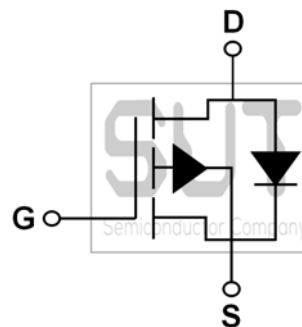
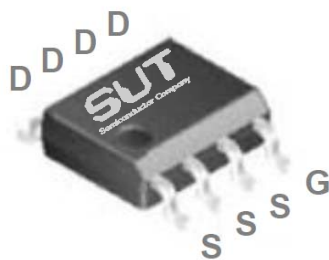


## P-Channel 30-V<sub>(D-S)</sub> MOSFET

PRODUCT SUMMARY		
B <sub>VDSS</sub> (V)	R <sub>DS(on)</sub> (mΩ)(MAX)	I <sub>D</sub> (A)
-30	20@V <sub>GS</sub> =-10V	-8

### SOP8 Pin Configuration



### ABSOLUTE MAXIMUM RATINGS(T<sub>C</sub>=25°C UNLESS OTHERWISE NOTED)

Parameter	Symbol	Rating	Units
Drain-Source Voltage	V <sub>DS</sub>	-30	V
Gate-Source Voltage	V <sub>GS</sub>	±20	V
Drain Current-Continuous (T <sub>C</sub> =25°C)	I <sub>D</sub>	-8	A
Drain Current-Continuous (T <sub>C</sub> =100°C)		-5.1	A
Drain Current-Pulsed <sup>1</sup>	I <sub>DM</sub>	-32	A
Power Dissipation (T <sub>C</sub> =25°C)	P <sub>D</sub>	2.1	W
Power Dissipation-Derate above 25°C		0.017	W/°C
Storage Temperature Range	T <sub>STG</sub>	-55 to 150	°C
Operating Junction Temperature Range	T <sub>J</sub>	-55 to 150	°C

### THERMAL CHARACTERISTICS

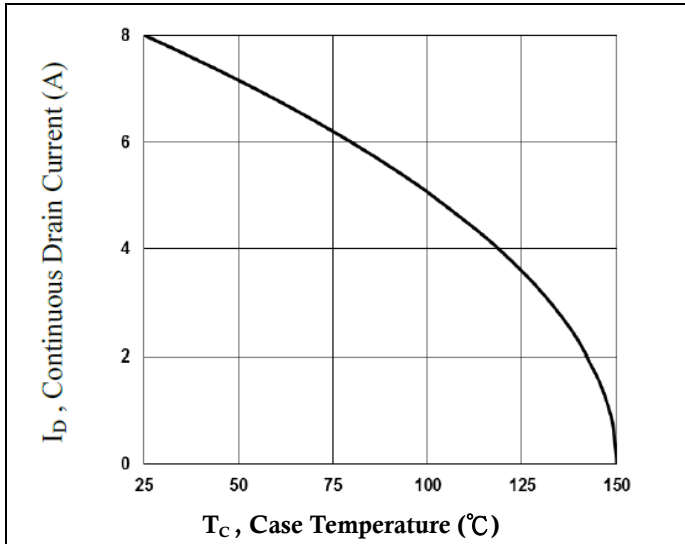
Parameter	Symbol	Typ.	Max.	Unit
Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	---	60	°C/W

ELECTRICAL CHARACTERISTICS (T <sub>J</sub> =25°C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
<b>Off Characteristics</b>						
Drain-Source Breakdown Voltage	BV <sub>DSS</sub>	V <sub>GS</sub> =0V, I <sub>D</sub> =-250uA	-30	---	---	V
BV <sub>DSS</sub> Temperature Coefficient	ΔBV <sub>DSS</sub> /ΔT <sub>J</sub>	Reference to 25°C, I <sub>D</sub> =-1mA	---	-0.03	---	V/°C
Drain-Source Leakage Current	I <sub>DSS</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =-30V, T <sub>J</sub> =25°C	---	---	-1	uA
		V <sub>GS</sub> =0V, V <sub>DS</sub> =-24V, T <sub>J</sub> =125°C	---	---	-10	uA
Gate-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±20V, V <sub>DS</sub> =0V	---	---	±100	nA
<b>On Characteristics</b>						
Static Drain-Source On-Resistance	R <sub>DS(ON)</sub>	V <sub>GS</sub> =-10V, I <sub>D</sub> =-8A	---	16.5	20	mΩ
		V <sub>GS</sub> =-4.5V, I <sub>D</sub> =-5A	---	25.6	32	mΩ
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>GS</sub> =V <sub>DS</sub> , I <sub>D</sub> =-250uA	-1.0	-1.6	-2.5	V
V <sub>GS(th)</sub> Temperature Coefficient	ΔV <sub>GS(th)</sub>		---	4.0	---	mV/°C
Forward Transconductance	g <sub>fs</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-3A	---	6.8	---	S
<b>Dynamic and Switching Characteristics</b>						
Total Gate Charge <sup>2, 3</sup>	Q <sub>g</sub>	V <sub>GS</sub> =-4.5V, V <sub>DS</sub> =-15V, I <sub>D</sub> =-5A	---	11	17	nC
Gate-Source Charge <sup>2, 3</sup>	Q <sub>gs</sub>		---	3.4	6	
Gate-Drain Charge <sup>2, 3</sup>	Q <sub>gd</sub>		---	4.2	8	
Turn-On Delay Time <sup>2, 3</sup>	T <sub>d(on)</sub>	V <sub>GS</sub> =-10V, V <sub>DD</sub> =-15V, R <sub>G</sub> =6Ω, I <sub>D</sub> =-1A	---	5.8	11	ns
Rise Time <sup>2, 3</sup>	T <sub>r</sub>		---	18.8	36	
Turn-Off Delay Time <sup>2, 3</sup>	T <sub>d(off)</sub>		---	46.9	89	
Fall Time <sup>2, 3</sup>	T <sub>f</sub>		---	12.3	23	
Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =-15V, F=1MHz	---	1250	1820	pF
Output Capacitance	C <sub>oss</sub>		---	160	235	
Reverse Transfer Capacitance	C <sub>rss</sub>		---	90	130	
<b>Drain-Source Diode Characteristics and Maximum Ratings</b>						
Continuous Source Current	I <sub>S</sub>	V <sub>G</sub> =V <sub>D</sub> =0V, Force Current	---	---	-8.0	A
Pulsed Source Current	I <sub>SM</sub>		---	---	-16	A
Diode Forward Voltage	V <sub>SD</sub>	V <sub>GS</sub> =0V, I <sub>S</sub> =-1A, T <sub>J</sub> =25°C	---	---	-1.0	V

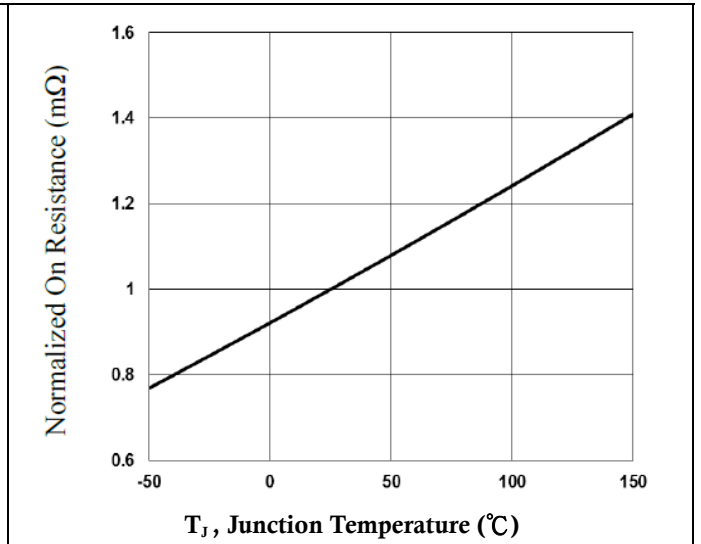
Note :

1. Repetitive Rating : Pulsed width limited by maximum junction temperature.
2. The data tested by pulsed , pulse width ≤ 300us , duty cycle ≤ 2%.
3. Essentially independent of operating temperature.

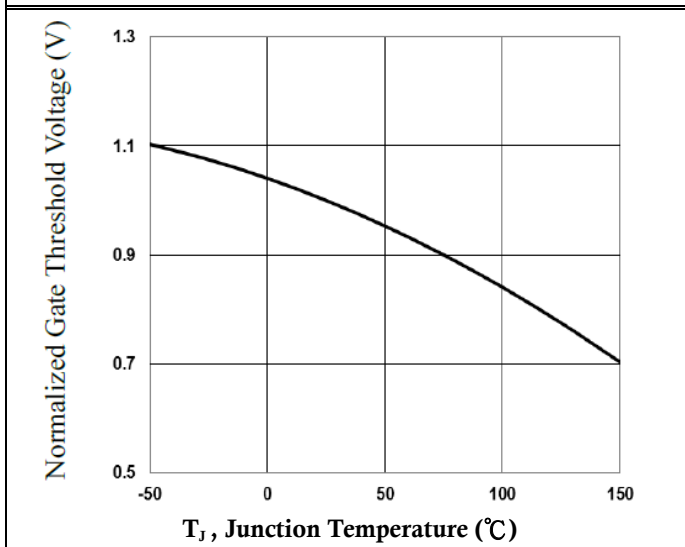
30V P-Channel MOSFETs



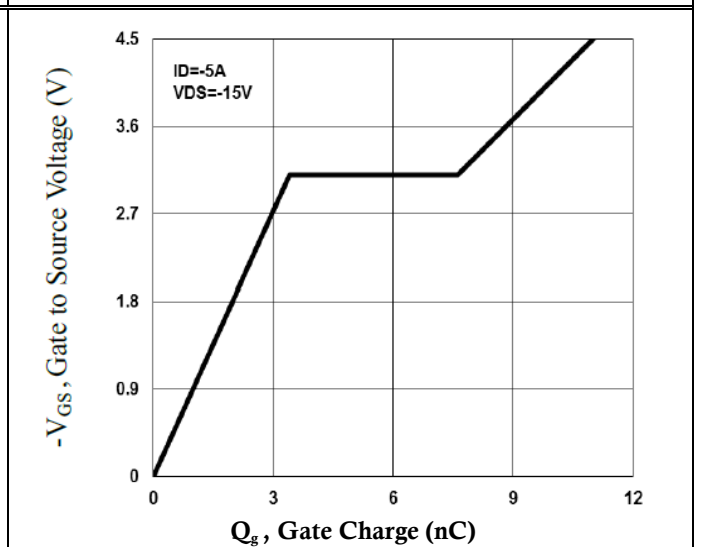
Continuous Drain Current vs.  $T_C$



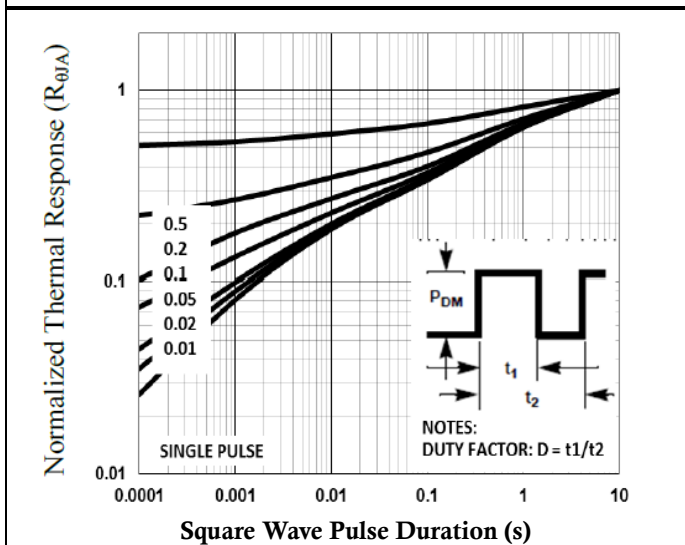
Normalized  $R_{DS(ON)}$  vs.  $T_J$



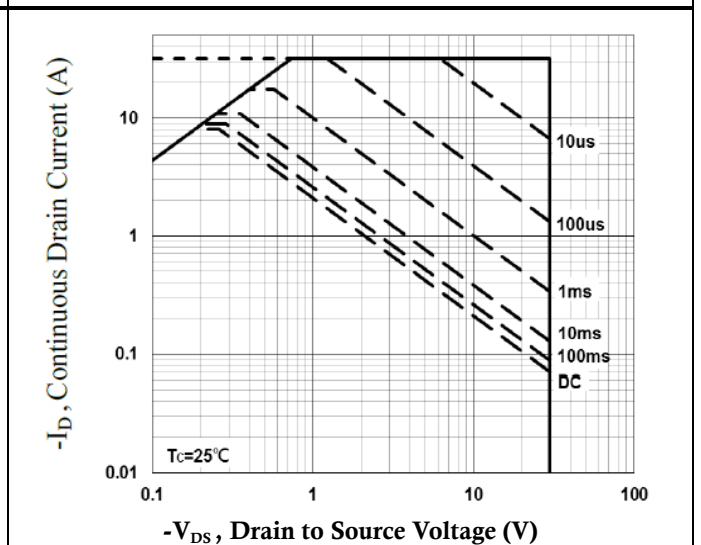
Normalized  $V_{th}$  vs.  $T_J$



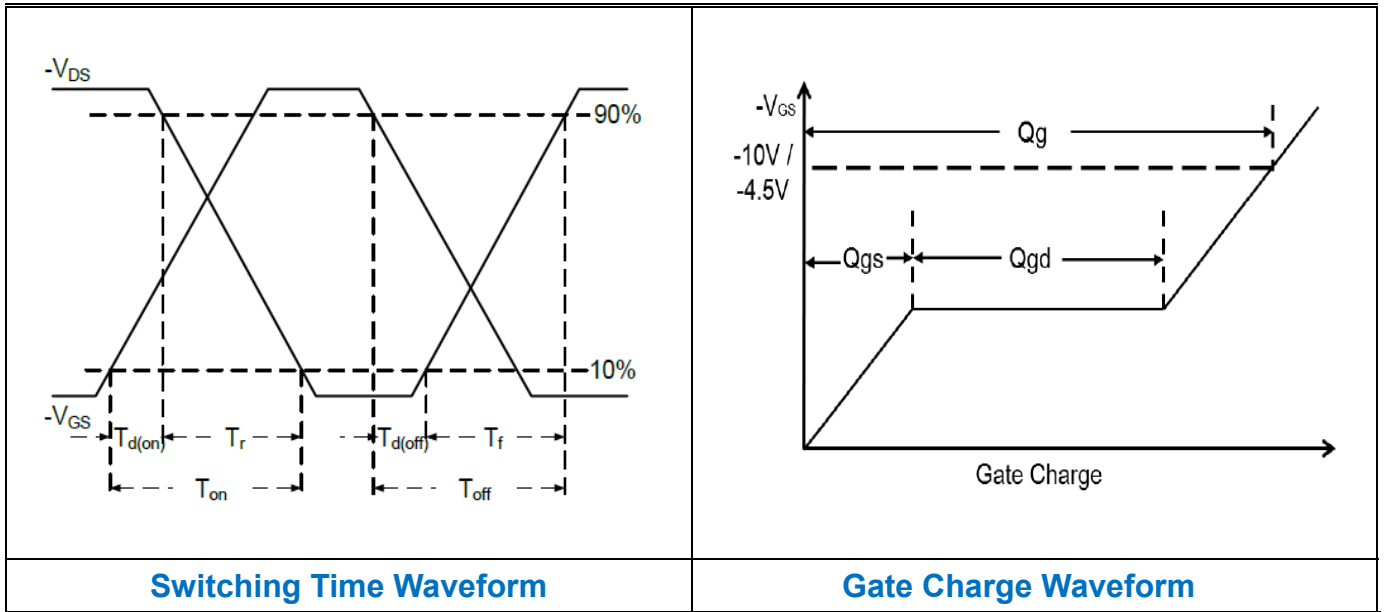
Gate Charge Waveform



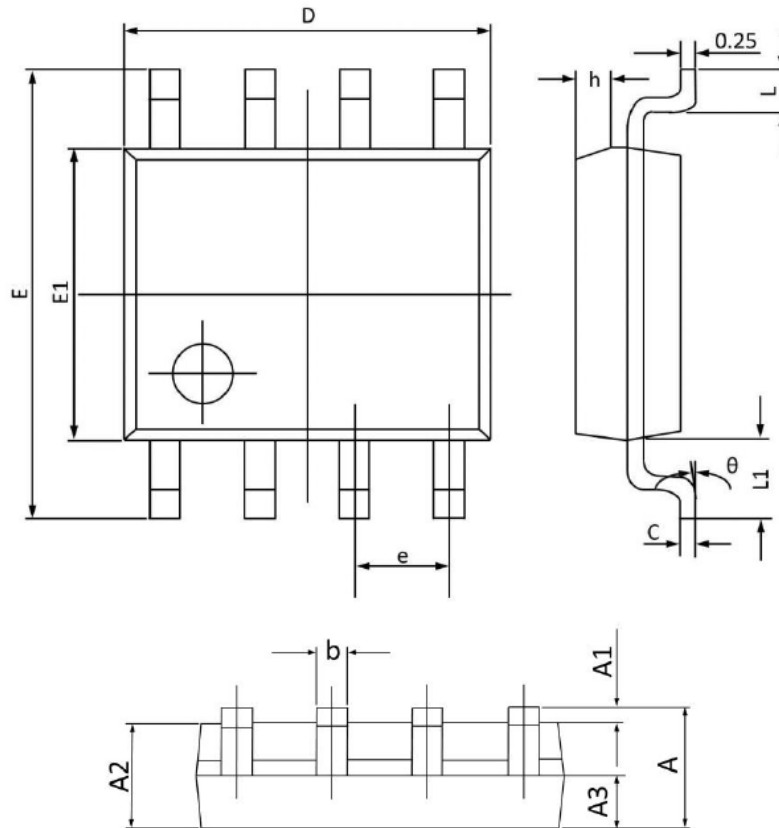
Normalized Transient Impedance



Maximum Safe Operation Area



SOP8 PACKAGE INFORMATION



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MAX	MIN	MAX	MIN
A	1.750	1.350	0.068	0.053
A1	0.250	0.100	0.009	0.004
A2	1.500	1.300	0.059	0.052
A3	0.700	0.600	0.027	0.024
b	0.480	0.390	0.018	0.016
c	0.260	0.210	0.010	0.009
D	5.100	4.700	0.200	0.186
E	6.200	5.800	0.244	0.229
E1	4.100	3.700	0.161	0.146
e	1.270(BSC)		0.050(BSC)	
h	0.500	0.250	0.019	0.010
L	0.800	0.500	0.031	0.019
L1	1.050(BSC)		0.041(BSC)	
θ	8°	0°	8°	0°