

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-60V	30mΩ@-10V	-7.5A
	38mΩ@-4.5V	

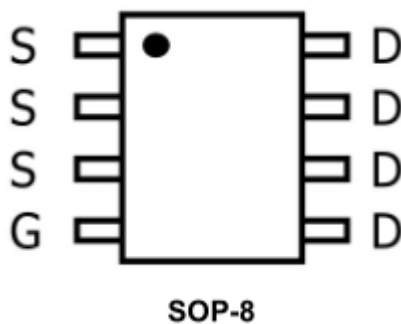
Feature

- $V_{DS} = -60V, I_D = -7.5A$
- $R_{DS(ON)} < 40m\Omega$ @ $V_{GS} = -10V$ (Typ: 30mΩ)
- High switching speed
- Improved dv/dt capability
- Low Gate Charge
- Low reverse transfer capacitance

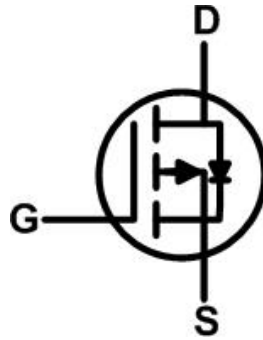
Application

- Load Switches, Adaptor Switch
- Notebook PCs

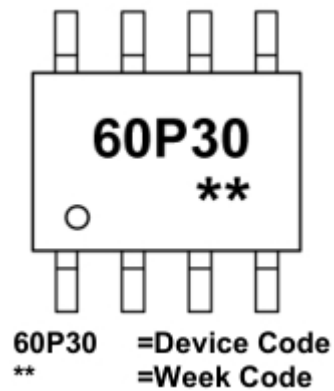
Package



Circuit diagram



Marking



Absolute maximum ratings

(T_a=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V _{DS}	-60	V
Gate-Source Voltage	V _{GS}	±20	V
Continuous Drain Current	I _D	-7.5	A
Pulsed Drain Current	I _{DM}	-30	A
Maximum Power Dissipation	P _D	3.1	W
Thermal Resistance-Junction to Case	R _{θJC}	40	°C/W
Operating Junction and Storage Temperature Range	T _{STG} , T _J	-55 to 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	-60			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -60V, 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	-2.5	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = -10V, I _D = -5A		30	40	mΩ
		V _{GS} = -4.5V, I _D = -4A		38	50	
Dynamic Characteristics						
Input Capacitance	C _{iSS}	V _{DS} = -30V, V _{GS} =0V, f=1MHz		2417		pF
Output Capacitance	C _{oSS}			179		
Reverse Transfer Capacitance	C _{rSS}			120		
Switching Characteristics						
Turn-on Delay Time	T _{d(on)}	V _{DD} = -30V, R _L =4.7Ω, V _{GS} = -10V, R _{GEN} =3Ω		9.8		nS
Turn-on Rise Time	T _r			6.1		
Turn-off Delay Time	T _{d(off)}			44		
Turn-off Fall Time	T _f			12.7		
Total Gate Charge	Q _g	V _{DS} = -30V, V _{GS} = -10V, I _D = -6.2A		46.5	55	nC
Gate-Source Charge	Q _{gs}			9.1		
Gate-Drain Charge	Q _{gd}			9.2		
Drain-Source Diode Characteristics						
Diode Forward Voltage	V _{SD}	I _{SD} = -1A,V _{GS} =0V			-1	V

Typical Characteristics

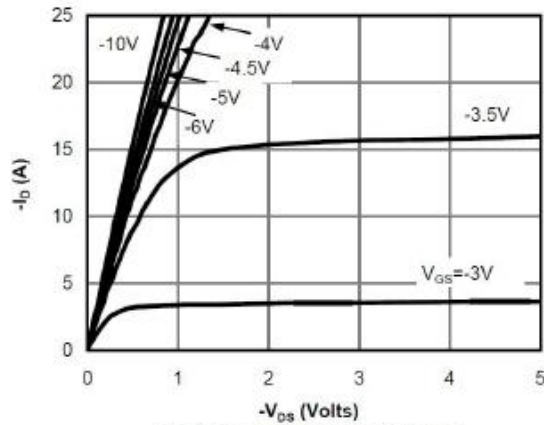


Fig 1: On-Region Characteristics

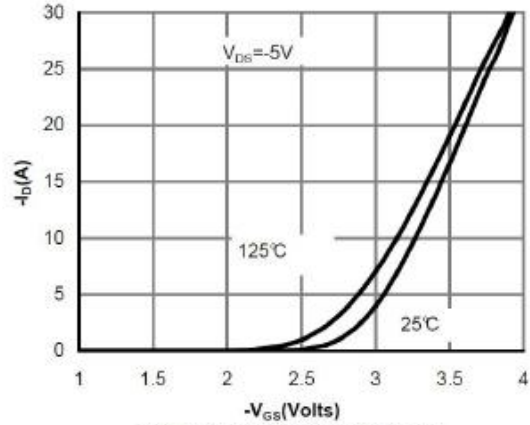


Figure 2: Transfer Characteristics

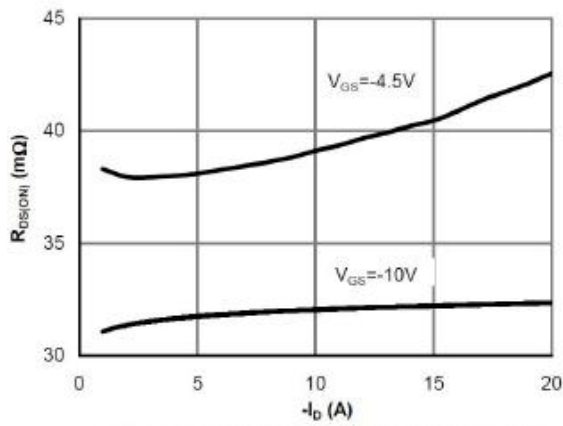


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

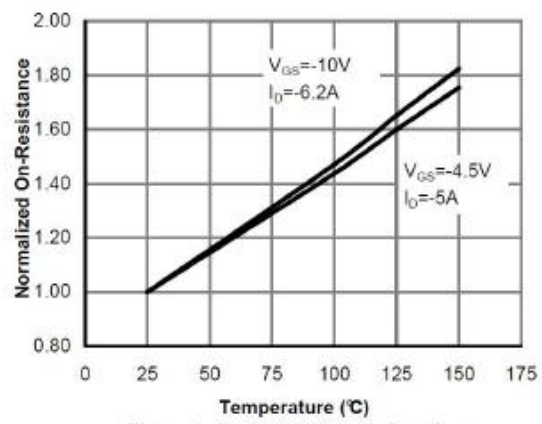


Figure 4: On-Resistance vs. Junction Temperature

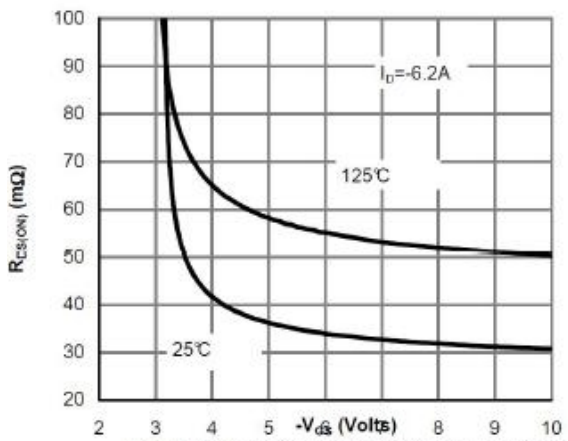


Figure 5: On-Resistance vs. Gate-Source Voltage

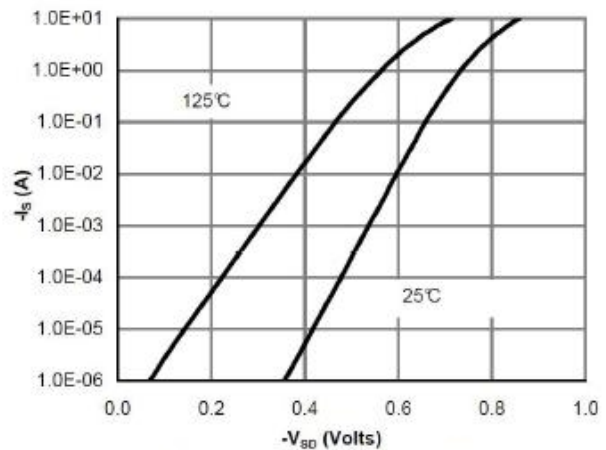


Figure 6: Body-Diode Characteristics

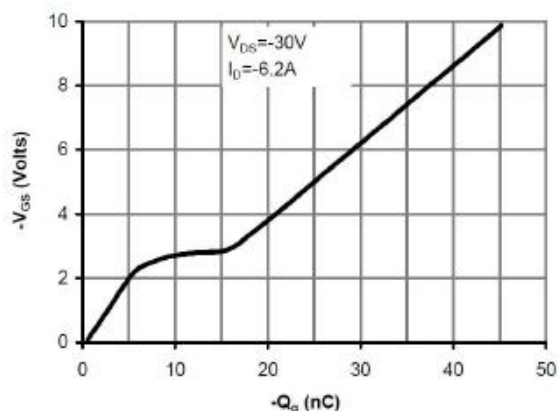


Figure 7: Gate-Charge Characteristics

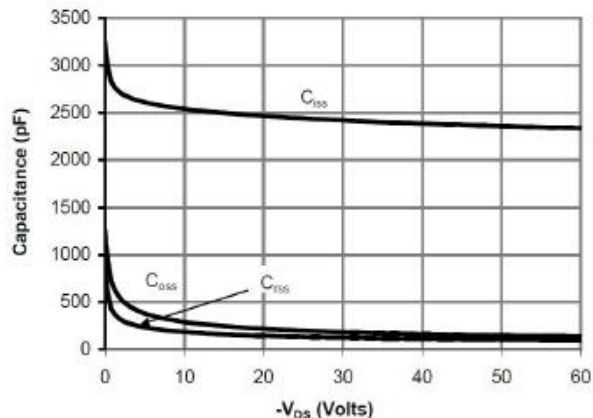


Figure 8: Capacitance Characteristics

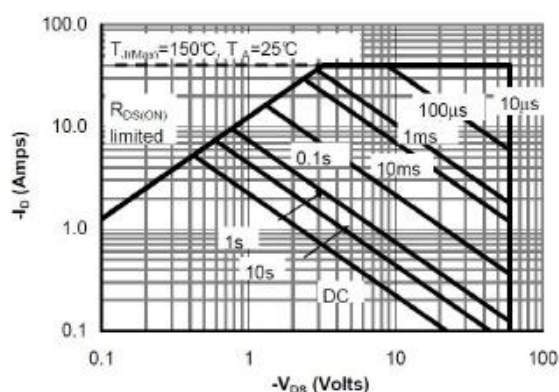


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

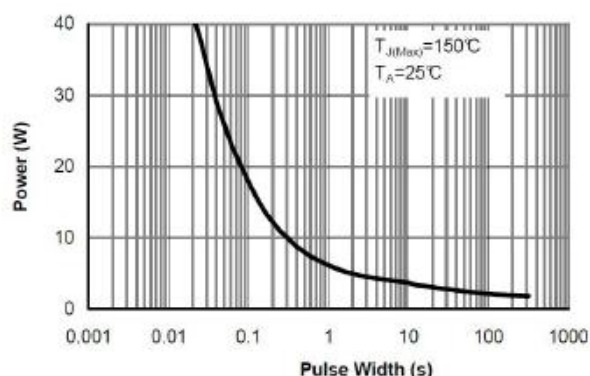


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

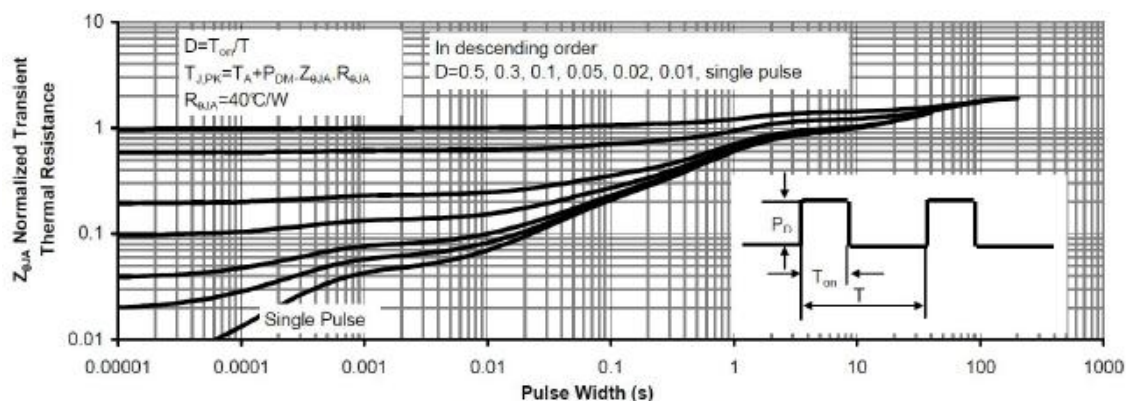
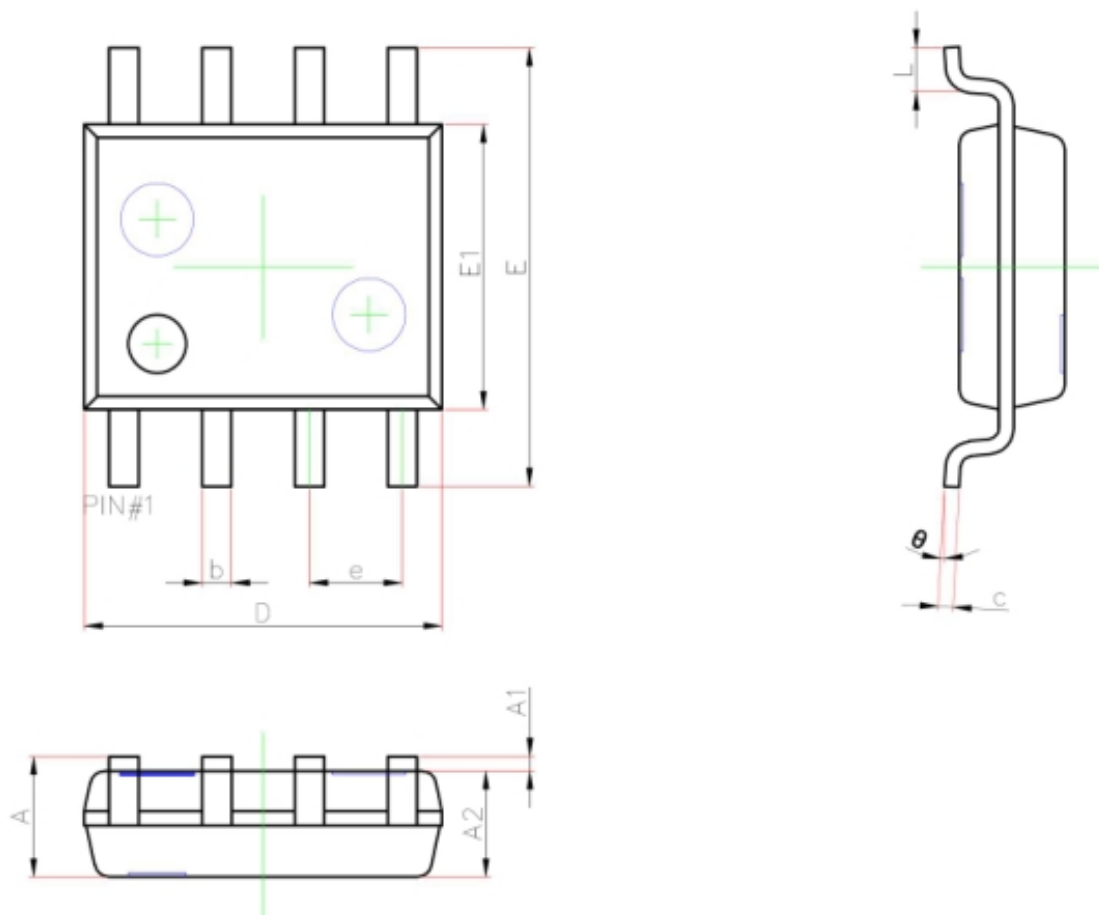


Figure 11: Normalized Maximum Transient Thermal Impedance

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°