

Electrical Characteristics: (T_c=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250 μ A	60	---	---	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{GS} =0V, V _{DS} =60V	---	---	1	μ A
I _{GSS}	Gate-Source Leakage Current	V _{GS} =± 20V, V _{DS} =0A	---	---	± 100	nA
On Characteristics						
V _{GS(th)}	GATE-Source Threshold Voltage	V _{GS} =V _{DS} , I _D =250 μ A	1	1.7	2.5	V
R _{DS(ON)}	Drain-Source On Resistance	V _{GS} =10V, I _D =20A	---	4.3	5	m Ω
		V _{GS} =4.5V, I _D =10A	---	5.1	7	
Dynamic Characteristics						
C _{iSS}	Input Capacitance	V _{DS} =50V, V _{GS} =0V, f=1MHz	---	2136		pF
C _{oss}	Output Capacitance		---	331.5		
C _{rSS}	Reverse Transfer Capacitance		---	10.6		
Switching Characteristics						
t _{d(on)}	Turn-On Delay Time	V _{GS} =10 V, V _{DS} =50 V, R _G =2 Ω, I _D =25 A	---	22.9		ns
t _r	Rise Time		---	6.5		ns
t _{d(off)}	Turn-Off Delay Time		---	45.7		ns
t _f	Fall Time		---	20.4		ns
Q _g	Total Gate Charge	I _D =25 A, V _{DS} =50 V, V _{GS} =10 V	---	30		nC
Q _{gs}	Gate-Source Charge		---	5.8		nC
Q _{gd}	Gate-Drain "Miller" Charge		---	6.1		nC
Drain-Source Diode Characteristics						
Symbol	Parameter	Conditions	Min	Typ	Max	Units
V _{SD}	Source/Drain Diode Forward Voltage	V _{GS} =0V, I _S =20A	---		1.3	V
t _{rr}	Continuous Source Current	I _S =25 A, di/dt= 100 ' f Y	---	50.3		ns
q _{rr}	Pulsed Source Current		---	45.1		nC

Notes:

- 1) Calculated continuous current based on maximum allowable junction temperature.
- 2) Repetitive rating; pulse width limited by max. junction temperature.
- 3) Pd is based on max. junction temperature, using junction - case thermal resistance .
- 4) V_{DD}= 30 V, R_G=25 S, L=0.3 mH, starting T_j=25 - .
- 5) The value of R_{θJA} is measured with the device mounted on 1 in 2 FR-4 board with 2oz. Copper, in a still air environment with T_a=25 - .

Typical Characteristics

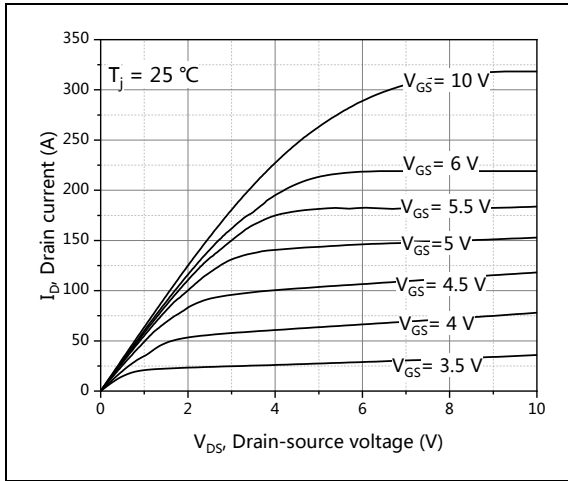


Figure 1, Typ. output characteristics

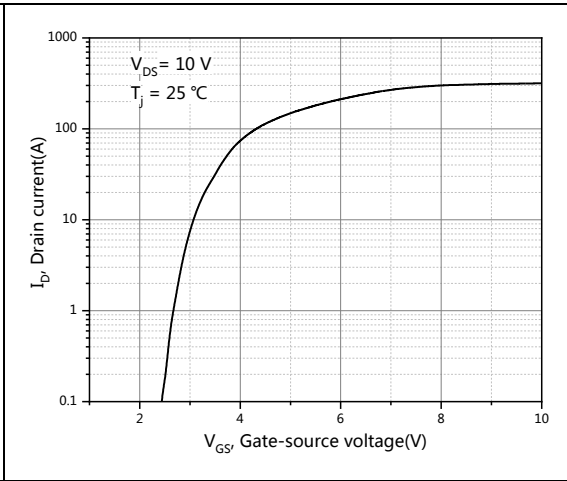


Figure 2, Typ. transfer characteristics

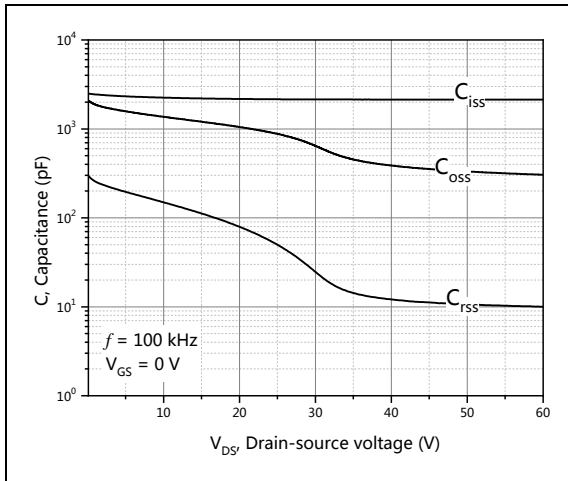


Figure 3, Typ. capacitances

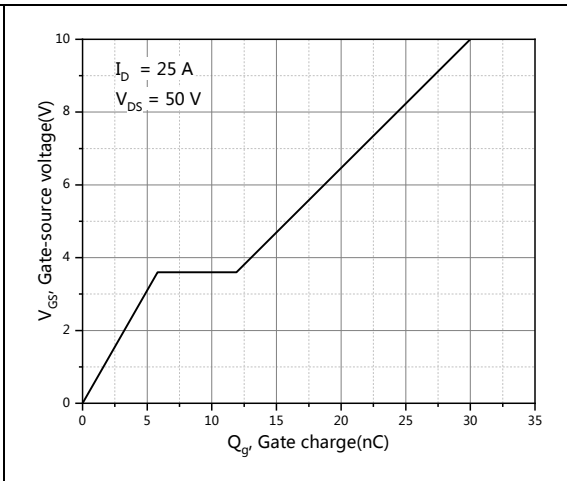


Figure 4, Typ. gate charge

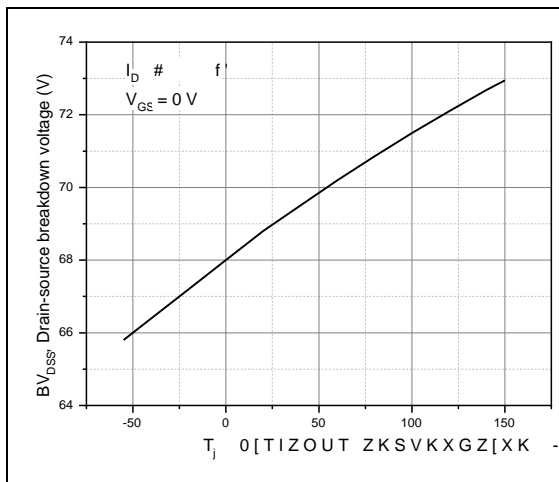


Figure 5, Drain -source breakdown voltage

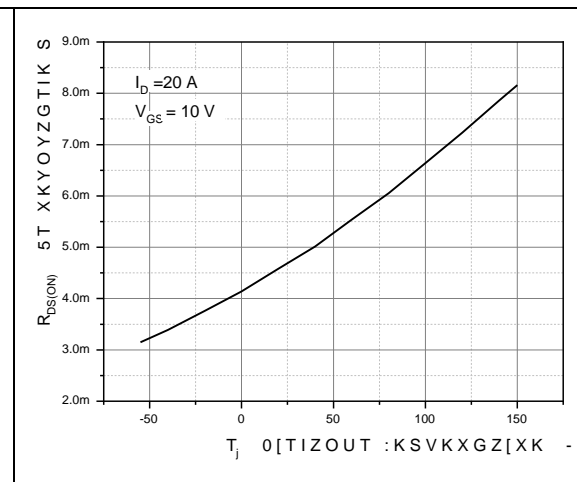


Figure 6, Drain -source on -state resistance

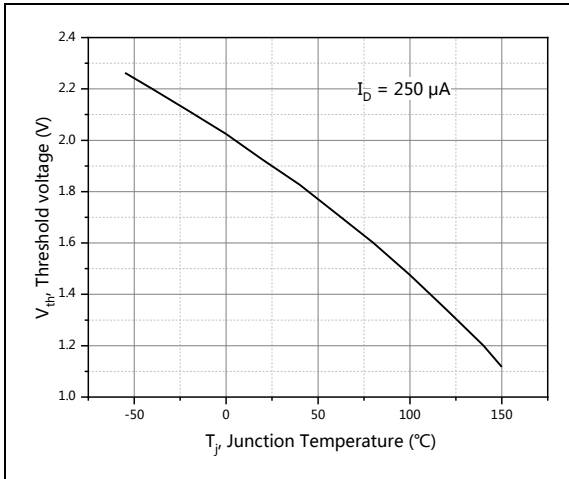


Figure 7, Threshold voltage

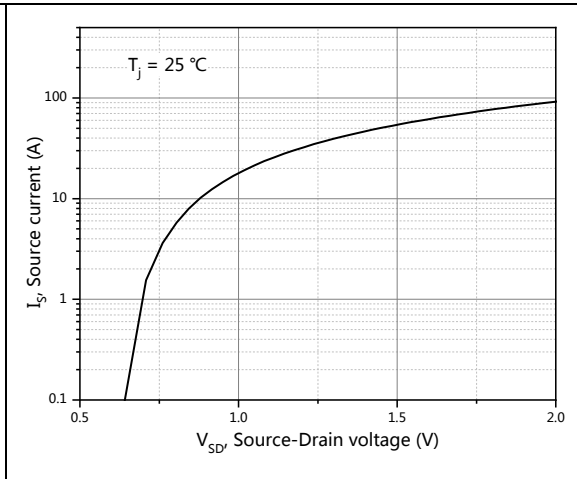


Figure 8, Forward characteristic of body diode

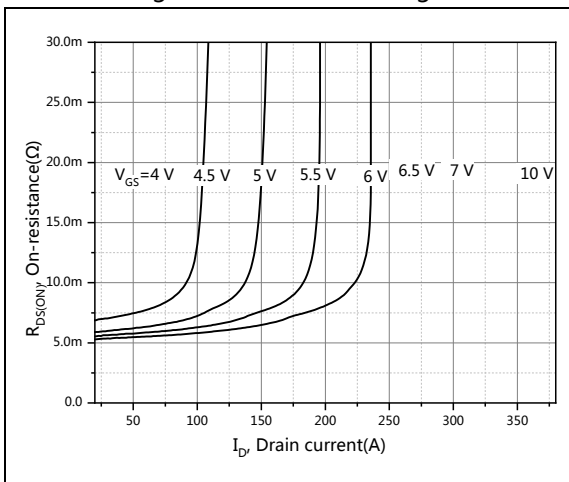


Figure 9, Drain-source on-state resistance

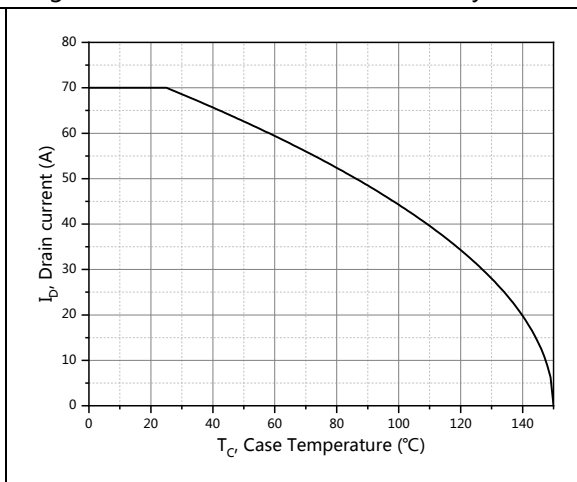


Figure 10, Drain current

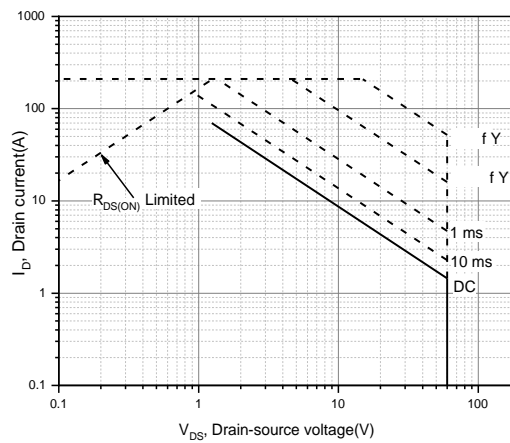


Figure 11, Safe operation area

3DFNDJH 0HFKDQ'LFQO /DWD

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