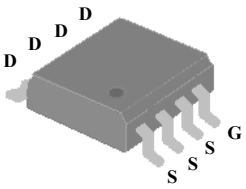
WG011P30

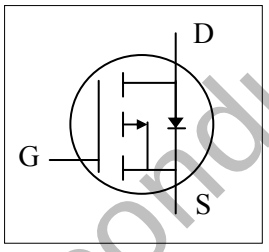
SOP-8

RoHS COMPLIANT



Application

- High power and current handing capability
- Lead free product is acquired
- Surface mount package
- Unrivalled Gate Charge :Qg=48nC (Typ.).
- VDSS=-30V,I_D=-15A
- R_{DS}(on) : 10mΩ (Max) @V_G=10V



1. Gate (G)
2. Drain (D)
3. Source (S)

Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Drain-Source Voltage (V_{GS}=0V)	V_{DSS}	-30	V
Gate-Source Voltage (V_{GS}=0V,static)	V_{GSS}	±20	V
Continuous Drain Current (T_C=25℃)	I_D	-15	A
Pulesd Drain Current	I_{DM}	- 60	A
Avalanche Energy, Single Pulsed	E_{AS}	420	mJ
Maximum Power Dissipation (T_C=25℃)	P_D	3.1	W
Operating,Storage Temperature Range	T_J,T_{STG}	-55~150	℃

Thermal Data

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance,Junction-to-Case	$R_{\theta JC}$	-	24	-	℃/ W
Thermal Resistance,Junction-to-Ambient	$R_{\theta JA}$	-	40	-	℃/ W

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Electrical Characteristics@T_j=25°C(unless otherwise specified)

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V,I_D=-250μA	-30	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-30V, V_{GS}=0V	-	-	-1	μA
Gate -Source Leakage Current	I_{GSS}	V_{GS}=±25V, V_{DS}=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS},I_D=-250μA	-1.0	-1.5	-2.2	V
Drain-Source On-stage Resistance	$R_{DS(ON)}$	V_{GS}=-10V,I_D=-12A	-	8.5	10	mΩ
		V_{GS}=-4.5V,I_D=-7A	-	11.5	15	

Dynamic Characterisitcs

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Input capacitance	C_{iss}	V_{DS}=-15V	-	2900	-	pF
Output capacitance	C_{oss}	V_{GS}=0V	-	410	-	
Reverse transfer capacitance	C_{rss}	f=1MHz	-	280	-	
Gate Resistance	R_g	f=1MHz	-	2.5	-	Ω
Total Gate Charge	Q_g	V_{DS}=-15V	-	48	-	nC
Gate Source Charge	Q_{gs}	V_{GS}=-10V	-	12	-	
Gate Drain Charge	Q_{gd}	I_D=-15A	-	14	-	
Turn-on delay Time	$t_{d(on)}$	V_{GS}=-10V	-	15	-	ns
Rise time	t_r	V_{DS}=-15V	-	11	-	
Turn-off delay Time	$t_{d(off)}$	R_L=1Ω	-	44	-	
Fall time	t_f	R_G=3Ω	-	21	-	

Reverse Diode Characterisitcs

Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Body Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_{SD}=-1A	-	-	-1.2	V

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Typical Electrical and Thermal Characteristics

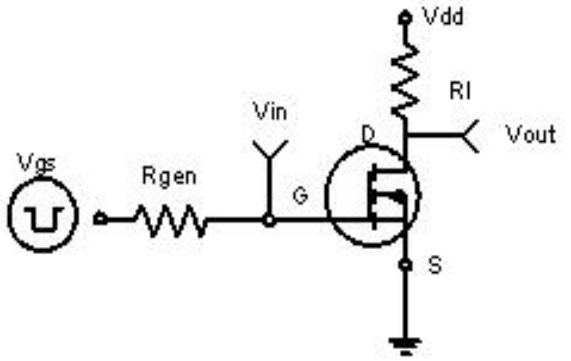

Figure 1 Switching Test Circuit

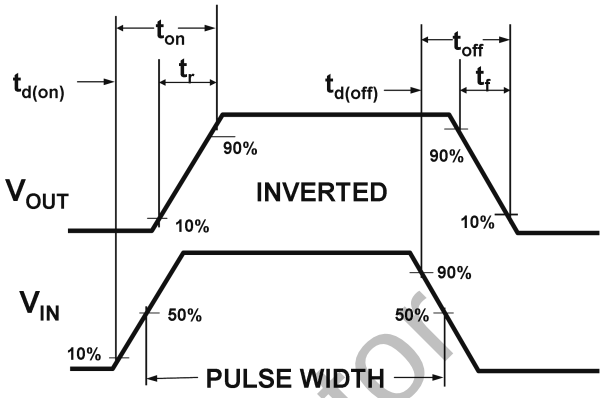

Figure 2 Switching Waveforms

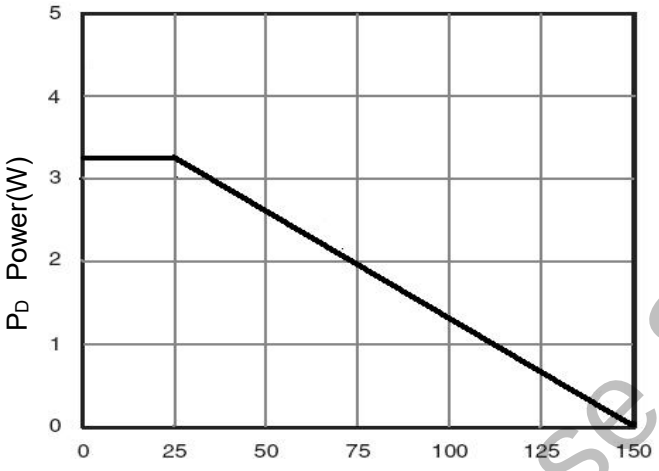

Figure 3 Power Dissipation

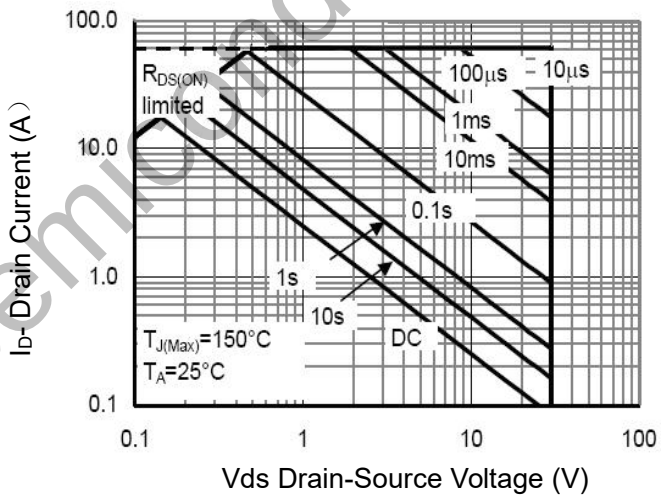

Figure 4 Safe Operation Area

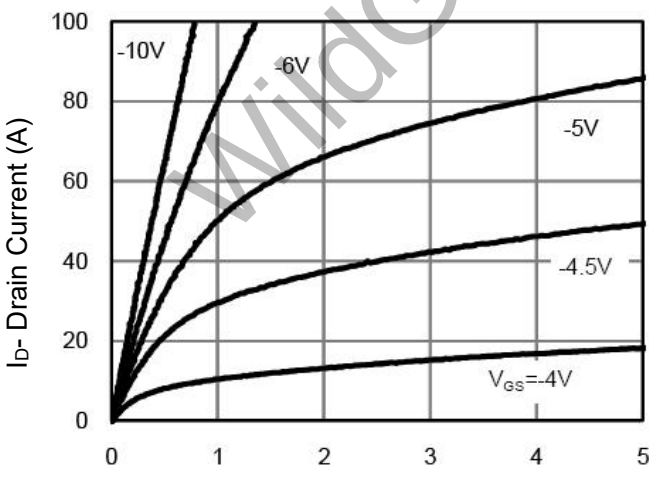

Figure 5 Output Characteristics

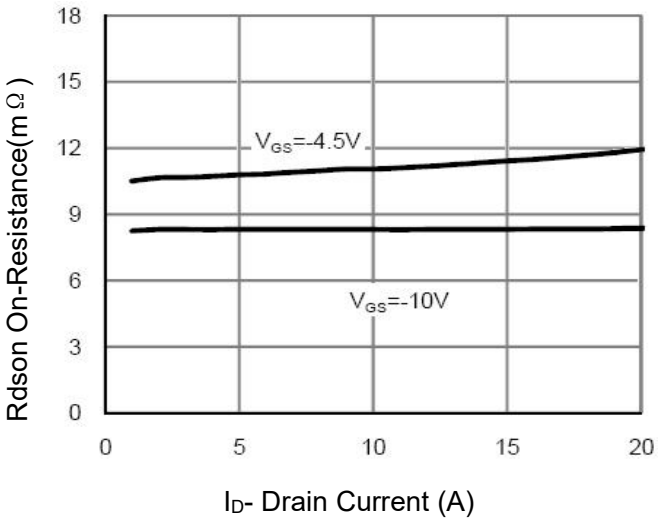

Figure 6 Drain-Source On-Resistance

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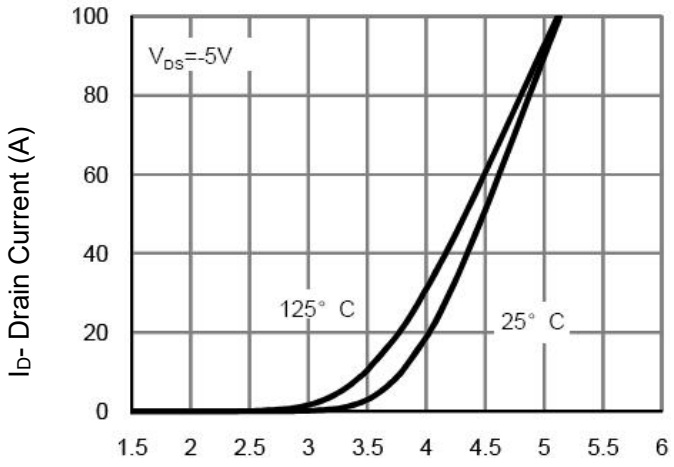

Figure 7 Transfer Characteristics

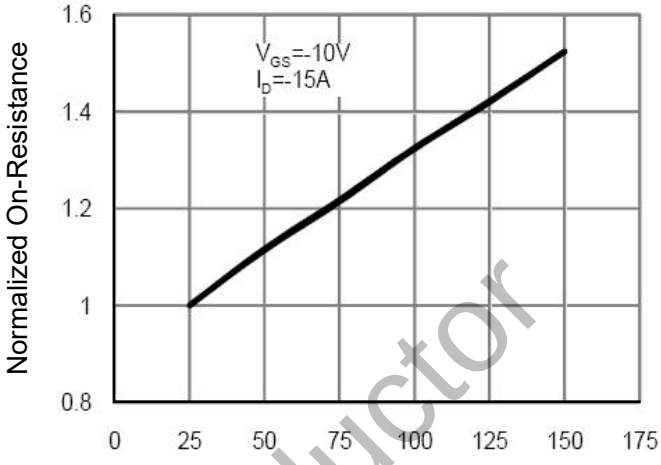

Figure 8 Drain-Source On-Resistance

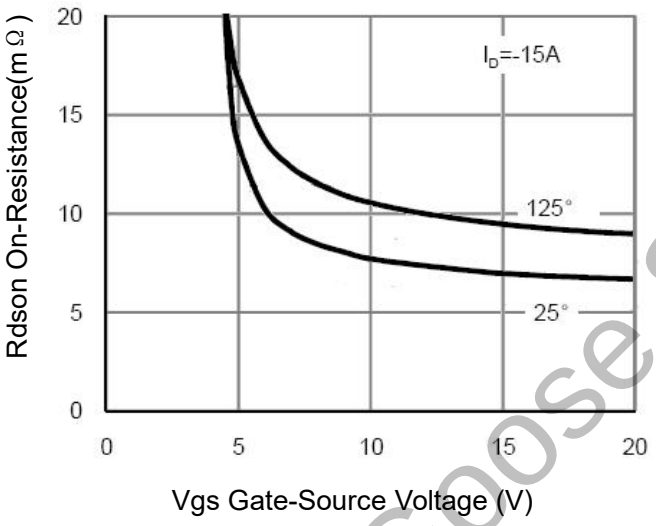

Figure 9 Rdson vs Vgs

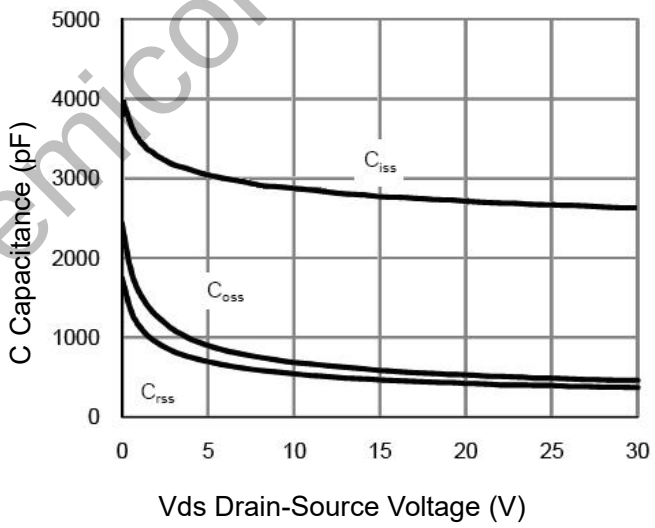

Figure 10 Capacitance vs Vds

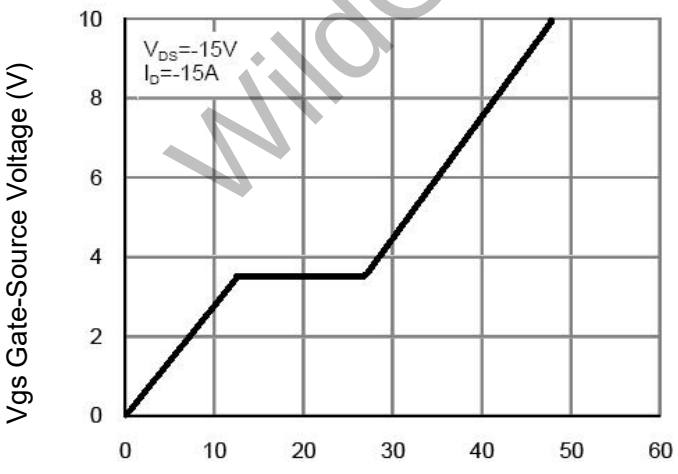

Figure 11 Gate Charge

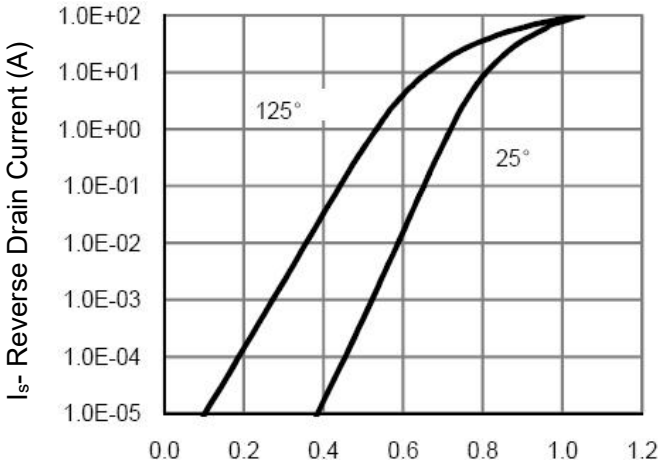

Figure 12 Source- Drain Diode Forward

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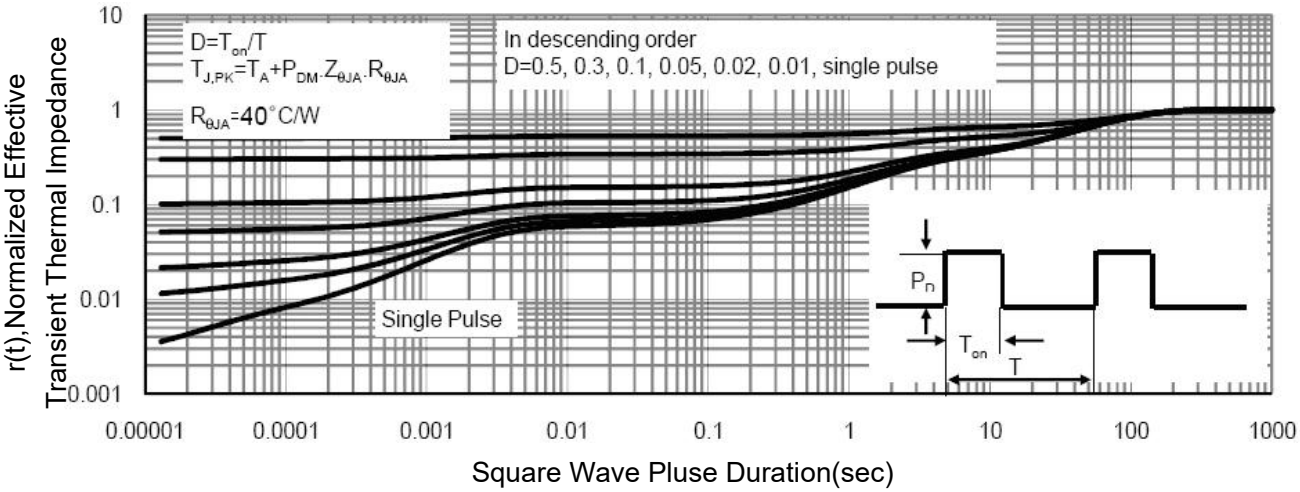
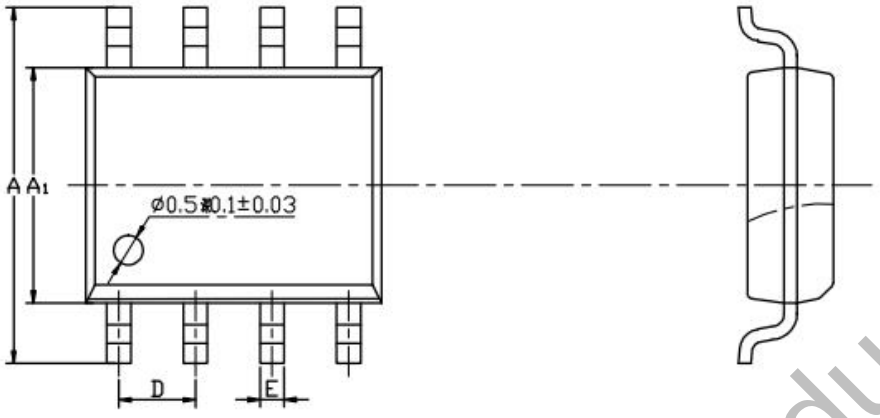
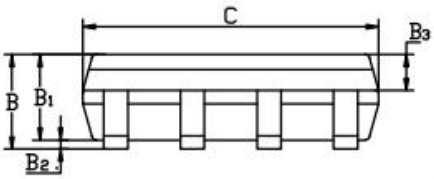
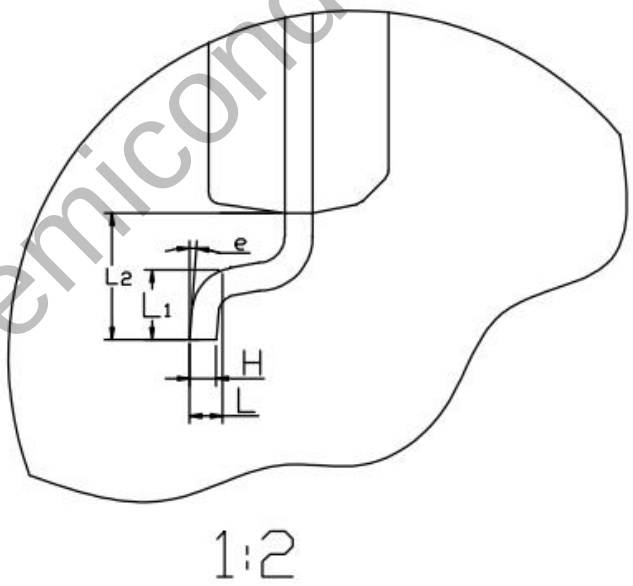


Figure 13 Normalized Maximum Transient Thermal Impedance

SOP-8 Package Information







尺寸数据：			单位：mm	
标注	Min	Nom	Max	备注
A	5.80	6.00	6.20	跨度
A_1	3.70	3.90	4.10	
B	1.50	1.60	1.75	
B_1	1.30	1.40	1.50	
B_2	0.05	0.125	0.2	站高
B_3	0.60	0.70	0.75	
C	4.75	4.85	5.05	
D	1.27BSC			
E	0.39	0.44	0.49	
H	0.10	0.20	0.25	
L	0.25BSC			
L_1	0.40	0.6	0.8	
L_2	0.95	1.05	1.20	脚长
e	0	4°	8°	

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