Rise Time	t _r		-	18.8	-	
Turn-Off Delay Time	t _{d(off)}		-	19.5	-	
Fall Time	t _f		-	3.4	-	
Drain-Source Body Diode Characteristics						
Source-Drain Diode Forward Voltage	V _{SD}	I _s = 1A, VGS = 0V	-	-	1.2	V
Maximum Body-Diode Continuous Current	I _s		-	-	18	A
Reverse Recovery Time	T _{rr}	I _s =15A, di/dt=100A/us, T _J =25℃	-	11	-	nS
Reverse Recovery Charge	Q _{rr}		-	18	-	nC

Note :

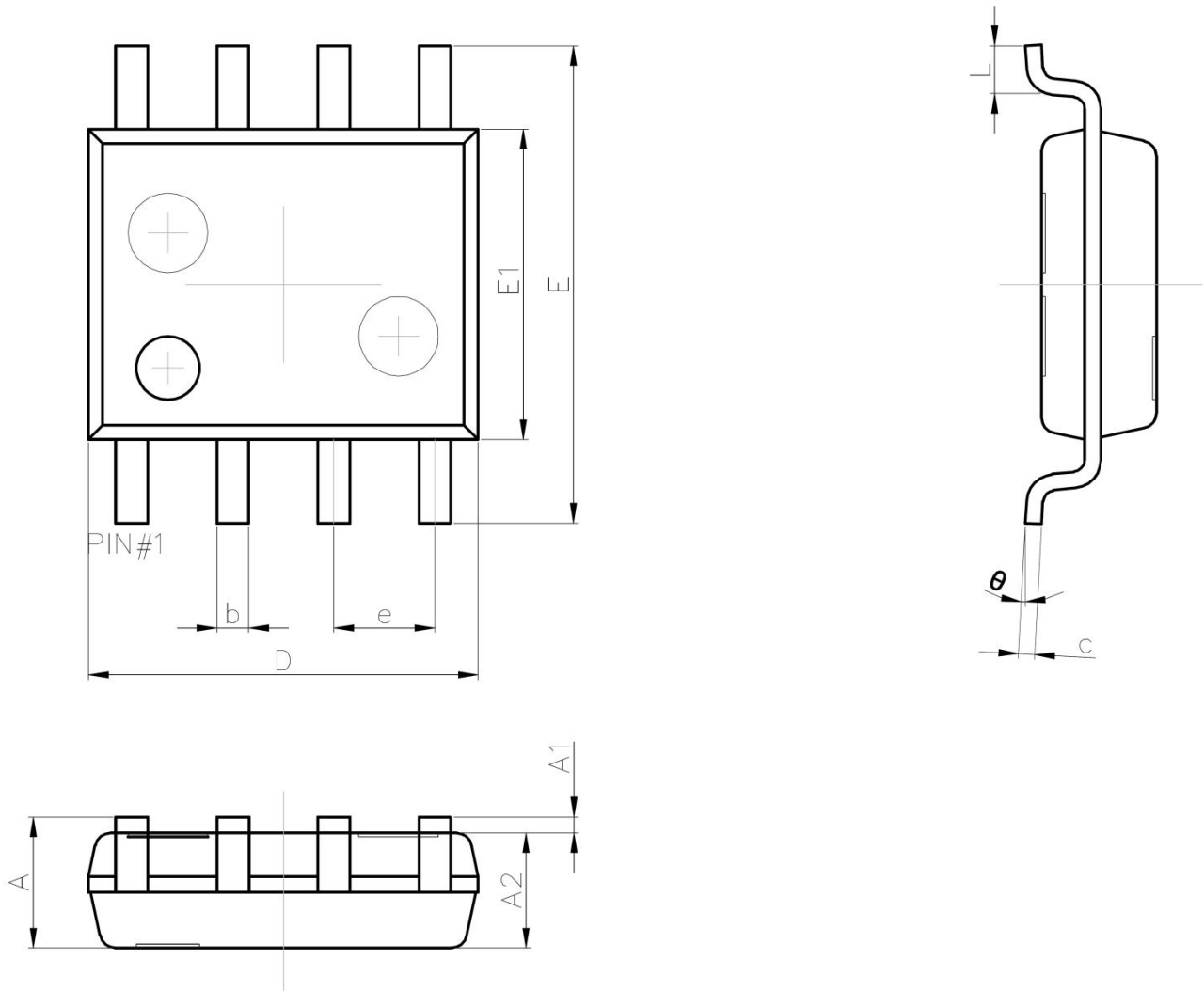
The test condition is $V_{DD}=15V, V_{GS}=10V, L=0.1mH, R_G=25\Omega$

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°