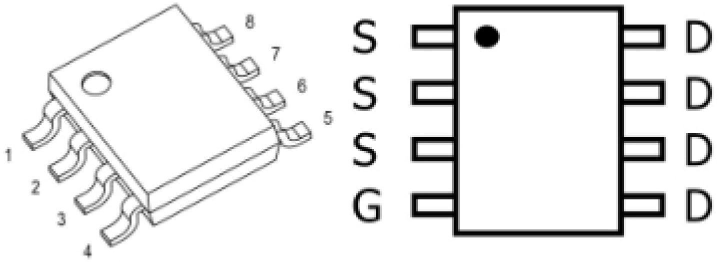
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
30V	7.5mΩ@10V	10.3A
	9mΩ@4.5V	

Feature

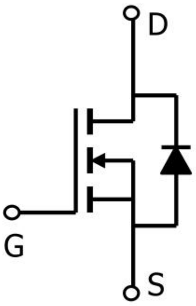
- V_{DS} = 30V,I_D=10.3A
  $R_{DS(ON)}$ < 9mΩ @ V_{GS} =10V
  $R_{DS(ON)}$ < 14mΩ @ V_{GS} =4.5V
- Low Input Capacitance
- Low On-Resistance
- Fast Switching Speed

Package

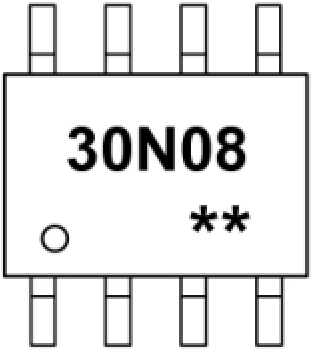


SOP-8L

Circuit diagram



Marking



30N08 : Product code

** : Week code.

Absolute maximum ratings

(T_a=25℃ unless otherwise noted)

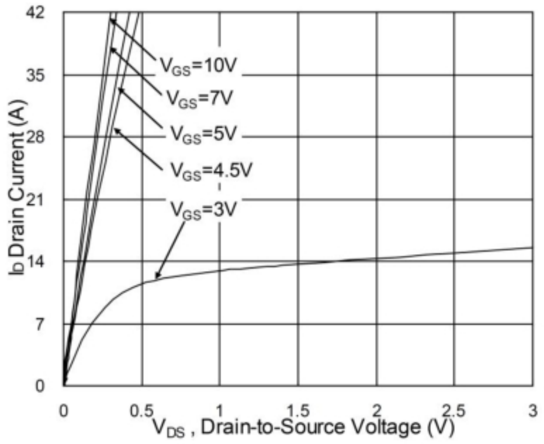
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current-Continuous	I_D	10.3	A
Pulsed Drain Current	I_{DM}	42	A
Maximum Power Dissipation(Tc=25℃)	P_D	1.5	W
Thermal Resistance,Junction-to-Case	$R_{\theta JC}$	85	℃/W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 To 150	℃

Electrical characteristics

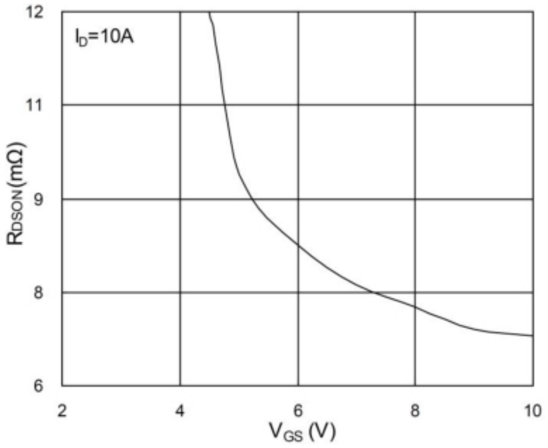
(T_A=25℃, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	$BV_{(BR)DSS}$	V_{GS} = 0V, I_D =250μA	30			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =30V, V_{GS} = 0V			1	uA
Gate-Source Leakage	I_{GSS}	V_{GS} =±20V, V_{DS} =0V			±100	uA
Gate-Source Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	1	1.5	2.2	V
Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS} =10V, I_D =8A		7.5	9	mΩ
		V_{GS} =4.5V, I_D =6A		9	14	
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=15V, V_{GS}=0V, f=1.0MHz		1317		pF
Output Capacitance	C_{oss}			163		
Reverse Transfer Capacitance	C_{rss}			131		
Switching Characteristics						
Turn-on Delay Time	$T_{d(on)}$	V_{GS}=10V, V_{DS}=15V, I_D=10A, R_G=3.3Ω		6.2		nS
Turn-on Rise Time	T_r			59		
Turn-off Delay Time	$T_{d(off)}$			27.6		
Turn-off Fall Time	T_f			8.4		
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=25V, I_D =12A		12.6		pF
Gate-Source Charge	Q_{gs}			4.2		
Gate-Drain Charge	Q_{gd}			5.1		
Source-Drain Diode Characteristics						
Gate-Drain Charge	V_{SD}	I_S=1A, V_{GS} = 0V			1.2	V

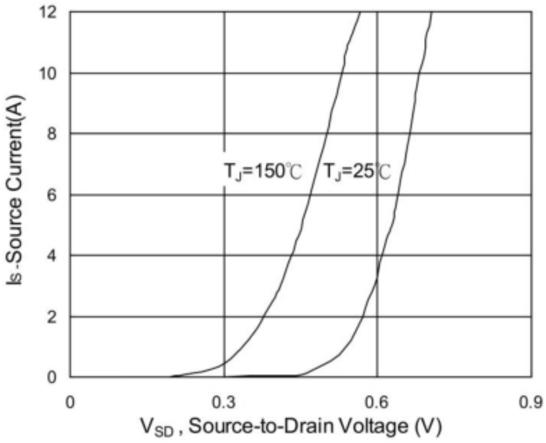
Typical Characteristics



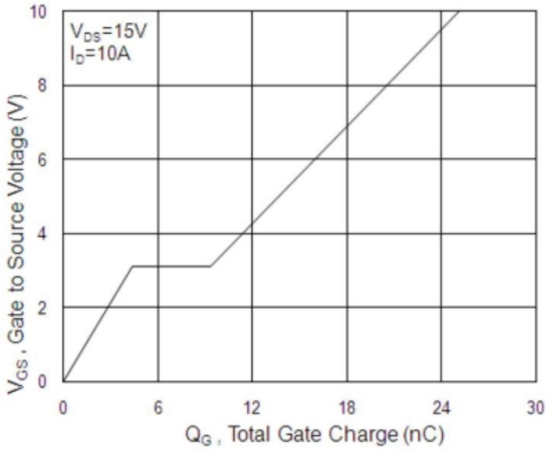
Typical Output Characteristics



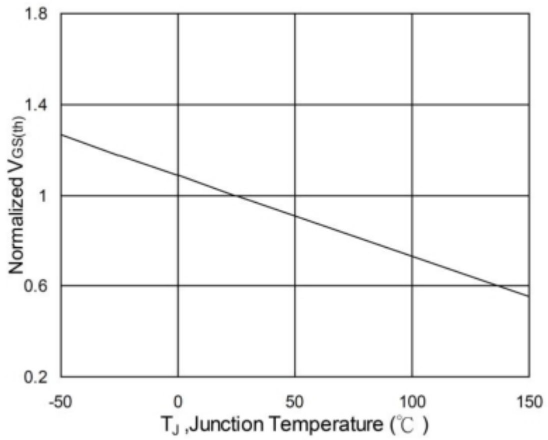
On-Resistance vs.Gate-Source



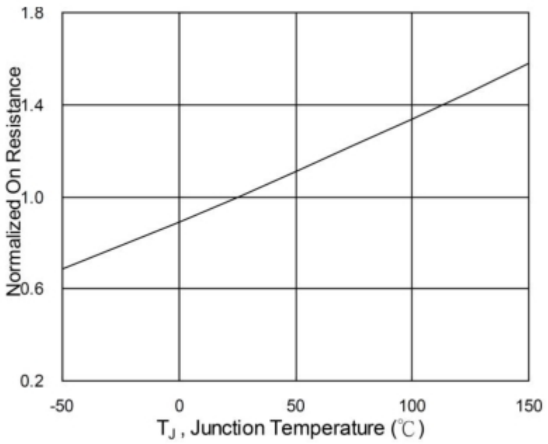
Forward Characteristics of reverse



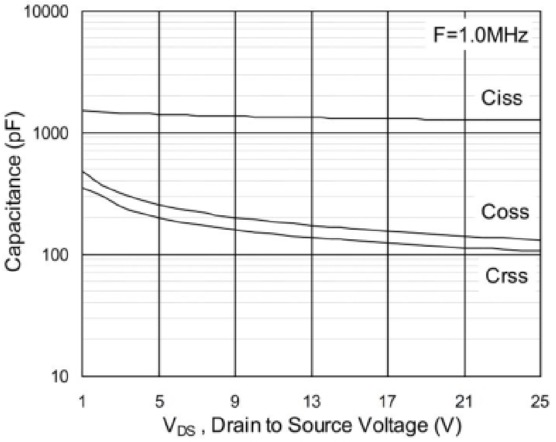
Gate-Charge Characteristics



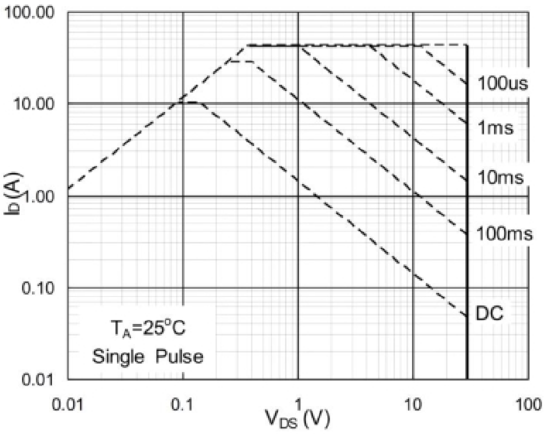
Normalized $V_{GS(th)}$vs.T_J



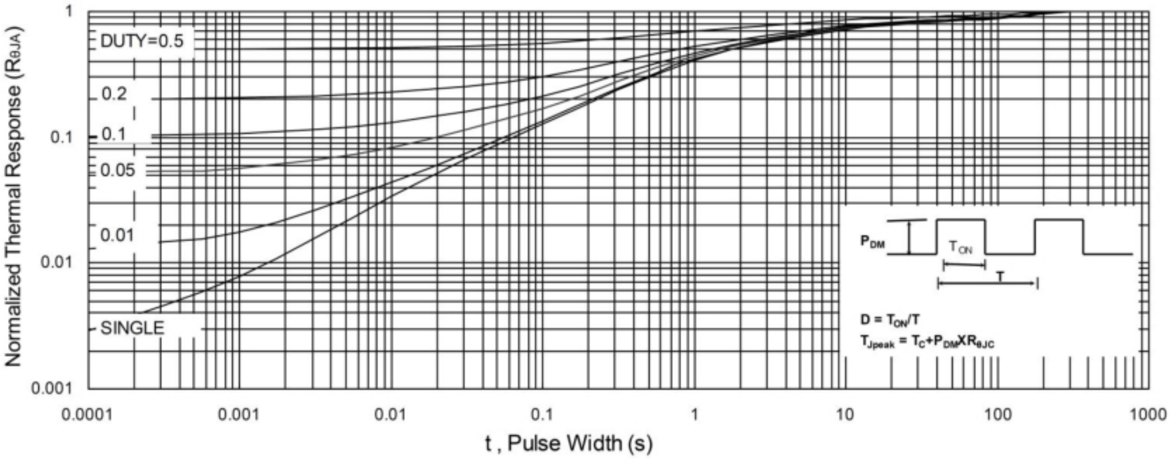
Normalized R_{DSON}vs.T_J



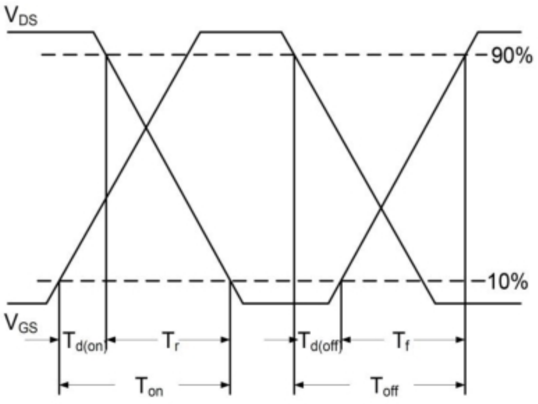
Capacitance



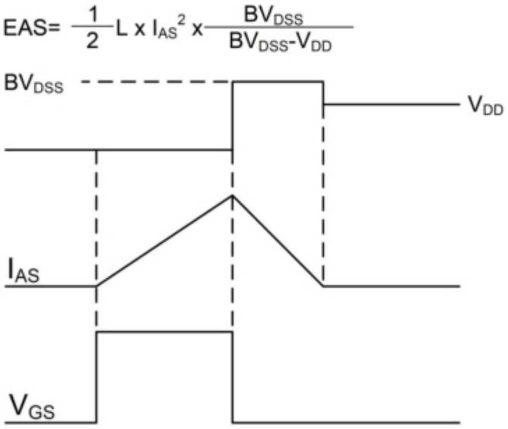
Safe Operating Area



Normalized Maximum Transient Thermal Impedance

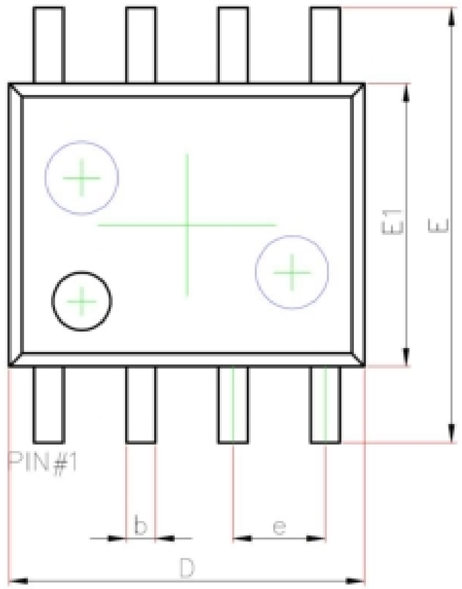


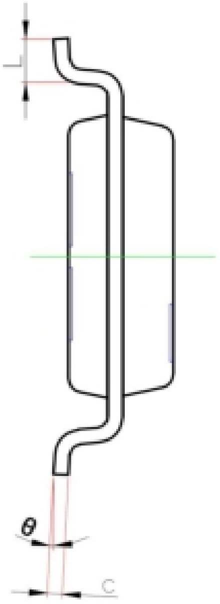
Switching Time Waveform

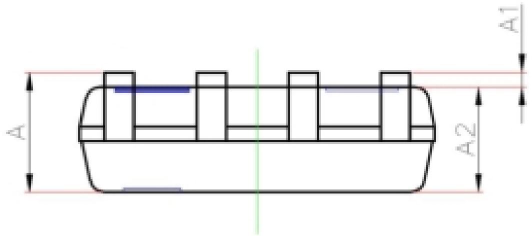


Unclamped Inductive Switching Waveform

SOP-8 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°