

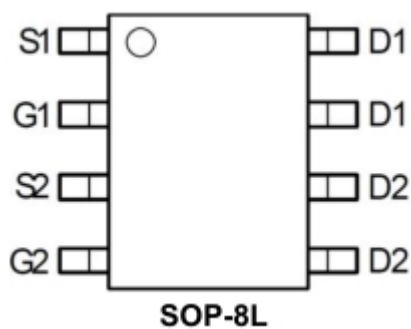
Product Summary

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

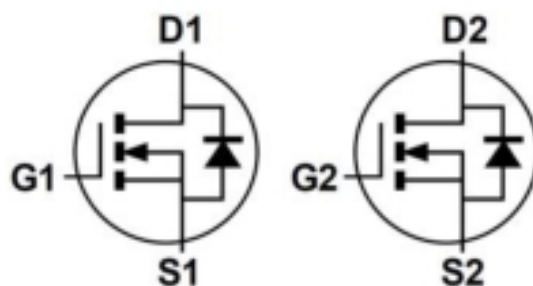
Feature

- Trench technology
- Excellent $R_{DS(ON)}$ with low gate charge

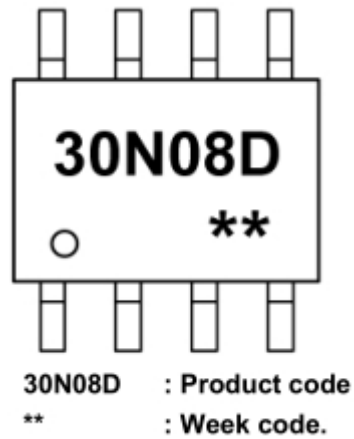
Package



Circuit diagram



Marking



Absolute maximum ratings

(T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	30	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current	I _D	10	A
Pulsed Drain Current ¹⁾	I _{DM}	40	A
Power Dissipation	P _D	2	W
Thermal Resistance from Junction to Ambient ²⁾	R _{θJA}	62.5	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~ +150	°C

Electrical characteristics

($T_A=25^{\circ}\text{C}$, 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		8.5	12	mΩ
		V _{GS} =4.5V, I _D =6A		13	17	
Dynamic Characteristics						
Input Capacitance	C _{iss}	V _{DS} =15V, V _{GS} =0V, f=1MHz	610	760	910	pF
Output Capacitance	C _{oss}		88	125	160	
Reverse Transfer Capacitance	C _{rss}		40	70	100	
Switching Times						
Turn-on Delay Time	T _{d(on)}	V _{GEN} =10V, V _{DD} =15V, R _{GEN} =3Ω, R _L =1.5Ω		4.4		nS
Turn-on Rise Time	T _r			9		
Turn-off Delay Time	T _{d(off)}			17		
Turn-off Fall Time	T _f			6		
Total Gate Charge	Q _g	V _{DS} =15V, V _{GS} =10V, I _D =10A	11	14	17	pF
Gate-Source Charge	Q _{gs}			2.4		
Gate-Drain Charge	Q _{gd}			3		
Source-Drain Diode Characteristics						
Body Diode Voltage ³⁾	V _{SD}	I _S =1A, V _{GS} = 0V		0.75	1	V

Notes:

1. Repetitive rating: Pulse width limited by junction temperature.
2. Surface mounted on FR4 board, $t \leq 10s$.
3. Pulse Test: Pulse Width $\leq 80\mu s$, Duty Cycle $\leq 0.5\%$.
4. Guaranteed by design, not subject to producing.

Typical Characteristics

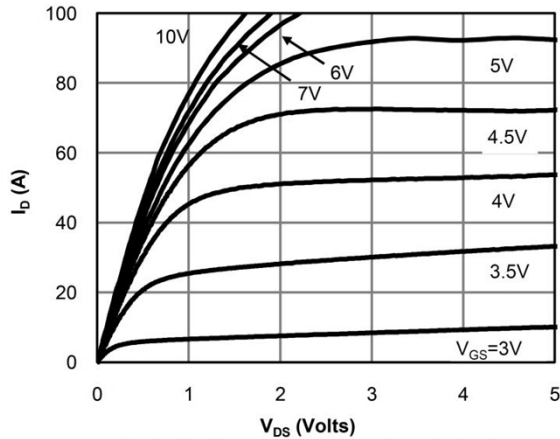


Fig 1: On-Region Characteristics (Note E)

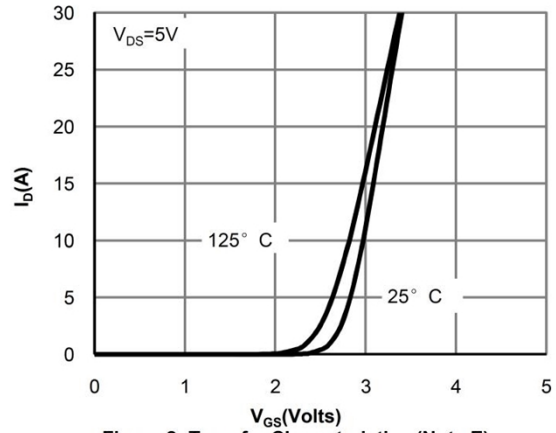


Figure 2: Transfer Characteristics (Note E)

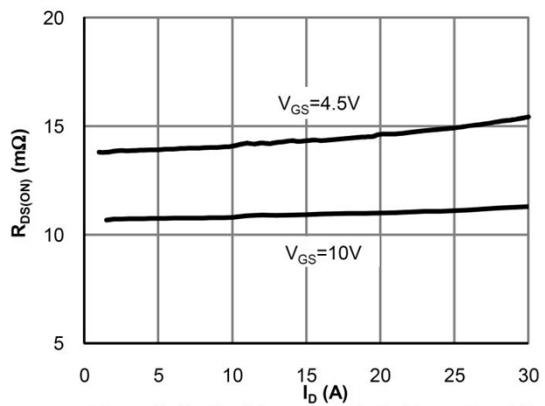


Figure 3: On-Resistance vs. Drain Current and Gate Voltage (Note E)

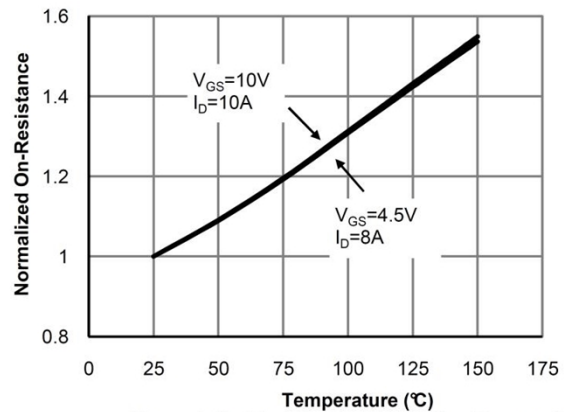


Figure 4: On-Resistance vs. Junction Temperature (Note E)

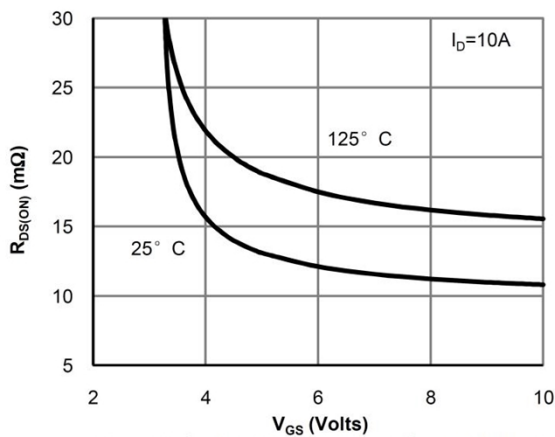


Figure 5: On-Resistance vs. Gate-Source Voltage (Note E)

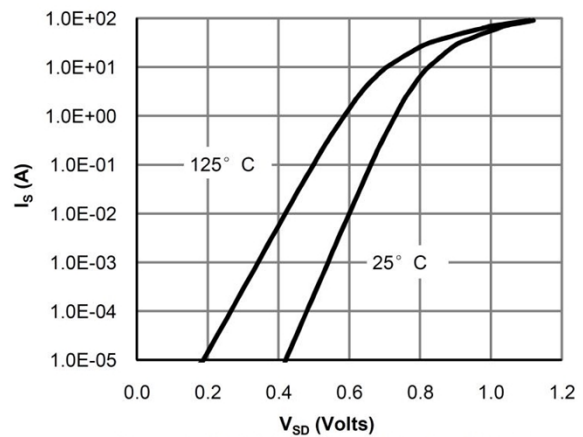
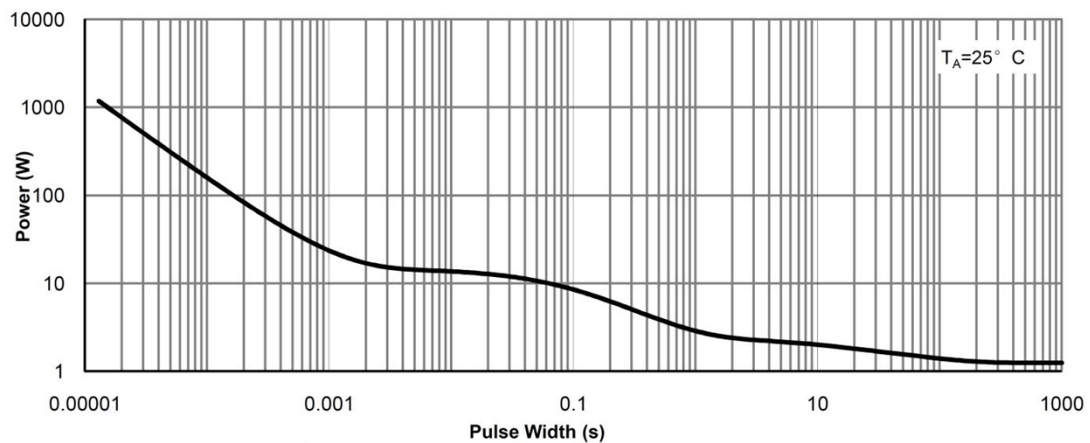
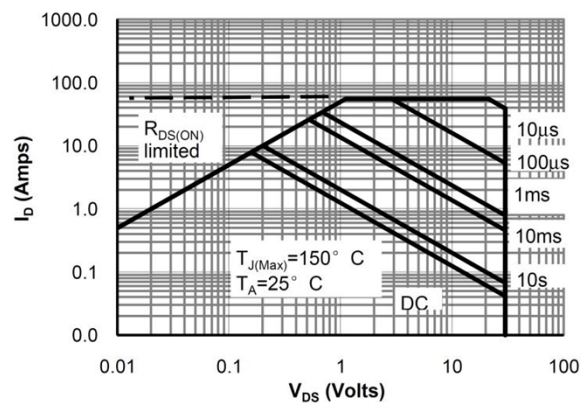
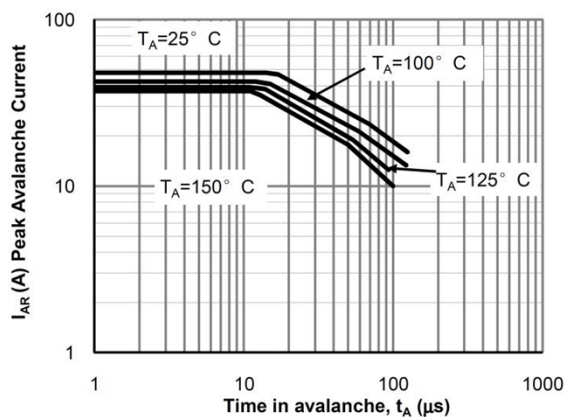
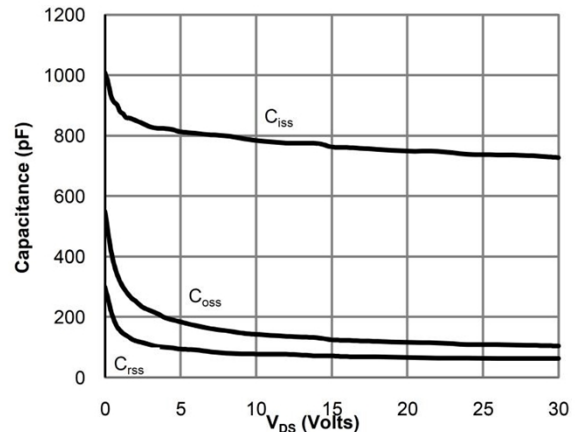
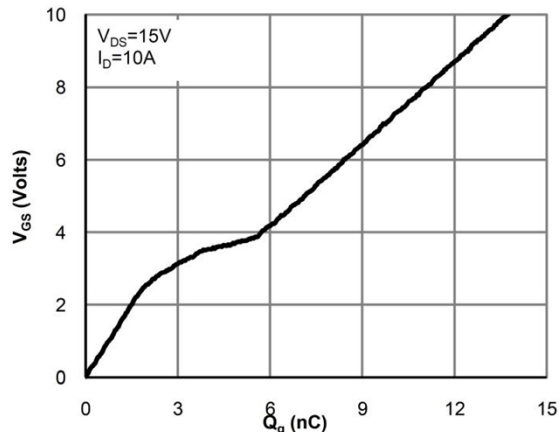
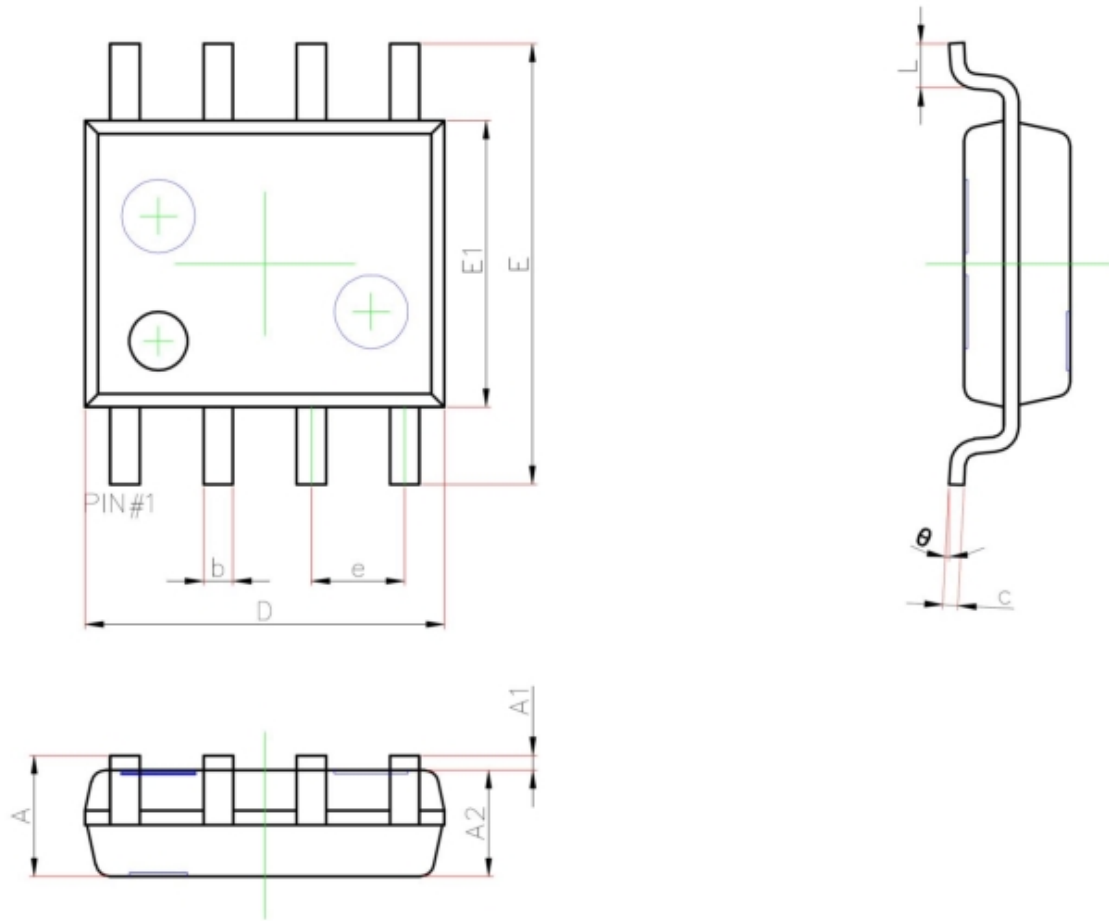


Figure 6: Body-Diode Characteristics (Note E)



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°