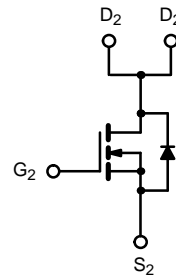
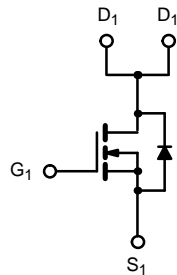
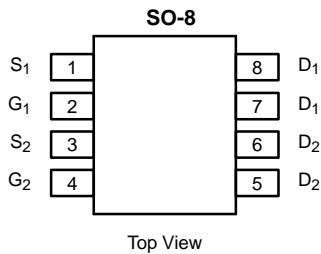




Dual N-Channel 30-V (D-S) MOSFET

PRODUCT SUMMARY			
	V _{DS} (V)	r _{DS(on)} (Ω)	I _D (A)
Channel-1	30	0.022 @ V _{GS} = 10 V	7.5
		0.030 @ V _{GS} = 4.5 V	6.5
Channel-2		0.0135 @ V _{GS} = 10 V	9.8
		0.0175 @ V _{GS} = 4.5 V	8.5



ABSOLUTE MAXIMUM RATINGS (T _A = 25°C UNLESS OTHERWISE NOTED)							
Parameter	Symbol	Channel-1		Channel-2		Unit	
		10 secs	Steady State	10 secs	Steady State		
Drain-Source Voltage	V _{DS}	30				V	
Gate-Source Voltage	V _{GS}	±20					
Continuous Drain Current (T _J = 150°C) ^a	I _D	T _A = 25°C	7.5	5.8	9.8	7.5	A
		T _A = 70°C	6	4.6	7.8	6	
Pulsed Drain Current	I _{DM}	30		40		A	
Continuous Source Current (Diode Conduction) ^a	I _S	1.8	1.06	1.8	1.06		
Maximum Power Dissipation ^a	P _D	T _A = 25°C	2	1.17	2	1.17	W
		T _A = 70°C	1.78	0.75	1.28	0.75	
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 150				°C	

THERMAL RESISTANCE RATINGS							
Parameter	Symbol	Channel-1		Channel-2		Unit	
		Typ	Max	Typ	Max		
Maximum Junction-to-Ambient ^a	R _{thJA}	t ≤ 10 sec	55	62.5	53	62.5	°C/W
		Steady-State	89	107	89	107	
Maximum Junction-to-Foot (Drain)	R _{thJC}	36	45	34	42		

Notes

a. Surface Mounted on 1" x 1" FR4 Board.



MOSFET SPECIFICATIONS (T _J = 25°C UNLESS OTHERWISE NOTED).							
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit	
Static							
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	Ch-1	0.8		V	
			Ch-2	1.0			
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = 20 V	Ch-1		100	nA	
			Ch-2		100		
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 24 V, V _{GS} = 0 V	Ch-1		1	μA	
			Ch-2		1		
		V _{DS} = 24 V, V _{GS} = 0 V, T _J = 85°C	Ch-1		15		
			Ch-2		15		
On-State Drain Current ^a	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 10 V	Ch-1	20		A	
			Ch-2	30			
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = 10 V, I _D = 7.5 A	Ch-1		0.018	0.022	Ω
		V _{GS} = 10 V, I _D = 9.8 A	Ch-2		0.011	0.0135	
		V _{GS} = 4.5 V, I _D = 6.5 A	Ch-1		0.024	0.030	
		V _{GS} = 4.5 V, I _D = 8.5 A	Ch-2		0.0145	0.0175	
Forward Transconductance ^a	g _{fs}	V _{DS} = 15 V, I _D = 7.5 A	Ch-1		17	S	
		V _{DS} = 15 V, I _D = 9.8 A	Ch-2		30		
Diode Forward Voltage ^a	V _{SD}	I _S = 1.8 A, V _{GS} = 0 V	Ch-1		0.72	1.1	V
		I _S = 1.8 A, V _{GS} = 0 V	Ch-2		0.72	1.1	
Dynamic^b							
Total Gate Charge	Q _g	Channel-1 V _{DS} = 15 V, V _{GS} = 5 V, I _D = 7.5 A Channel-2 V _{DS} = 15 V, V _{GS} = 5 V, I _D = -9.8 A	Ch-1		8.0	12	nC
			Ch-2		23	34	
Gate-Source Charge	Q _{gs}		Ch-1		1.75		
			Ch-2		8.6		
Gate-Drain Charge	Q _{gd}		Ch-1		3.2		
			Ch-2		7.2		
Turn-On Delay Time	t _{d(on)}	Channel-1 V _{DD} = 15 V, R _L = 15 Ω I _D ≅ 1 A, V _{GEN} = 10 V, R _G = 6 Ω	Ch-1		10	20	ns
		Ch-2		17	30		
Rise Time	t _r	Channel-2 V _{DD} = 15 V, R _L = 15 Ω I _D ≅ 1 A, V _{GEN} = 10 V, R _G = 6 Ω	Ch-1		5	10	
		Ch-2		10	20		
Turn-Off Delay Time	t _{d(off)}	Channel-1	Ch-1		26	50	
		Channel-2	Ch-2		60	100	
Fall Time	t _f	Channel-1	Ch-1		10	16	
		Channel-2	Ch-2		17	30	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 1.8 A, di/dt = 100 A/μs	Ch-1		30	60	
		I _F = 1.8 A, di/dt = 100 μA/μs	Ch-2		40	70	

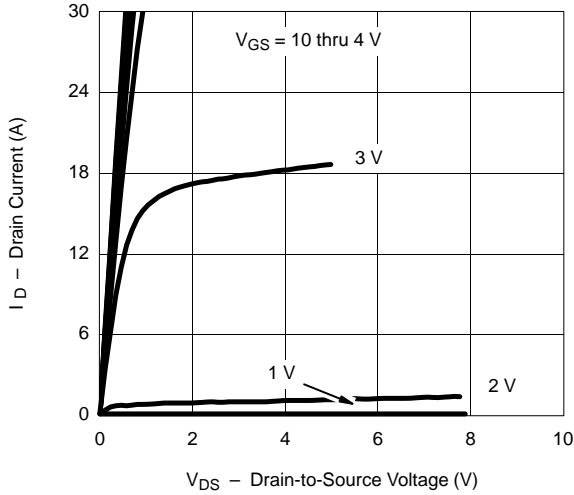
Notes

- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
b. Guaranteed by design, not subject to production testing.

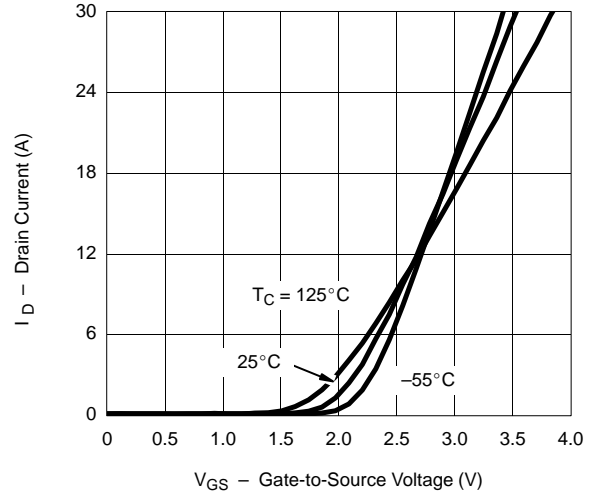


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) CHANNEL-1

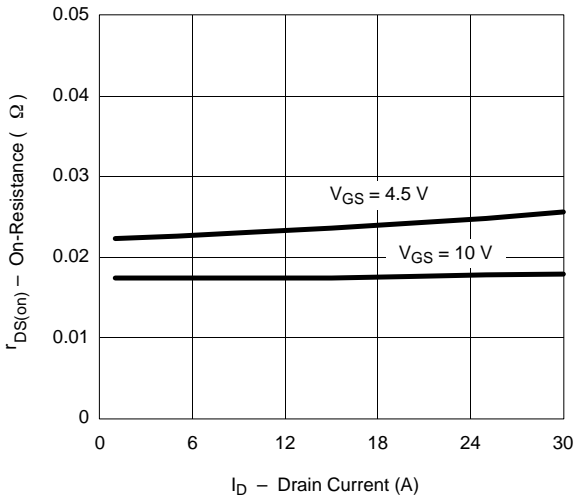
Output Characteristics



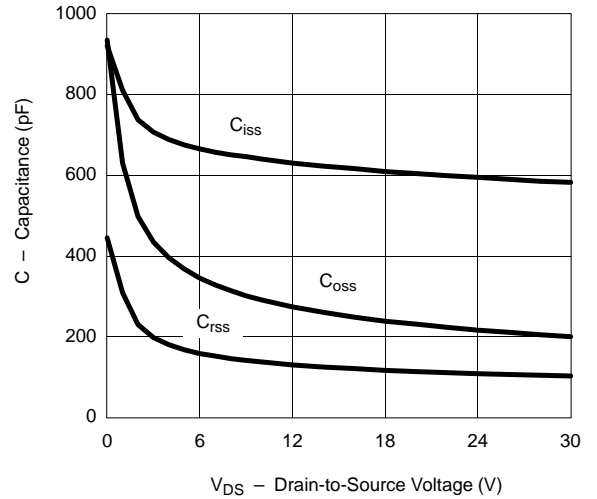
Transfer Characteristics



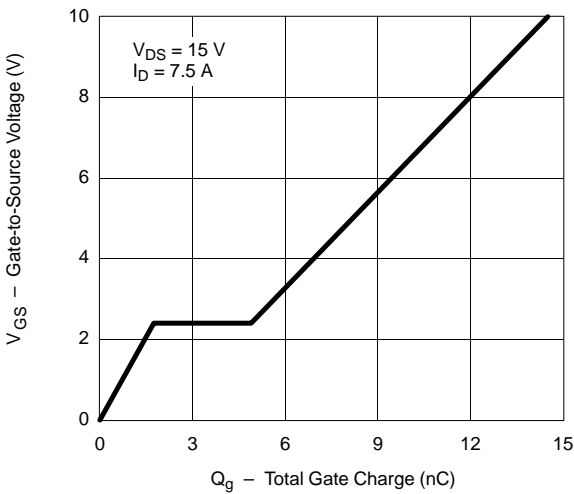
On-Resistance vs. Drain Current



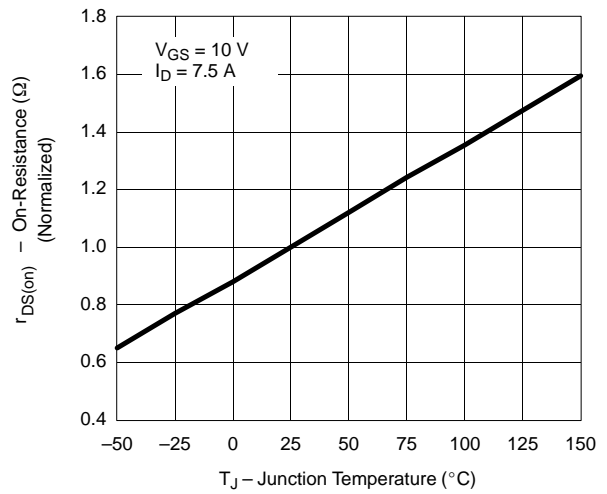
Capacitance



Gate Charge

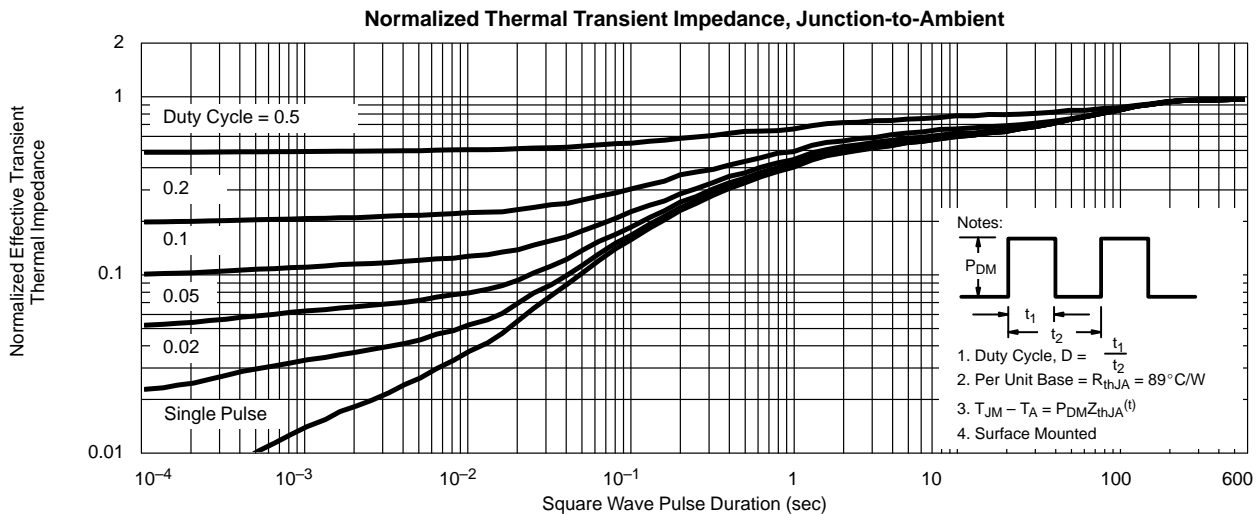
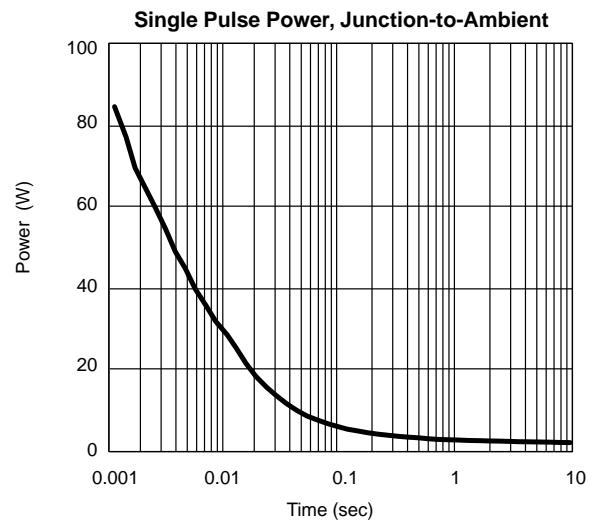
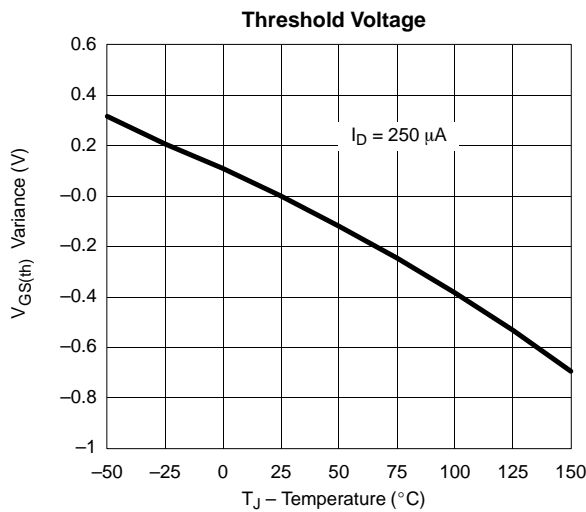
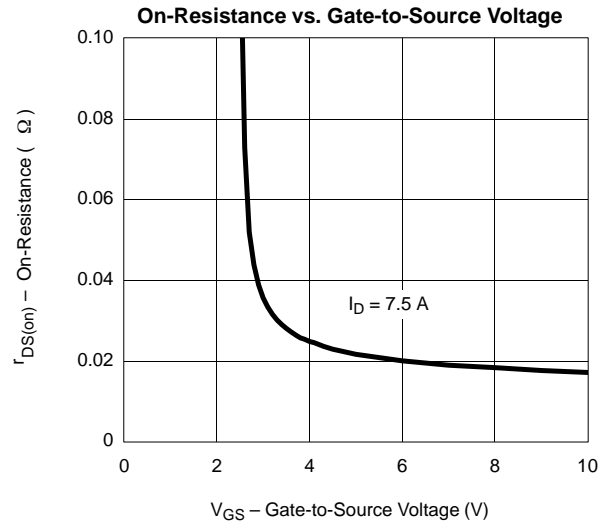
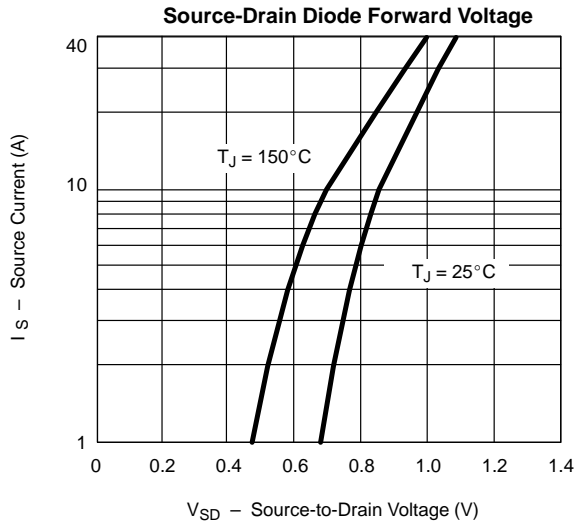


On-Resistance vs. Junction Temperature



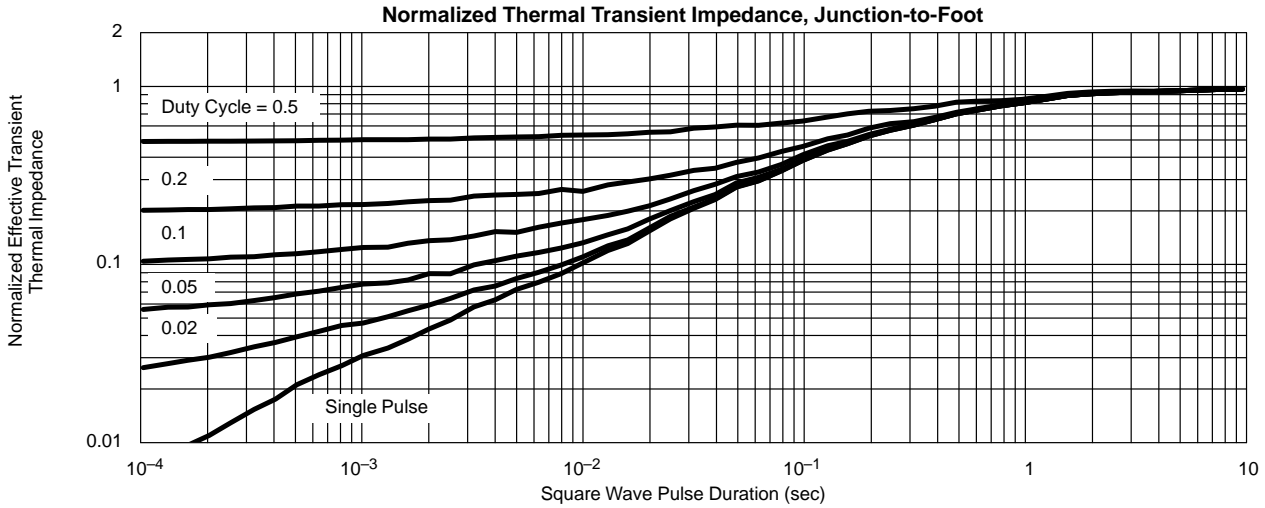


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) CHANNEL-1

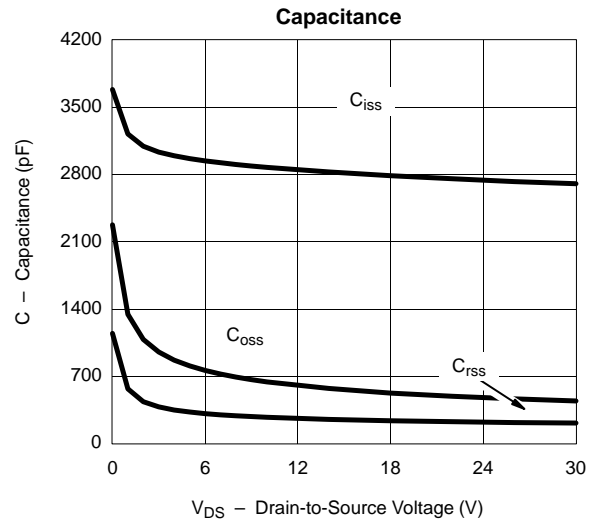
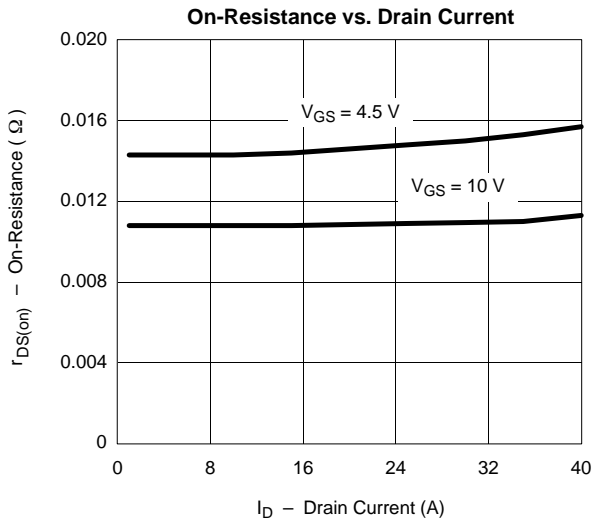
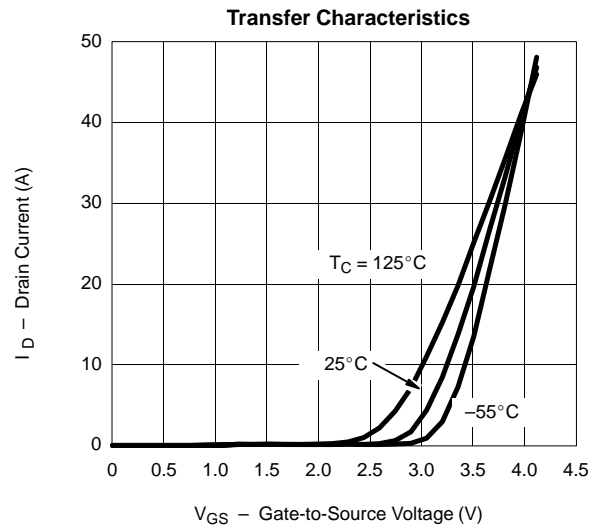
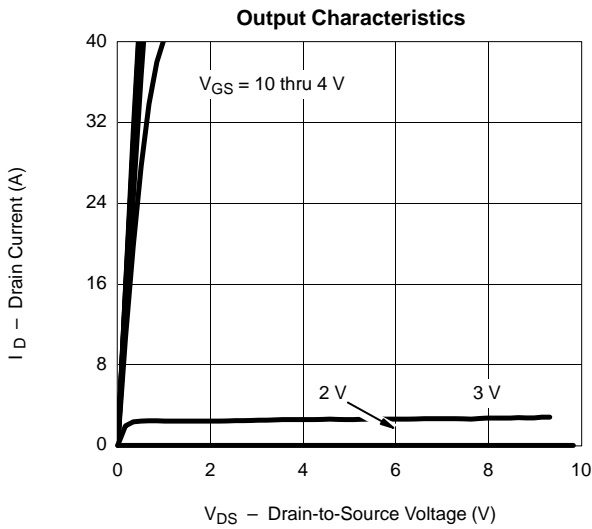




TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) CHANNEL-1



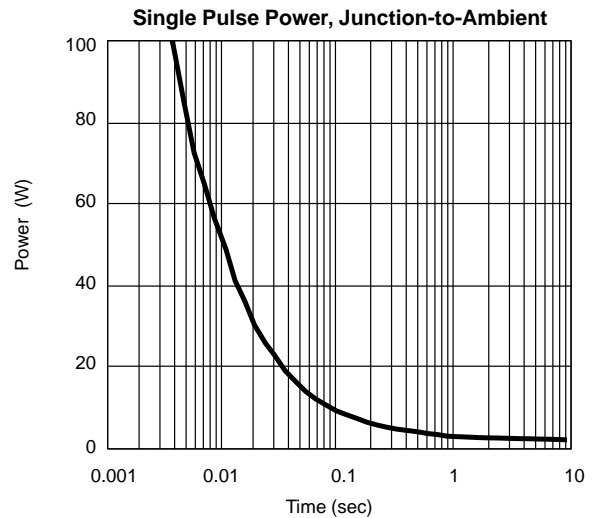
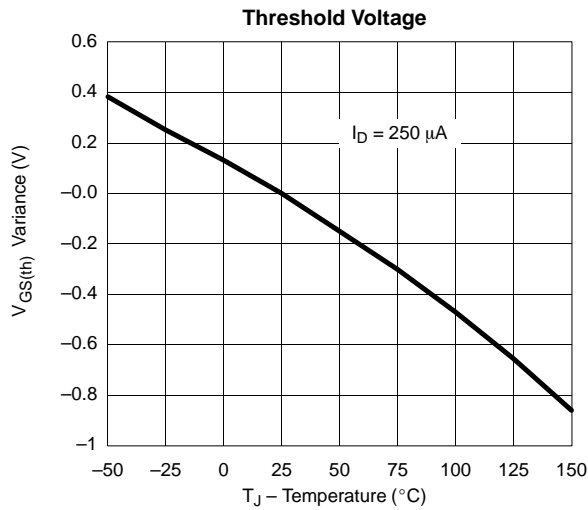
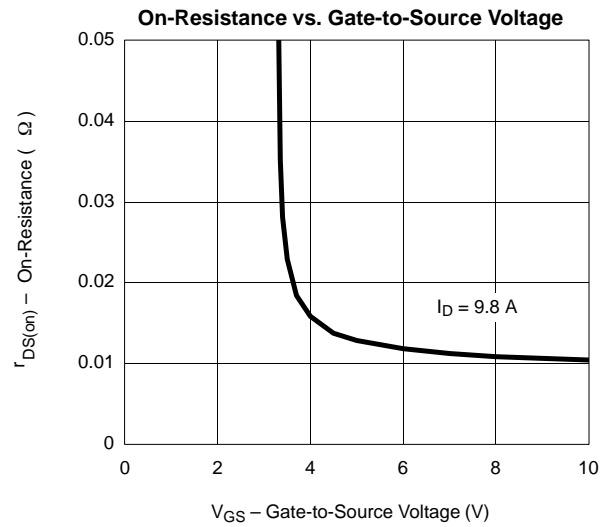
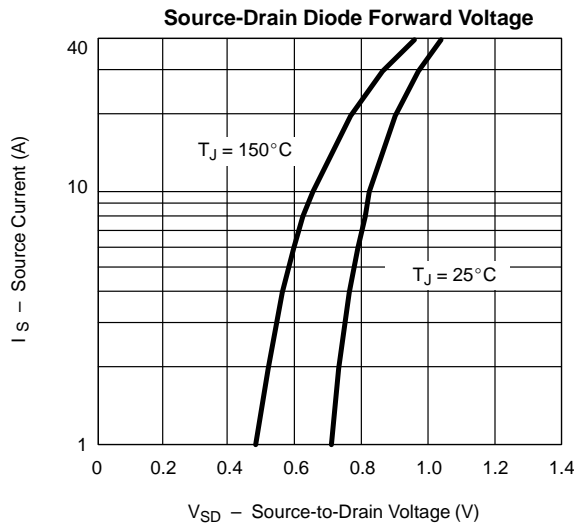
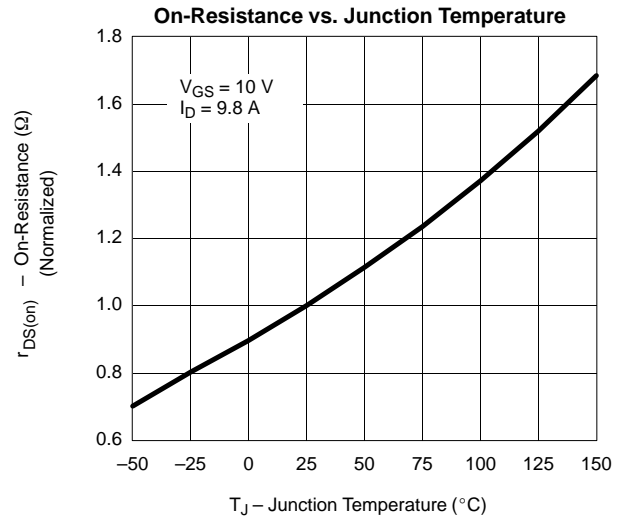
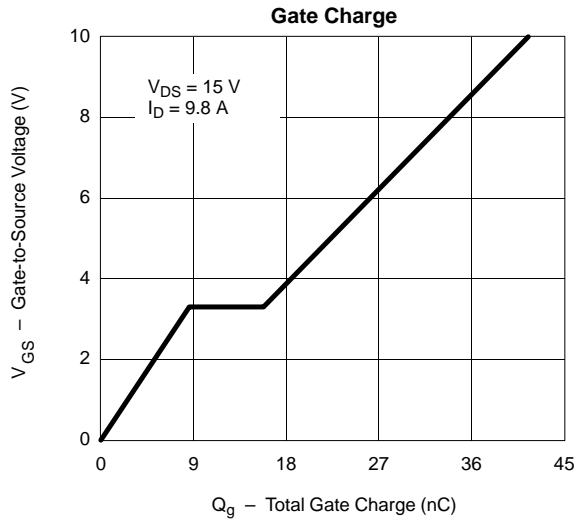
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) CHANNEL-2





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

CHANNEL-2





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) CHANNEL-2

