Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-30V	6.5mΩ@-10V	-50A
	10.5mΩ@-4.5V	

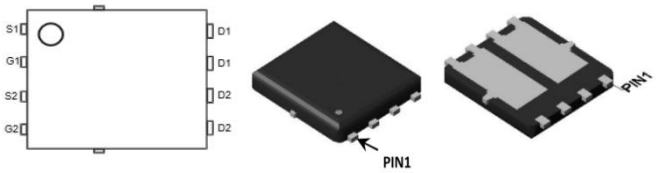
Feature

- High switching speed
- Low Gate Charge
- High density cell design for ultra low Rdson
- 100% Single Pulse avalanche energy Test

Application

- Load Switching
- DC-DC

Package



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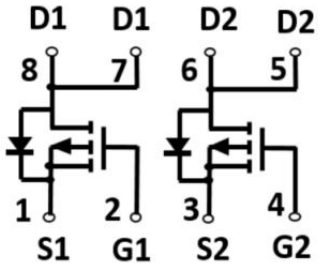
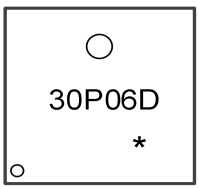
Circuit diagram



Marking



30P06D =Device Code
*** =Month Code**

Absolute maximum ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	-30	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current-Continuous（Tc=25℃）	I_D	-50	A
Pulsed Drain Current	I_{DM}	-200	A
Single Pulse Avalanche Energy[1]	E_{AS}	68	mJ
Maximum Power Dissipation(Tc=25℃)	P_D	125	W
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	1	℃/W
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55~+150	℃

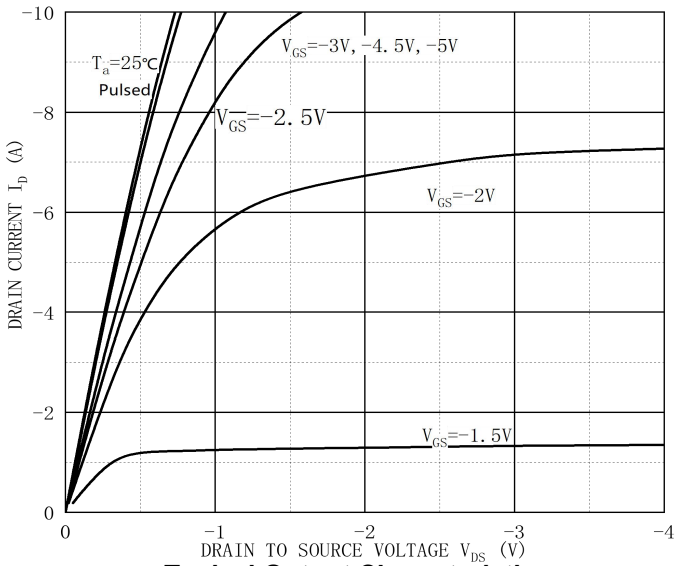
Electrical characteristics (T_A=25 ºC, unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	VGS=0V ID=-250μA	-30		-	V
Zero Gate Voltage Drain Current	I_{DSS}	VDS=-30V,VGS=0V	-	-	-1	μA
Gate-Body Leakage Current	I_{GSS}	VGS=±20V,VDS=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	VDS=VGS,ID=-250μA	-1	-1.5	-2.5	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	VGS=-10V, ID=-15A	-	6.5	8	mΩ
		VGS=-4.5V, ID=-10A	-	10.5	15	
Dynamic Characteristics						
Input Capacitance	C_{lss}	VDS=-15V,VGS=0V, F=1.0MHz	-	3750	-	PF
Output Capacitance	C_{oss}		-	558	-	
Reverse Transfer Capacitance	C_{rss}		-	475	-	
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	VDD=-15V, ID=-10A, VGS=-10V,RGEN=3Ω	-	15	-	nS
Turn-on Rise Time	t_r		-	11	-	
Turn-Off Delay Time	$t_{d(off)}$		-	44	-	
Turn-Off Fall Time	t_f		-	21	-	
Total Gate Charge	Q_g	VDS=-15V,ID=-10A,VGS=-10V	-	48	-	nC
Gate-Source Charge	Q_{gs}		-	12	-	
Gate-Drain Charge	Q_{gd}		-	14	-	
Drain-Source Diode Characteristics						
Diode Forward Voltage[3]	V_{SD}	VGS=0V,IS=-2A	-	-	-1.2	V

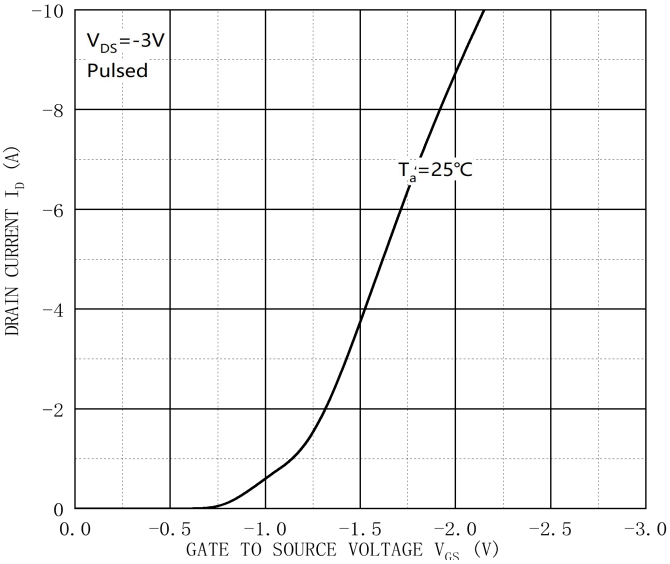
Note :

1. The EAS data shows Max. rating . The test condition is VDD=-15V,VGS=-10V,L=0.1mH,Rg=25Ω

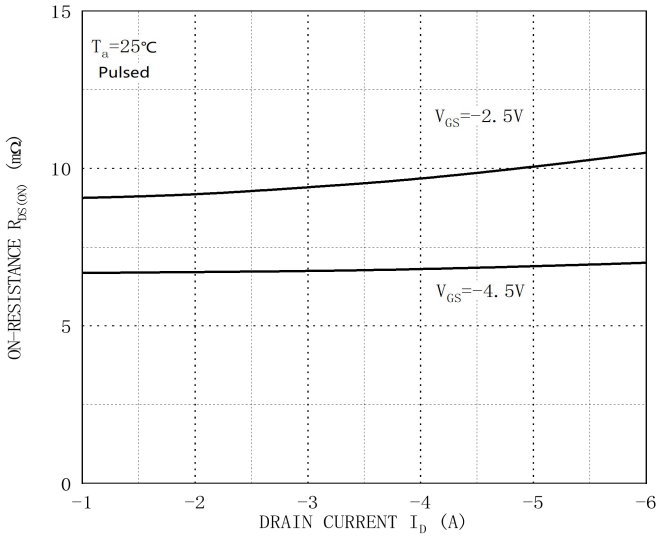
Typical Characteristics



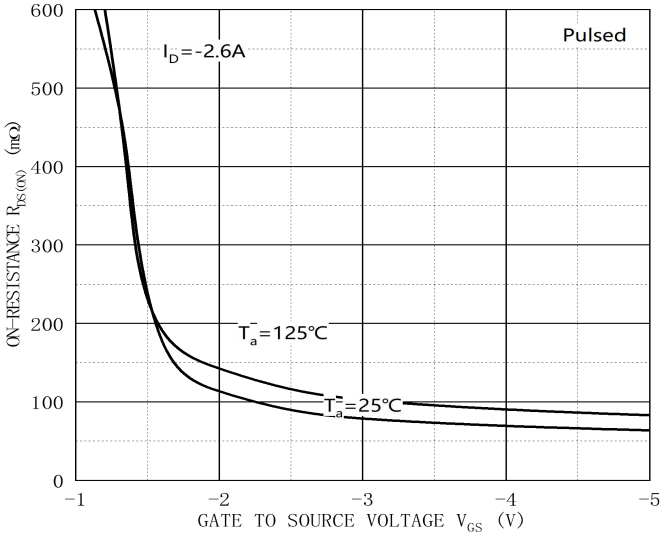
Typical Output Characteristics



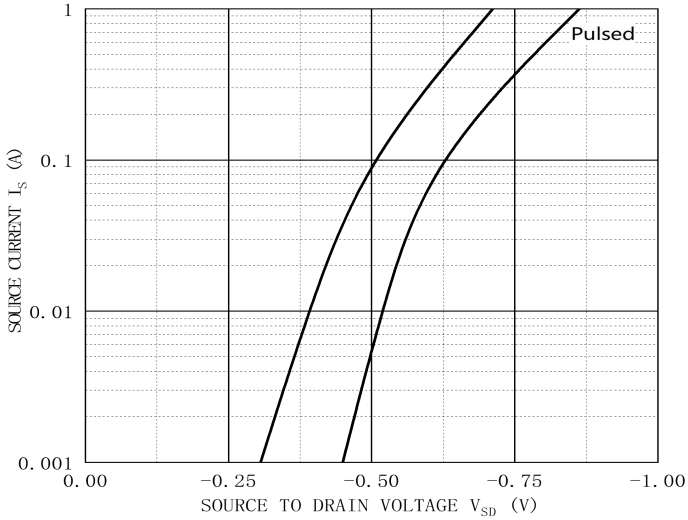
Typical Transform Characteristics



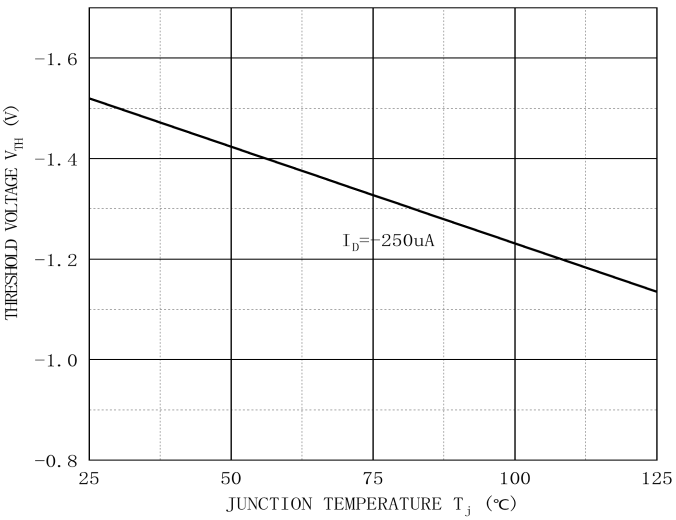
RDSON--ID



RDSON--VGS



IS--VSD



Threshold Voltage

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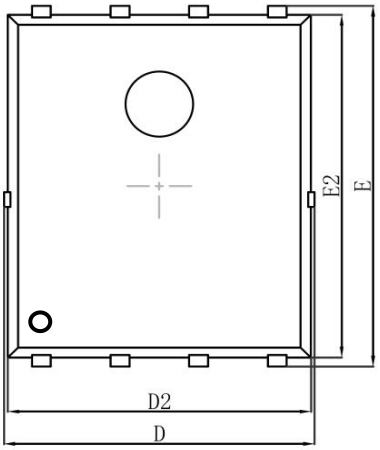
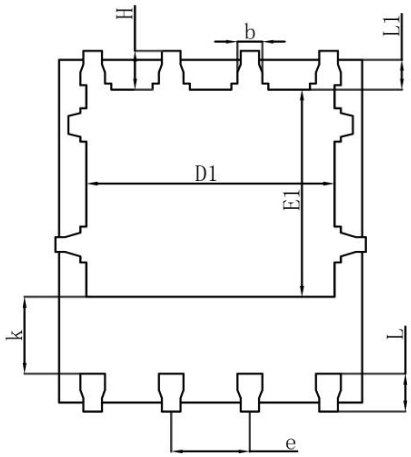
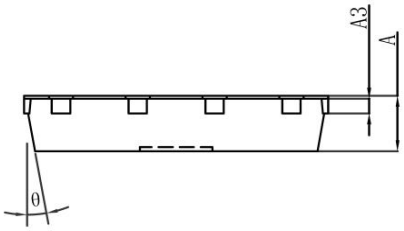


Top View
[顶视图]



Bottom View
[背视图]



Side View
[侧视图]

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.000	0.035	0.039
A3	0.254REF.		0.010REF.	
D	4.944	5.096	0.195	0.201
E	5.974	6.126	0.235	0.241
D1	3.910	4.110	0.154	0.162
E1	3.375	3.575	0.133	0.141
D2	4.824	4.976	0.190	0.196
E2	5.674	5.826	0.223	0.229
k	1.190	1.390	0.047	0.055
b	0.350	0.450	0.014	0.018
e	1.270TYP.		0.050TYP.	
L	0.559	0.711	0.022	0.028
L1	0.424	0.576	0.017	0.023
H	0.574	0.726	0.023	0.029
θ	10°	12°	10°	12°