

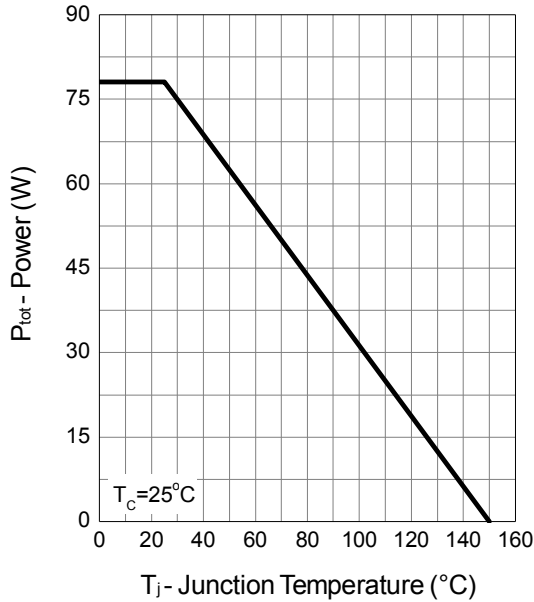
Electrical Characteristics (T_A = 25°C unless otherwise noted)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =250μA	30	-	-	V
BV _{DSS(t)}	Drain-Source Breakdown Voltage (transient)	V _{GS} =0V, I _{D(avai)} =40A T _{case} =25°C, t _{transient} =100ns	34	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =24V, V _{GS} =0V	-	-	1	μA
		T _J =85°C	-	-	30	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =250μA	1.3	1.6	2.3	V
I _{GSS}	Gate Leakage Current	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
R _{DS(ON)} ^e	Drain-Source On-state Resistance	V _{GS} =10V, I _{DS} =20A	-	1.8	2.2	mΩ
		T _J =125°C	-	2.2	-	
		V _{GS} =4.5V, I _{DS} =12A	-	2.3	3	
Gfs	Forward Transconductance	V _{DS} =5V, I _{DS} =15A	-	32	-	S
Diode Characteristics						
V _{SD} ^e	Diode Forward Voltage	I _{SD} =20A, V _{GS} =0V	-	0.8	1.1	V
t _{rr}	Reverse Recovery Time	I _{SD} =20A, dI _{SD} /dt=100A/ms	-	50	-	ns
t _a	Charge Time		-	23.5	-	
t _b	Discharge Time		-	27.5	-	
Q _{rr}	Reverse Recovery Charge		-	45	-	
Dynamic Characteristics						
R _G	Gate Resistance	V _{GS} =0V, V _{DS} =0V, F=1MHz	-	0.9	2	W
C _{iss}	Input Capacitance	V _{GS} =0V, V _{DS} =25V, Frequency=1.0MHz	-	2780	-	pF
C _{oss}	Output Capacitance		-	590	-	
C _{rss}	Reverse Transfer Capacitance		-	130	-	
t _{d(ON)}	Turn-on Delay Time	V _{DD} =15V, R _L =15W, I _{DS} =1A, V _{GEN} =10V, R _G =6W	-	15.5	-	ns
t _r	Turn-on Rise Time		-	11	-	
t _{d(OFF)}	Turn-off Delay Time		-	35	-	
t _f	Turn-off Fall Time		-	40	-	
Gate Charge Characteristics						
Q _g	Total Gate Charge	V _{DS} =15V, V _{GS} =10V, I _{DS} =20A	-	44.5	57.8	nC
Q _g	Total Gate Charge	V _{DS} =15V, V _{GS} =4.5V, I _{DS} =20A	-	21.2	-	
Q _{g(th)}	Threshold Gate Charge		-	2.9	-	
Q _{gs}	Gate-Source Charge		-	4.3	-	
Q _{gd}	Gate-Drain Charge		-	8.3	-	

Note e Pulse test ; pulse width£300ms, duty cycle£2%.

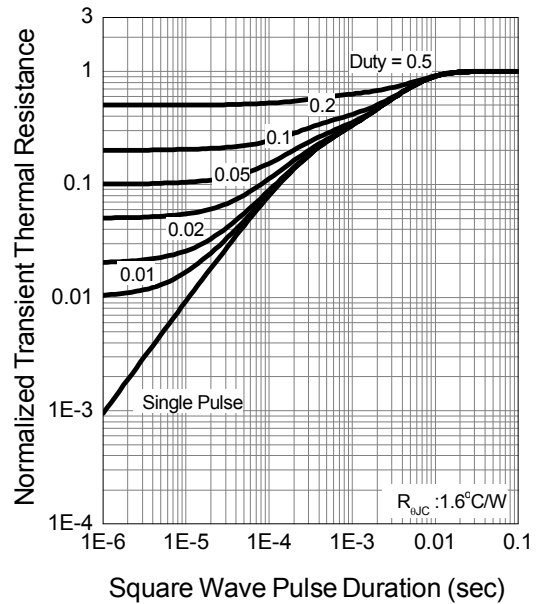
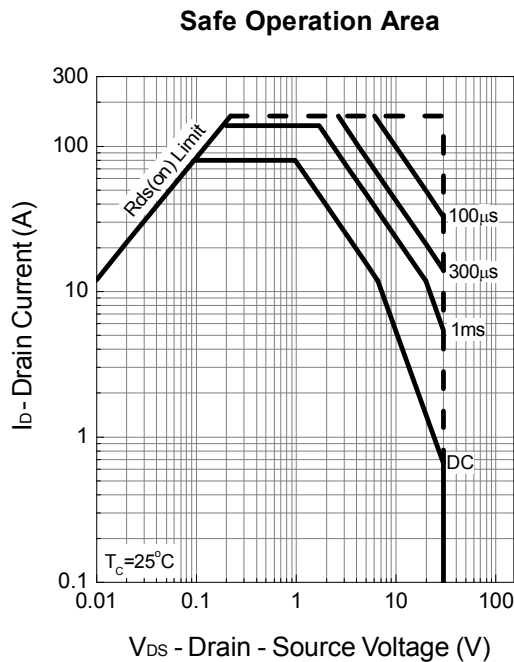
Typical Operating Characteristics

Power Dissipation

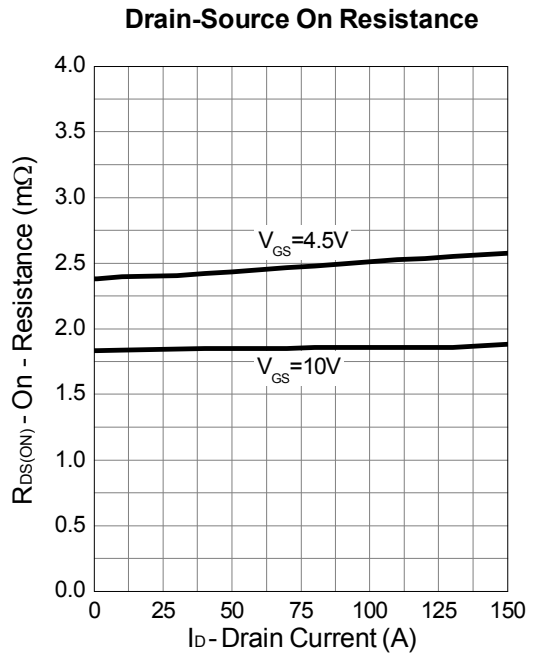
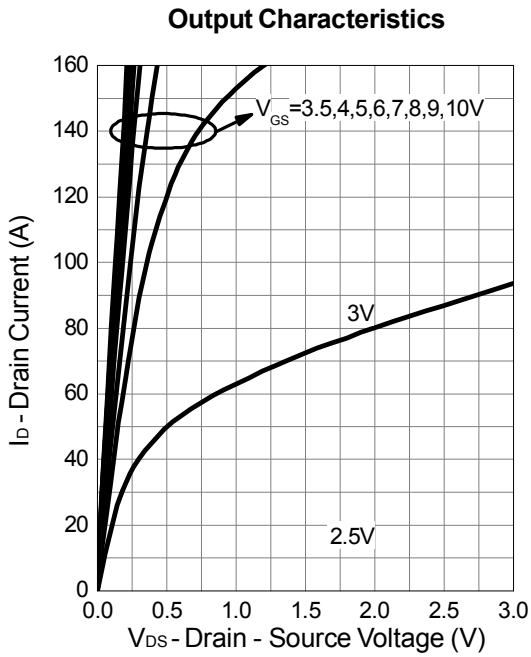
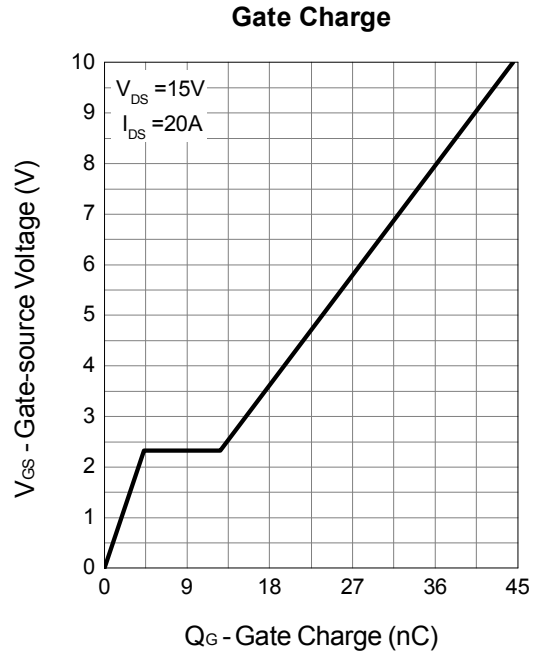
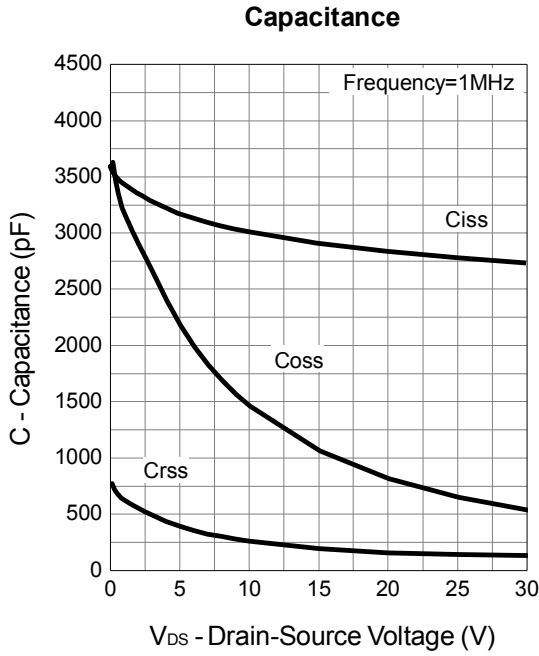


Drain Current

Thermal Transient Impedance

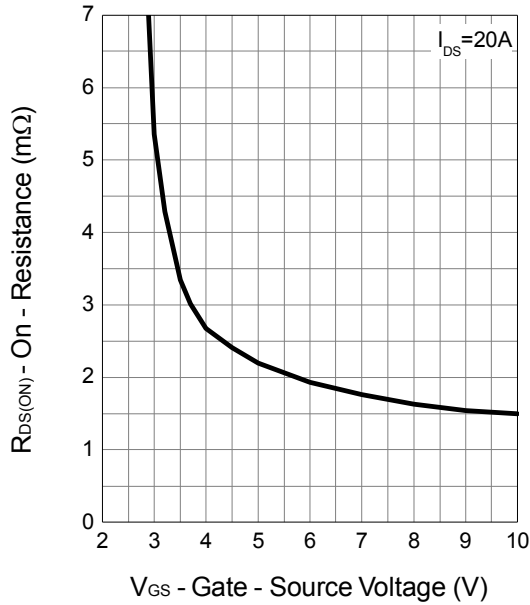


Typical Operating Characteristics (Cont.)

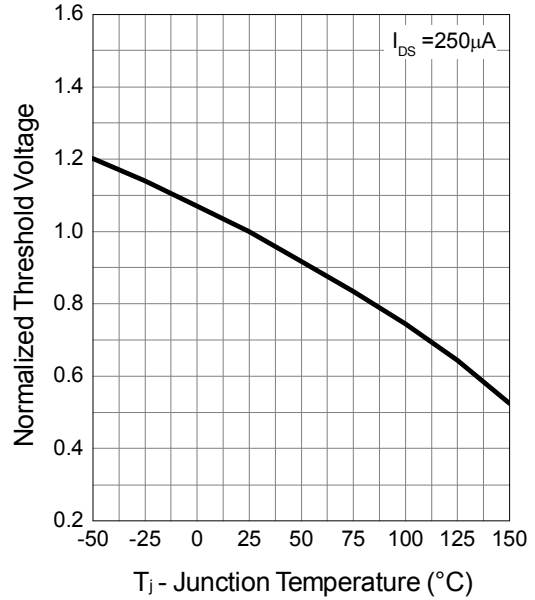


Typical Operating Characteristics (Cont.)

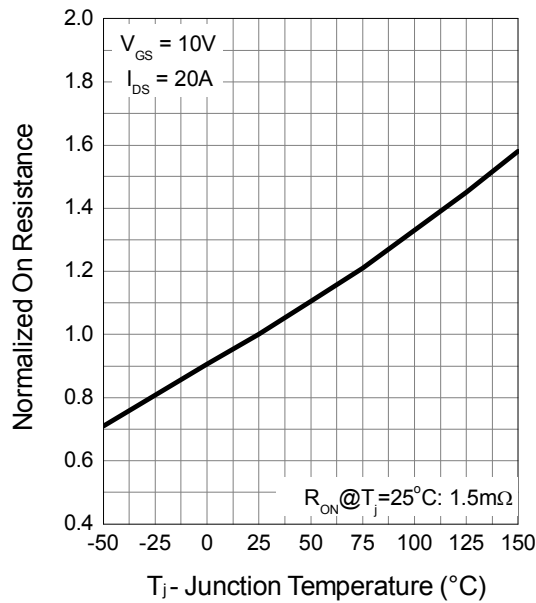
Gate-Source On Resistance



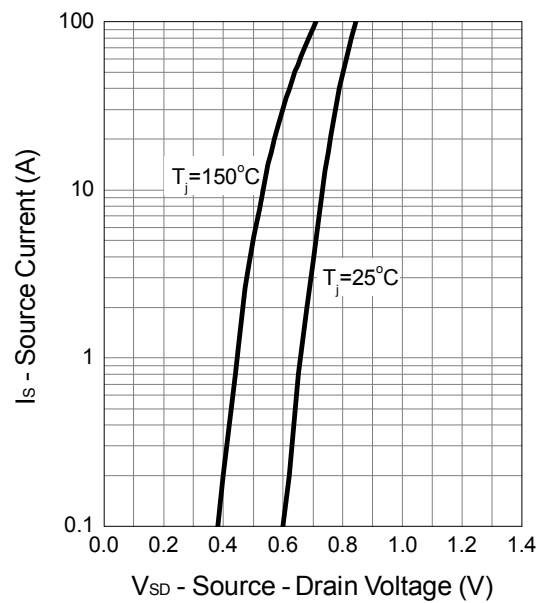
Gate Threshold Voltage



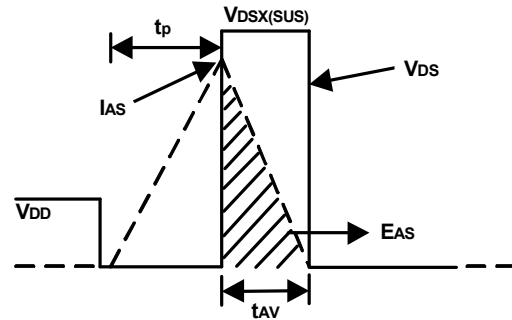
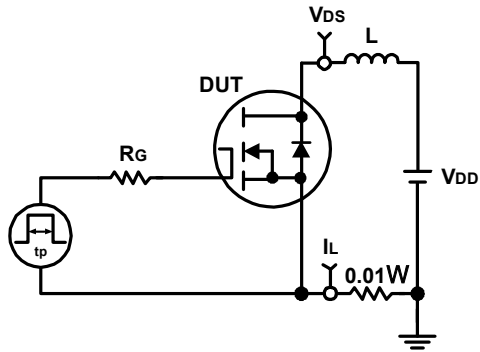
Drain-Source On Resistance



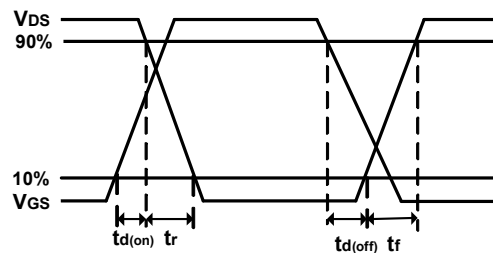
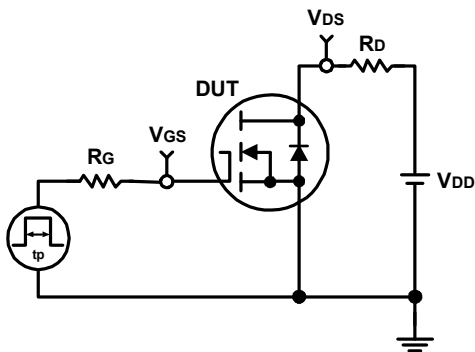
Source-Drain Diode Forward



Avalanche Test Circuit and Waveforms



Switching Time Test Circuit and Waveforms



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