

Electrical Characteristics (T_J=25 °C, unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250μA	20	---	---	V
ΔBV _{DSS} /ΔT _J	BVDSS Temperature Coefficient	Reference to 25°C, I _D =1mA	---	0.022	---	V/°C
R _{DS(on)}	Static Drain-Source On-Resistance ²	V _{GS} =5V, I _D =1A	---	□	□	mΩ
		V _{GS} =15V, I _D =1A	---	□	□	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250μA	□	□	□	V
ΔV _{GS(th)}	V _{GS(th)} Temperature Coefficient		---	-2.33	---	mV/°C
I _{DSS}	Drain-Source Leakage Current	V _{DS} =16V, V _{GS} =0V, T _J =25°C	---	---	1	μA
		V _{DS} =16V, V _{GS} =0V, T _J =55°C	---	---	5	
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±12V, V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =5V, I _D =1A	---	□	---	S
R _g	Gate Resistance	V _{DS} =0V, V _{GS} =0V, f=1MHz	---	1.5	3	Ω
Q _g	Total Gate Charge (4.5V)	V _{DS} =15V, V _{GS} =4.5V, I _D =1A	---	□	10	nC
Q _{gs}	Gate-Source Charge		---	□	2.0	
Q _{gd}	Gate-Drain Charge		---	□	3.8	
T _{d(on)}	Turn-On Delay Time	V _{DD} =10V, V _{GS} =4.5V, R _G =6.0Ω, I _D =1A	---	□	22	ns
T _r	Rise Time		---	□	6.5	
T _{d(off)}	Turn-Off Delay Time		---	□	45	
T _f	Fall Time		---	□	□	
C _{iss}	Input Capacitance	V _{DS} =15V, V _{GS} =0V, f=1MHz	---	□	---	pF
C _{oss}	Output Capacitance		---	□	---	
C _{rss}	Reverse Transfer Capacitance		---	□	---	

Diode Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
I _S	Continuous Source Current ^{1,4}	V _G =V _D =0V, Force Current	---	---	□	A
I _{SM}	Pulsed Source Current ^{2,4}		---	---	□	A
V _{SD}	Diode Forward Voltage ²	V _{GS} =0V, I _S =1A, T _J =25°C	---	---	1.□	V
t _{rr}	Reverse Recovery Time	I _F =1A, di/dt=100A/μs, T _J =25°C	---	□	25	nS
Q _{rr}	Reverse Recovery Charge		---	□	14	nC

Note :

- 1.The data tested by surface mounted on a 1 inch² FR-4 board with 2OZ copper,t<10sec.
- 2.The data tested by pulsed , pulse width ≤ 300us , duty cycle ≤ 2%
- 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

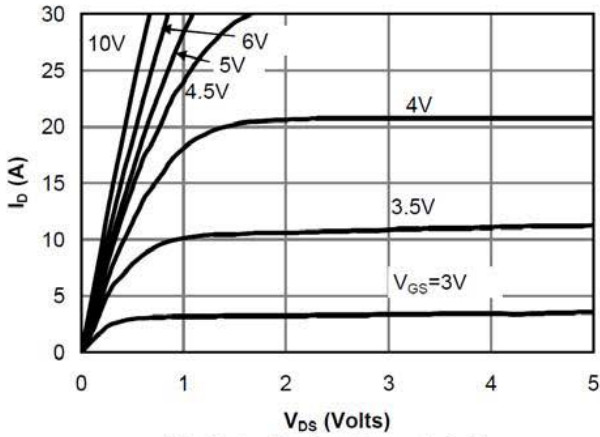


Fig 1: On-Region Characteristics

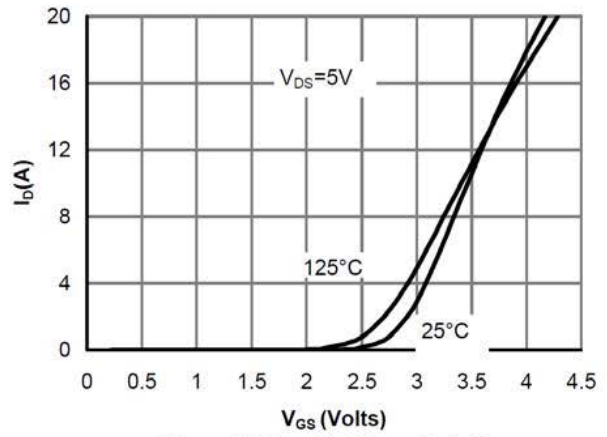


Figure 2: Transfer Characteristics

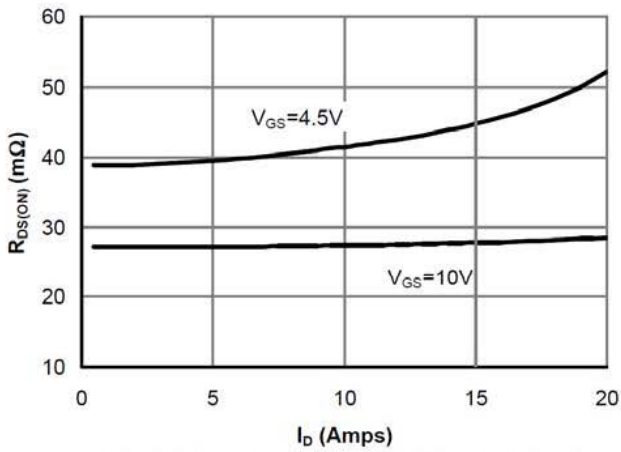


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

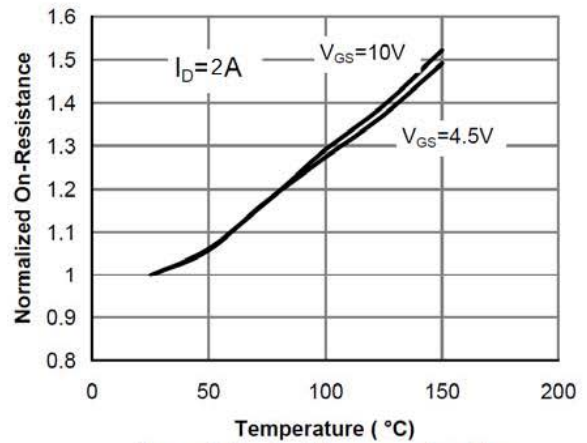


Figure 4: On-Resistance vs. Junction Temperature

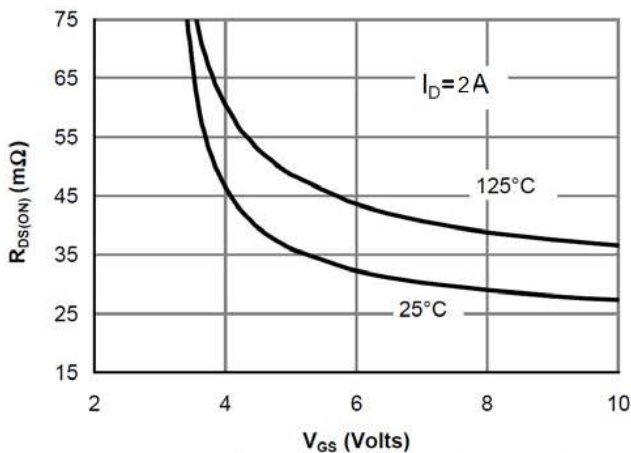


Figure 5: On-Resistance vs. Gate-Source Voltage

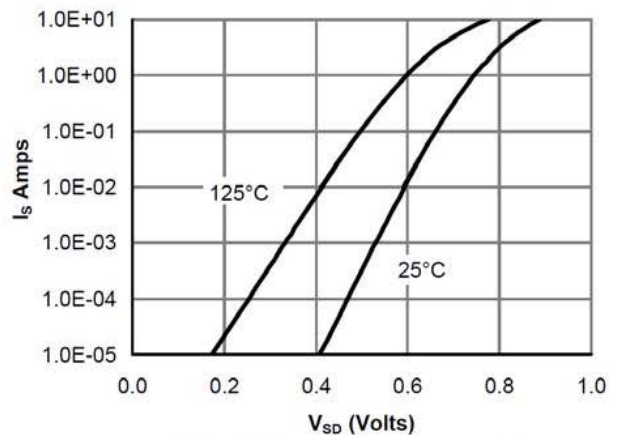


Figure 6: Body diode characteristics

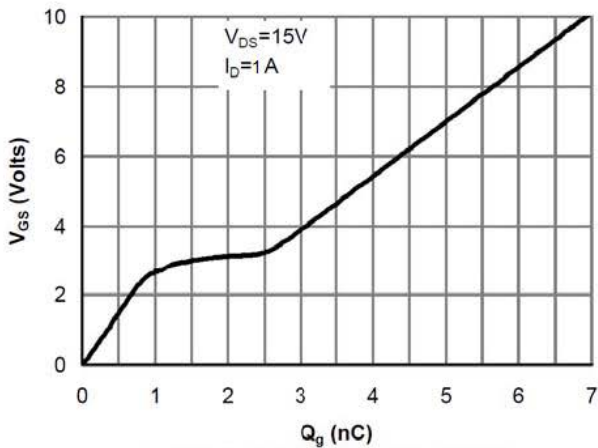


Figure 7: Gate-Charge characteristics

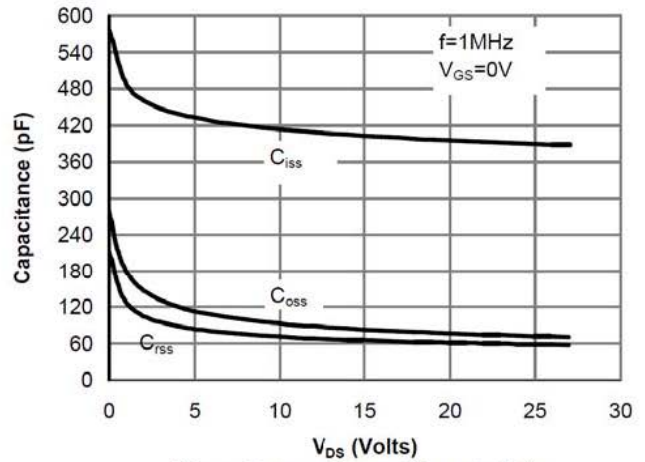


Figure 8: Capacitance Characteristics

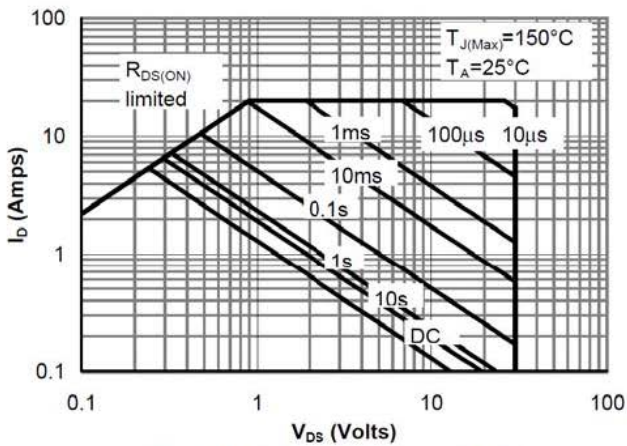


Figure 9: Maximum Forward Biased Safe Operating Area

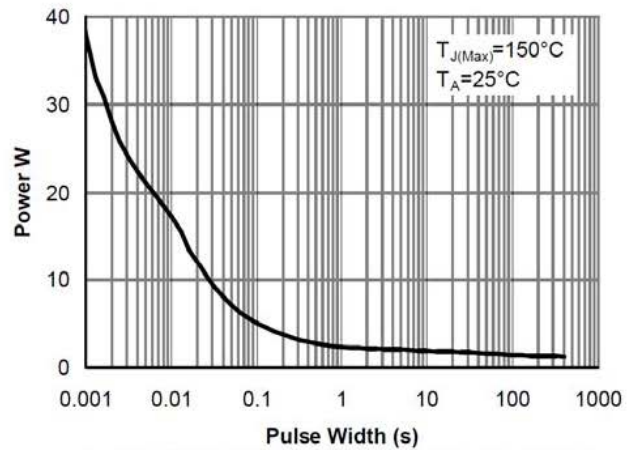


Figure 10: Single Pulse Power Rating Junction-to-Ambient

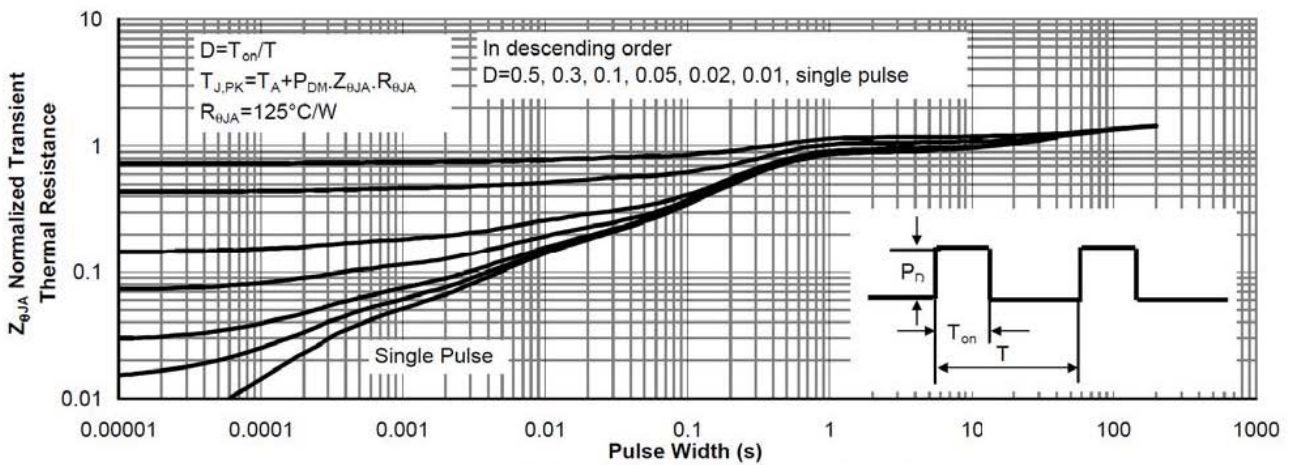


Figure 11: Normalized Maximum Transient Thermal Impedance



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