Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	8.5mΩ@10V	10A
	13mΩ@4.5V	

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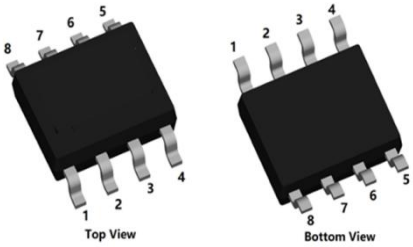
Feature

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

Applications

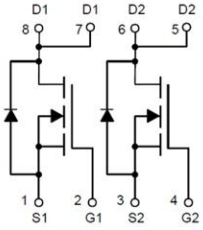
- Power Switching Application
- Hard switched and high frequency circuits
- Uninterruptible Power Supply

Package

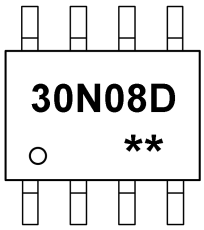


SOP-8L

Circuit Diagram



Marking



30N08D :Device Code
**** :Week Code

Order Information

Device	Package	Unit/Tape
SP30N08DP8	SOP-8L	4000

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

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	10	A
Pulsed Drain Current	I_{DM}	40	A
Single Pulse Avalanche Energy[1]	E_{AS}	36	mJ
Power Dissipation	P_D	2	W
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	62.5	℃/W
Storage Temperature Range	T_{STG}	-55 to 150	℃
Operating Junction Temperature Range	T_J	-55 to 150	℃

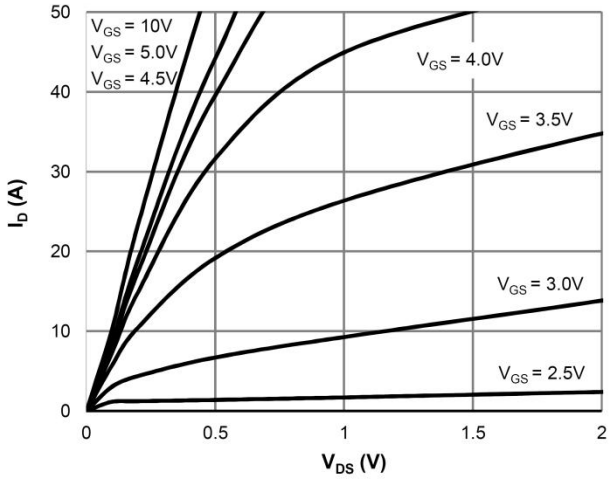
Electrical characteristics (Ta=25℃, unless otherwise noted)

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	I_{DSS}	VDS=24V , VGS=0V	-	-	1	uA
Gate-Source Leakage Current	I_{GSS}	VGS=±20V , VDS=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	VGS=VDS , ID =250uA	1	1.5	2.5	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	VGS=10V , ID=8A	-	8.5	12	mΩ
		VGS=4.5V , ID=6A	-	13	17	
Dynamic characteristics						
Input Capacitance	C_{iss}	VDS=15V , VGS=0V , f=1MHz	-	1160	-	pF
Output Capacitance	C_{oss}		-	165	-	
Reverse Transfer Capacitance	C_{rss}		-	130	-	
Total Gate Charge	Q_g	VDS=15V , VGS=10V , ID=10A	-	23	-	nC
Gate-Source Charge	Q_{gs}		-	5	-	
Gate-Drain Charge	Q_{gd}		-	6	-	
Switching Characteristics						
Turn-On Delay Time	$T_{d(on)}$	VDD=15V ,VGS=10V , RG=3Ω, ID=1A	-	6	-	nS
Rise Time	T_r		-	16	-	
Turn-Off Delay Time	$T_{d(off)}$		-	26	-	
Fall Time	T_f		-	6	-	
Diode Characteristics						
Diode Forward Voltage	V_{SD}	VGS=0V , IS=1A	-	-	1.2	V
Maximum Body-Diode Continuous Current	I_S		-	-	10	A
Reverse Recovery Time	T_{rr}	I_S=10A, di/dt=100A/us, TJ=25℃	-	8	-	nS
Reverse Recovery Charge	Q_{rr}		-	3	-	nC

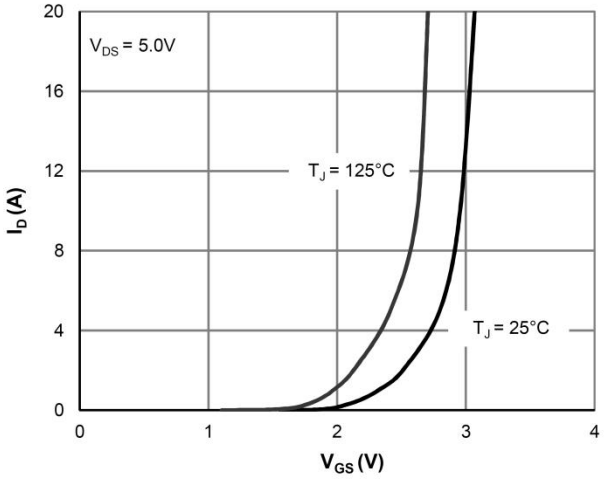
Note :

1. The test condition is VDD=15V,VGS=10V,L=0.5mH,RG=25Ω

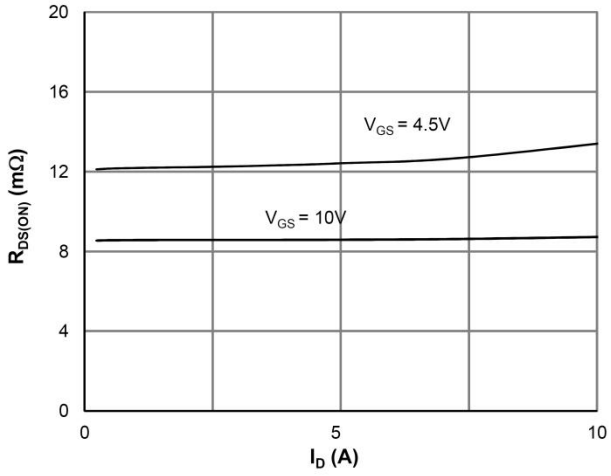
Typical Characteristics



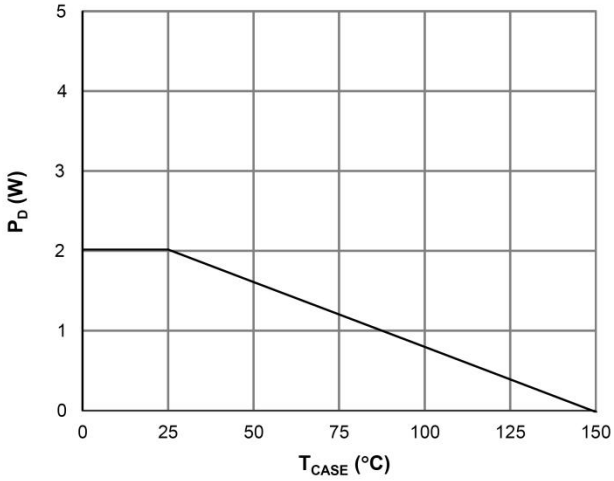
Output Characteristics



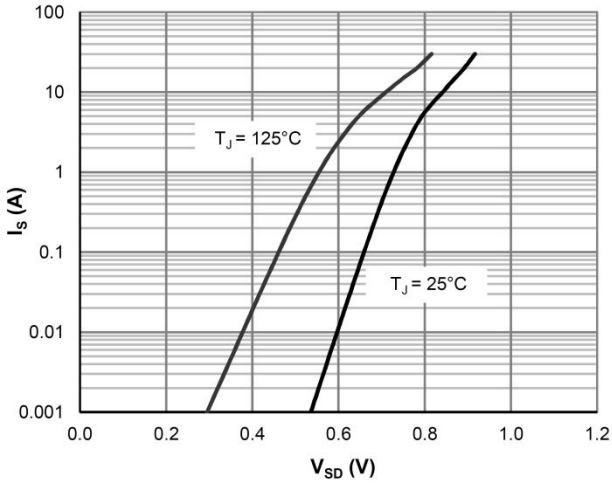
Transfer Characteristics



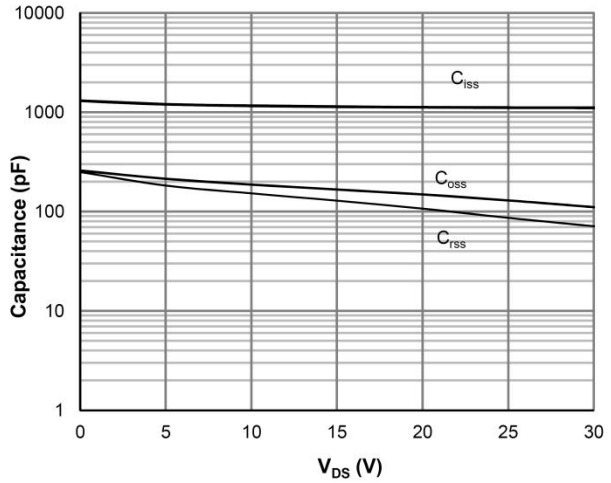
$R_{DS(ON)}$ vs. Drain Current



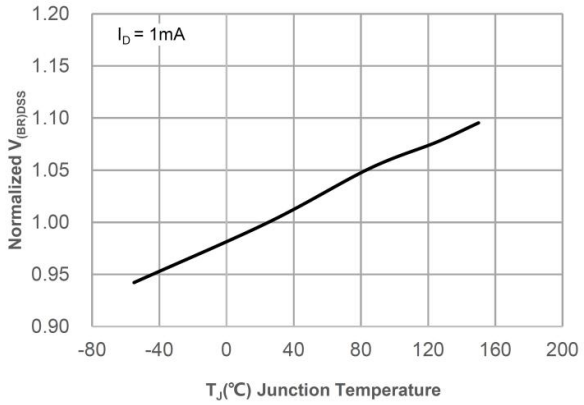
Power De-rating



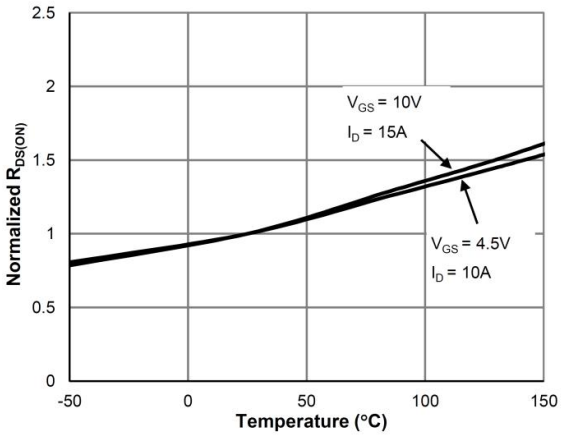
Body-Diode Characteristics



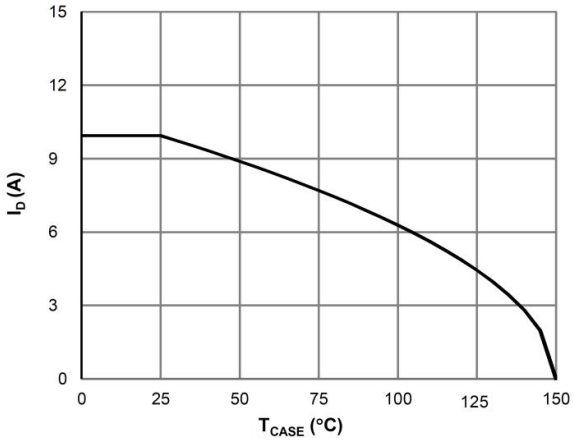
Capacitance Characteristics



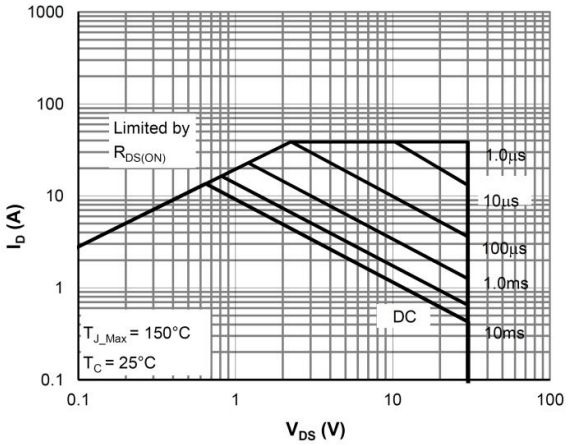
Normalized Breakdown voltage vs. Junction Temperature



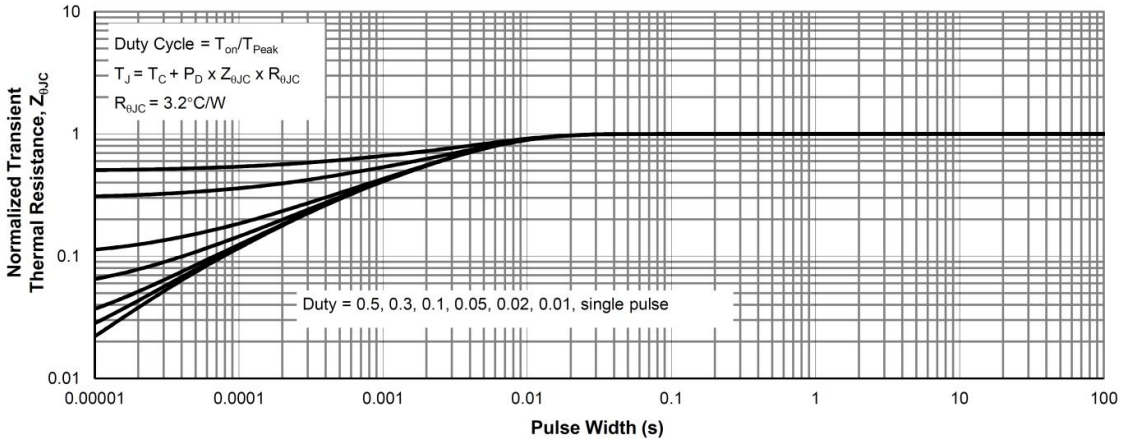
$R_{DS(ON)}$ vs. Junction Temperature



Current De-rating

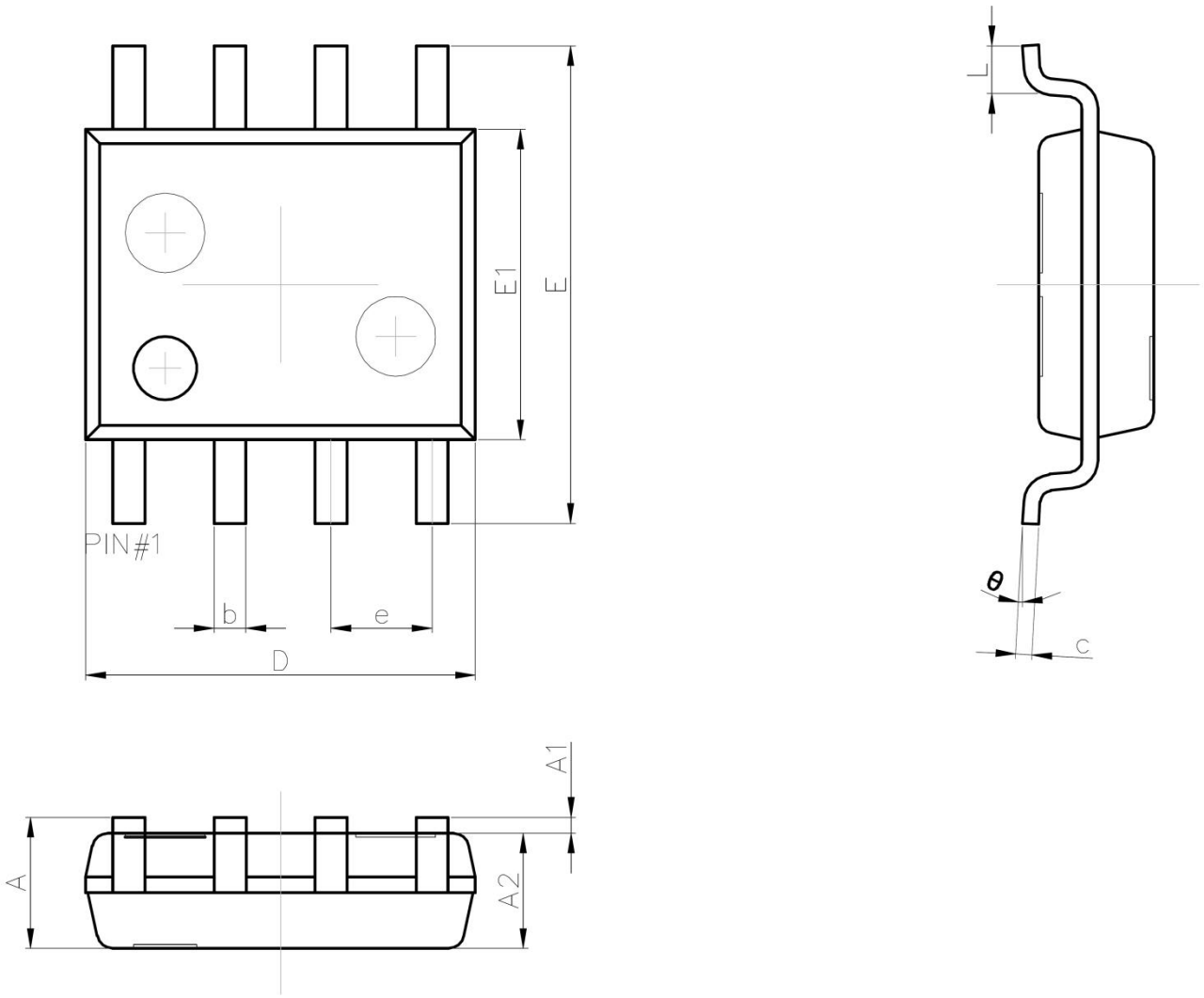


Maximum Safe Operating Area



Normalized Maximum Transient Thermal Impedance

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°