

Electrical Characteristics (T_J=25°C, Unless Otherwise Noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	120	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V, I _D =30A	---	10	12	mΩ
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250μA	2.0	3.0	4.5	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =120V, V _{GS} =0V	---	---	1.0	μA
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±20V, V _{DS} =0V	---	---	±100	nA
Q _g	Total Gate Charge	V _{DS} =50V, V _{GS} =10V, I _D =25A	---	33	---	nC
Q _{gs}	Gate-Source Charge		---	5.6	---	
Q _{gd}	Gate-Drain Charge		---	7.2	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} =50V, V _{GS} =10V, R _G =2Ω, I _D =25A	---	22	---	ns
T _r	Rise Time		---	10	---	
T _{d(off)}	Turn-Off Delay Time		---	85	---	
T _f	Fall Time		---	112	---	
C _{iss}	Input Capacitance	V _{DS} =50V, V _{GS} =0V, f=1.0MHz	---	2640	---	pF
C _{oss}	Output Capacitance		---	330	---	
C _{rss}	Reverse Transfer Capacitance		---	11	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
I _S	Continuous Source Current	V _G =V _D =0V, Force Current	---	---	50	A
I _{SP}	Pulsed Source Current		---	---	150	
V _{SD}	Diode Forward Voltage	V _{GS} =0V, I _S =12A	---	---	1.3	V
t _{rr}	Reverse Recovery Time	I _F =25A, di/dt=100A/μs, T _J =25°C	---	62.3	---	ns
Q _{rr}	Reverse Recovery Charge		---	135.3	---	nC

Note:

1. The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper.
2. The data tested by pulsed, pulse width. The E_{AS} data shows Max. rating.
3. The power dissipation is limited by 150°C junction temperature.
4. The data is theoretically the same as I_D and I_{DM}, in real applications, should be limited by total power dissipation.

Typical Characteristics

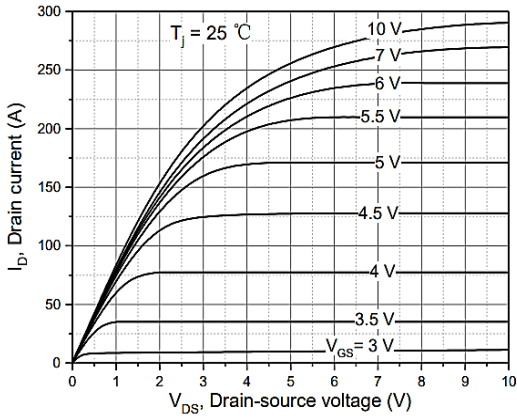


Figure 1. Typ. output characteristics

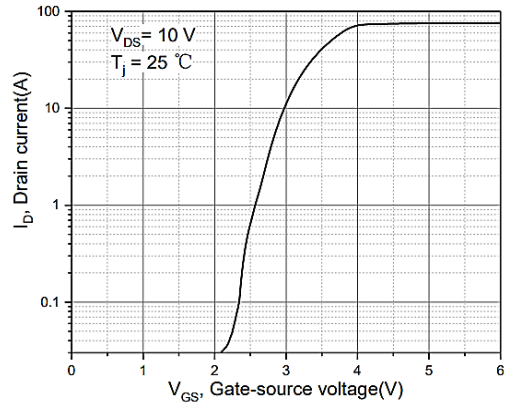


Figure 2. Typ. transfer characteristics

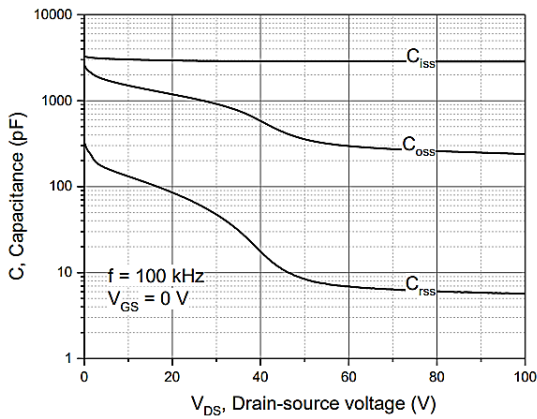


Figure 3. Typ. capacitances

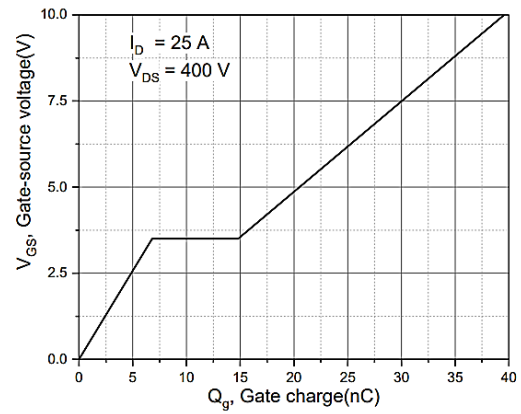


Figure 4. Typ. gate charge

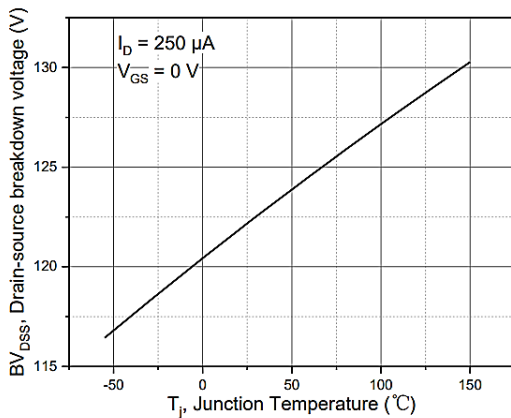


Figure 5. Drain-source breakdown voltage

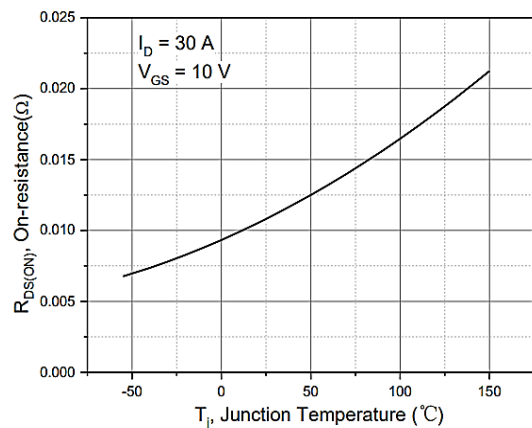


Figure 6. Drain-source on-state resistance

Typical Characteristics (Cont.)

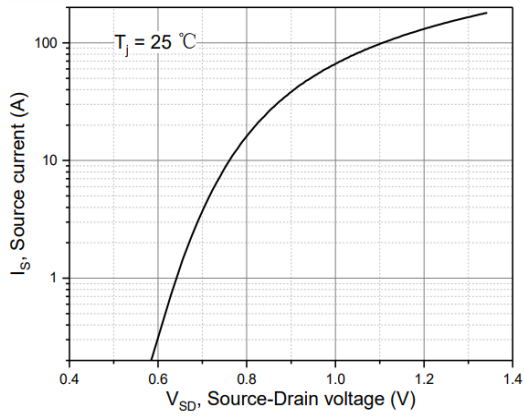


Figure 7. Forward characteristic of body diode

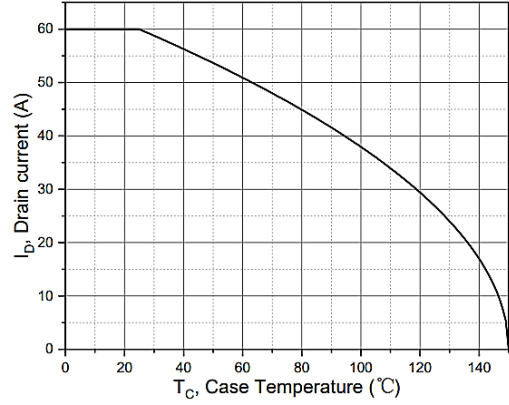


Figure 8. Drain current

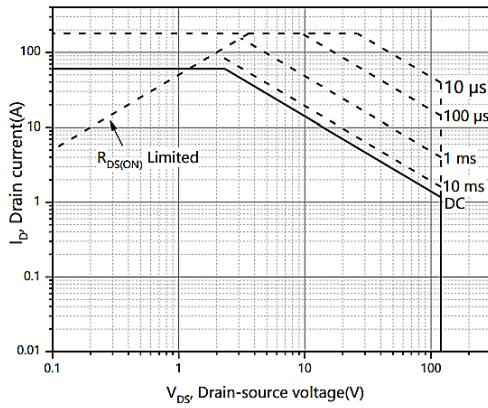
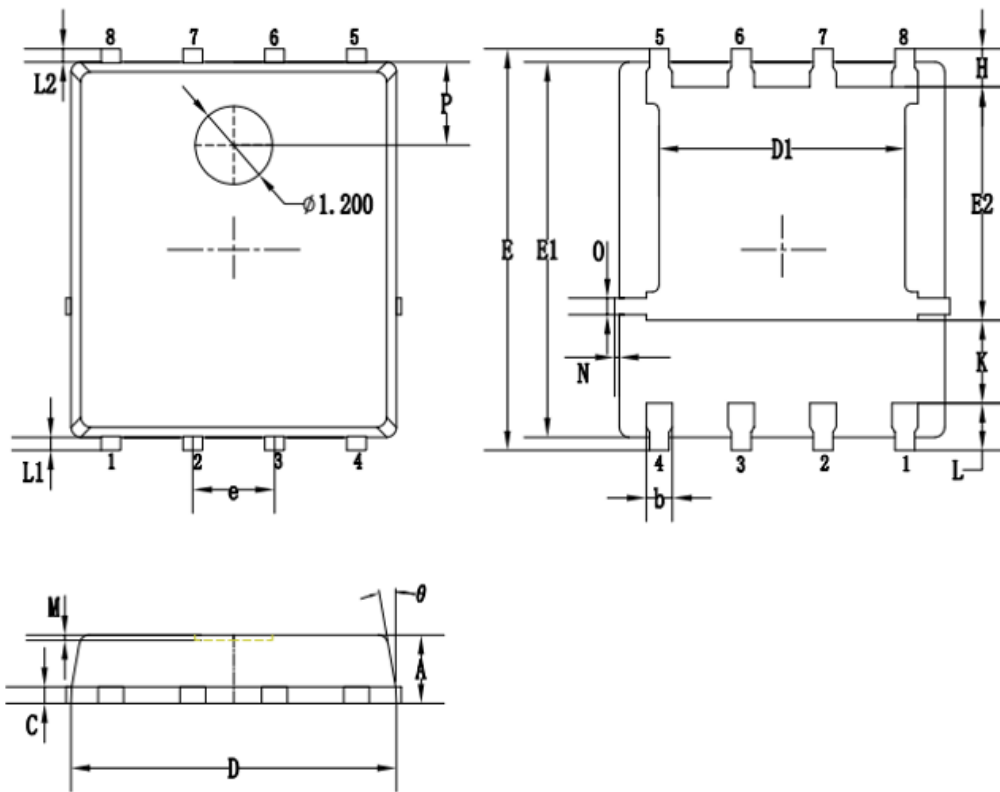


Figure 9. Safe operation area $T_c=25\text{ }^\circ\text{C}$



SYMBOLS	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.90	1.05	1.20
b	0.35	0.40	0.50
C	0.20	0.25	0.35
D	4.90	5.05	5.20
D1	3.72	3.82	3.92
E	6.00	6.15	6.30
E1	5.60	5.75	5.90
E2	3.47	3.57	3.67
e	1.27 BSC.		
H	0.48	0.58	0.68
K	1.17	1.27	1.37
L	0.64	0.74	0.84
L1/L2	0.20 REF.		
θ	8°	10°	12°
M	0.08 REF.		
N	0	-	0.15
O	0.25 REF.		
P	1.28 REF.		

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