-30V Dual P-Channel Mosfet

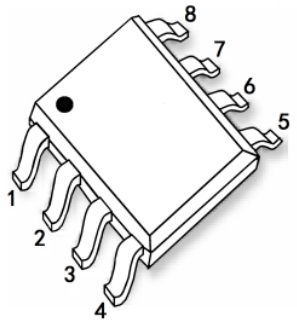
FEATURES

- $R_{DS(ON)} \leq 55m\Omega$(43mΩ Typ.) @$V_{GS}$=-10V
- $R_{DS(ON)} \leq 90m\Omega$(55mΩ Typ.) @$V_{GS}$=-4.5V

APPLICATIONS

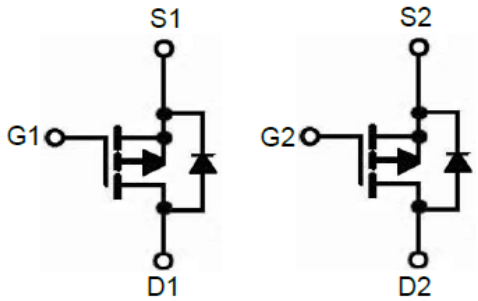
- PWM Applications
- Load Switch
- Power Management

SOP-8



1: S1	3: S2	5: D2	7: D1
2: G1	4: G2	6: D2	8: D1

P-CHANNEL MOSFET



MAXIMUM RATINGS Ta=25℃ unless otherwise specified

Symbol	Parameter	Rating	Units
V_{DSS}	Drain-Source Voltage	-30	V
V_{GSS}	Gate-Source Voltage	±20	V
I_D	Continuous Drain Current	-5.1	A
I_{DM}	Pulsed Drain Current	-20	A
P_D	Power Dissipation	2.5	W
$R_{\theta JA}$	Junction-to-Ambient	50	℃/W
T_J	Junction Temperature	150	℃
T_{STG}	Operating Junction and Storage Temperature Range	–55 to 150	℃

ELECTRICAL CHARACTERISTICS Ta= 25℃ unless otherwise specified

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
OFF Characteristics						
V_{DSS}	Drain to Source Breakdown Voltage	V_{GS}=0V, I_D=-250μA	-30	--	--	V
I_{DSS}	Drain to Source Leakage Current	V_{DS}= -30V,V_{GS}= 0V	--	--	-1	μA
I_{GSS}	Gate to Source Forward Leakage	V_{GS}= ±20V,V_{DS}= 0V	--	--	±100	nA
ON Characteristics						
$V_{GS(TH)}$	Gate Threshold Voltage	V_{DS}=V_{GS},I_D=-250μA	-1	-1.3	-2	V
$R_{DS(ON)}$	Drain-to-Source On-Resistance	V_{GS}=-10V, I_D=-5.1A	--	43	55	mΩ
$R_{DS(ON)}$	Drain-to-Source On-Resistance	V_{GS}=-4.5V, I_D=-4.2A	--	55	90	mΩ
Dynamic Characteristics						
C_{iss}	Input Capacitance	V_{GS}= 0V,V_{DS}= -15V f = 1.0MHz	--	520	--	pF
C_{oss}	Output Capacitance		--	130	--	
C_{rss}	Reverse Transfer Capacitance		--	70	--	
Switching Characteristics						
$t_{d(ON)}$	Turn-on Delay Time	I_D =-1A,V_{DS} = -15V V_{GS} = -10V, R_G =6Ω	--	7	--	ns
t_r	Rise Time		--	13	--	
$t_{d(OFF)}$	Turn-Off Delay Time		--	14	--	
t_f	Fall Time		--	9	--	
Q_g	Total Gate Charge	I_D =-5.1A,V_{DS} = -15V V_{GS} = -10V	--	11	--	nC
Q_{gs}	Gate to Source Charge		--	2.2	--	
Q_{gd}	Gate to Drain (“Miller”) Charge		--	3	--	
Source-Drain Diode Characteristics						
V_{SD}	Diode Forward Voltage	I_S=-5.1A,V_{GS}=0V T_J=25℃	--	-0.86	-1.2	V

TYPICAL PERFORMANCE CHARACTERISTICS

Figure1: Output Characteristics

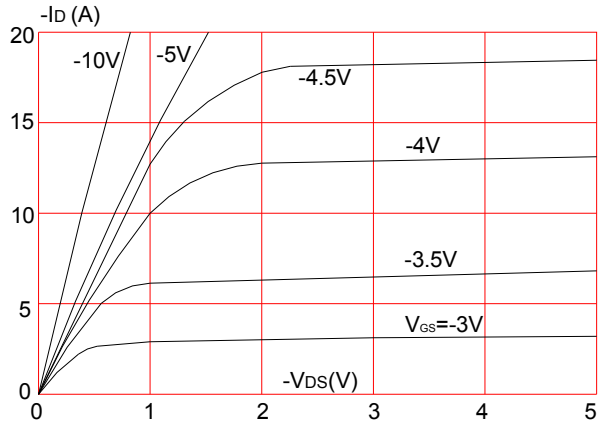


Figure 2: Typical Transfer Characteristics

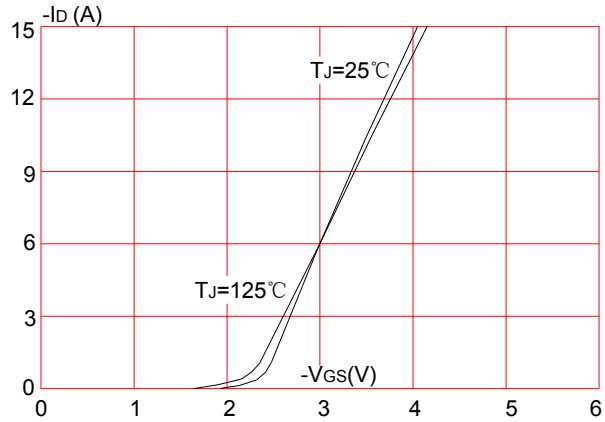


Figure 3: On-resistance vs. Drain Current

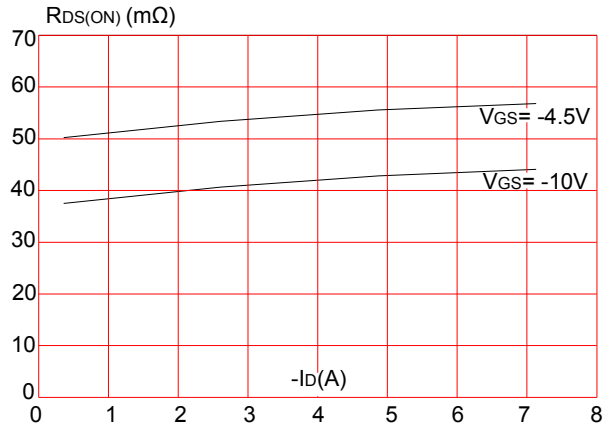


Figure 4: Body Diode Characteristics

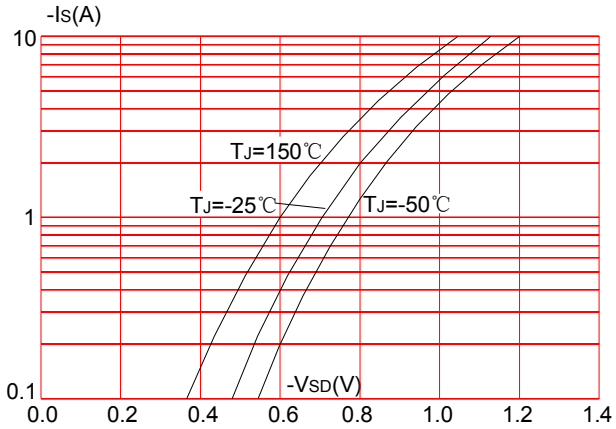


Figure 5: Gate Charge Characteristics

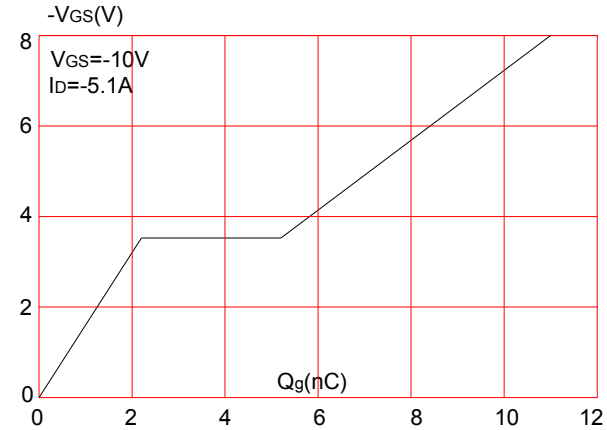
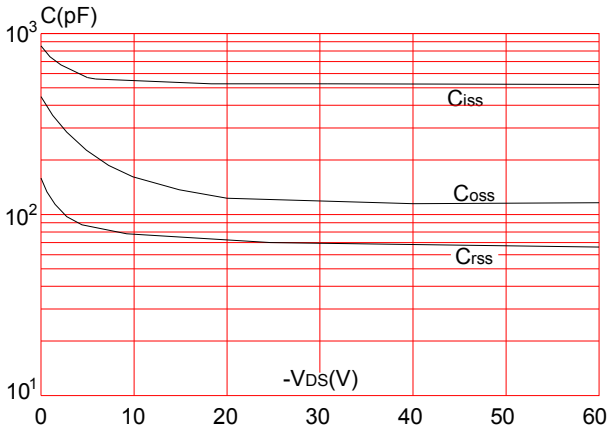


Figure 6: Capacitance Characteristics



TYPICAL PERFORMANCE CHARACTERISTICS （cont.）

Figure 7: Normalized Breakdown Voltage vs. Junction Temperature

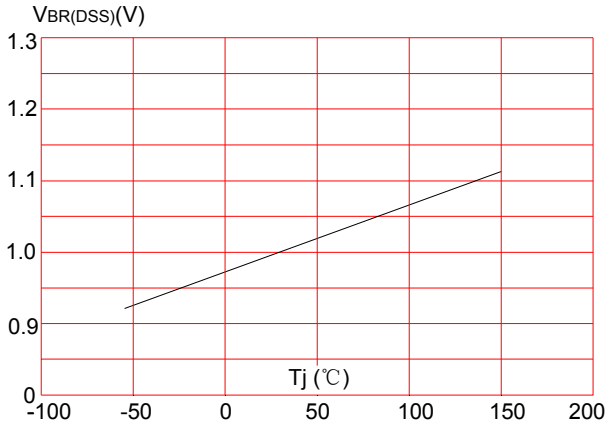


Figure 8: Normalized on Resistance vs. Junction Temperature

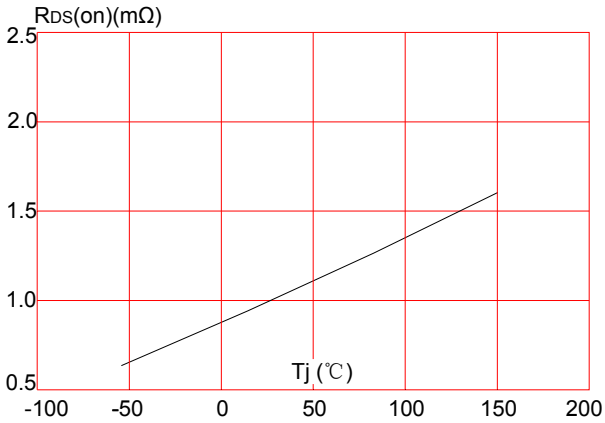


Figure 9: Maximum Safe Operating Area

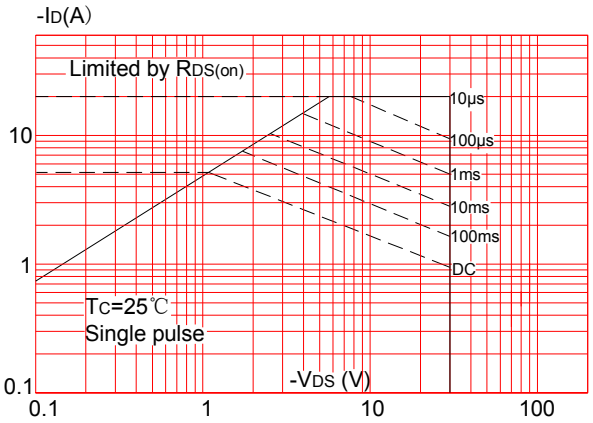


Figure 10: Maximum Continuous Drain Current vs. Case Temperature

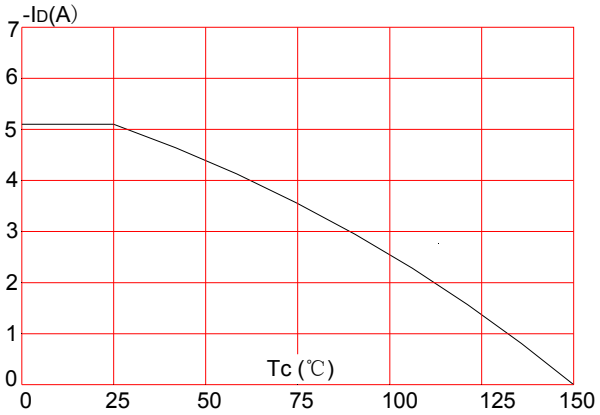
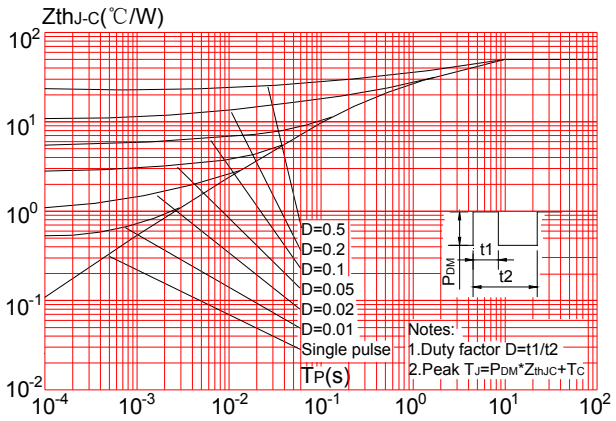
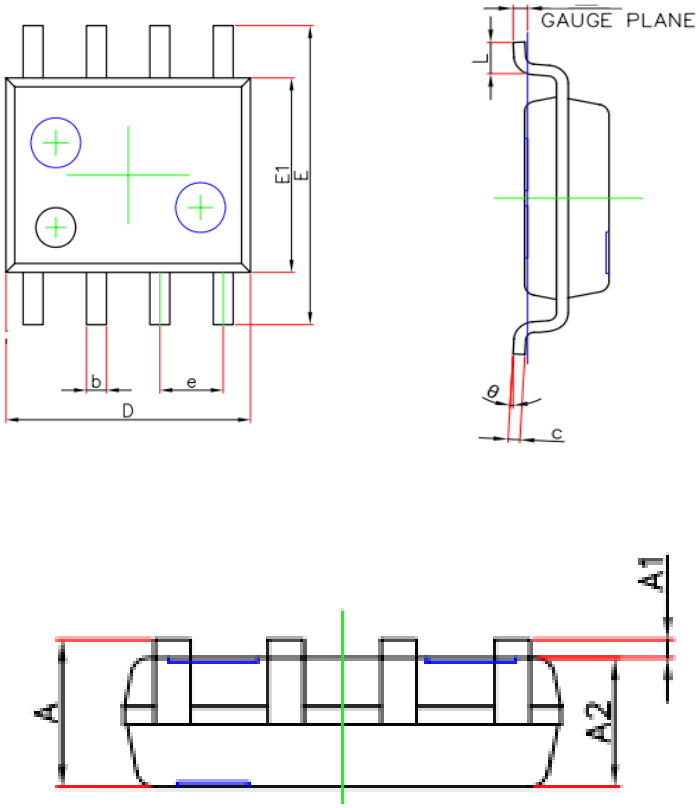


Figure.11: Maximum Effective Transient Thermal Impedance, Junction-to-Ambient (SOP-8)



SOP-8 PACKAGE OUTLINE DRAWING



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.063	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E1	3.800	4.000	0.150	0.157
E	5.800	6.200	0.228	0.244
e	1.27(BSC)		0.050(BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

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