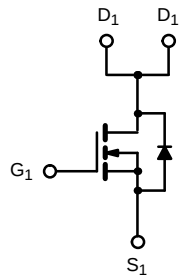
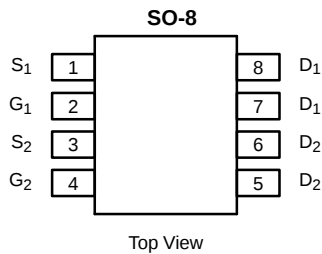
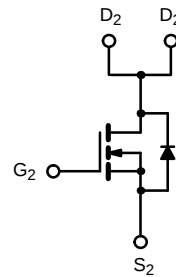




Dual N-Channel 30-V (D-S) MOSFET

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

N-Channel 1
MOSFETN-Channel 2
MOSFETABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ 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	T _A = 25 °C	I _D	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		
Continuous Source Current (Diode Conduction) ^a		I _S	1.8	1.06	1.8	1.06	
Maximum Power Dissipation ^a	T _A = 25 °C	P _D	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	$t \leq 10$ sec	R_{thJA}	55	62.5	53	62.5	$^\circ\text{C/W}$
	Steady-State		89	107	89	107	
Maximum Junction-to-Foot (Drain)	Steady-State	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 Ch-2	0.8 1.0			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = 20 V	Ch-1 Ch-2			100 100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 24 V, V _{GS} = 0 V V _{DS} = 24 V, V _{GS} = 0 V, T _J = 85 °C	Ch-1 Ch-2 Ch-1 Ch-2			1 1 15 15	μA
On-State Drain Current ^a	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 10 V	Ch-1 Ch-2	20 30			A
Drain-Source On-State Resistance ^a	r _{DS(on)}	V _{GS} = 10 V, I _D = 7.5 A V _{GS} = 10 V, I _D = 9.8 A V _{GS} = 4.5 V, I _D = 6.5 A V _{GS} = 4.5 V, I _D = 8.5 A	Ch-1 Ch-2 Ch-1 Ch-2		0.018 0.011 0.024 0.0145	0.022 0.0135 0.030 0.0175	Ω
Forward Transconductance ^a	g _{fs}	V _{DS} = 15 V, I _D = 7.5 A V _{DS} = 15 V, I _D = 9.8 A	Ch-1 Ch-2		17 30		S
Diode Forward Voltage ^a	V _{SD}	I _S = 1.8 A, V _{GS} = 0 V I _S = 1.8 A, V _{GS} = 0 V	Ch-1 Ch-2		0.72 0.72	1.1 1.1	V
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 Ch-2		8.0 23	12 34	nC
Gate-Source Charge	Q _{gs}		Ch-1 Ch-2		1.75 8.6		
Gate-Drain Charge	Q _{gd}		Ch-1 Ch-2		3.2 7.2		
Turn-On Delay Time	t _{d(on)}		Ch-1 Ch-2		10 17	20 30	
Rise Time	t _r	Ch-1 Ch-2		5 10	10 20		
Turn-Off Delay Time	t _{d(off)}	Ch-1 Ch-2		26 60	50 100		
Fall Time	t _f	Ch-1 Ch-2		10 17	16 30		
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 1.8 A, di/dt = 100 A/μs I _F = 1.8 A, di/dt = 100 μA/μs	Ch-1 Ch-2		30 40	60 70	

Notes

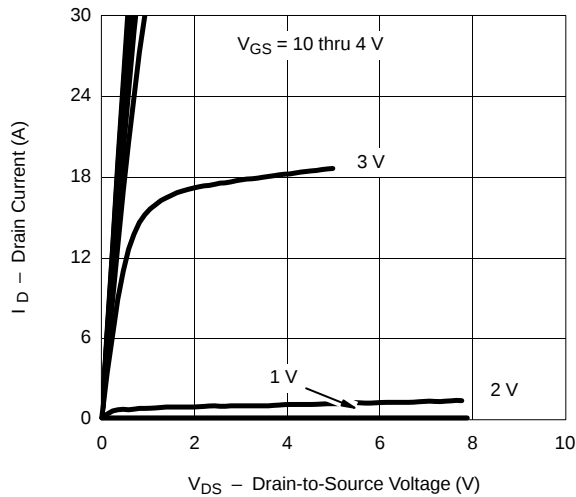
- a. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.
- b. Guaranteed by design, not subject to production testing.



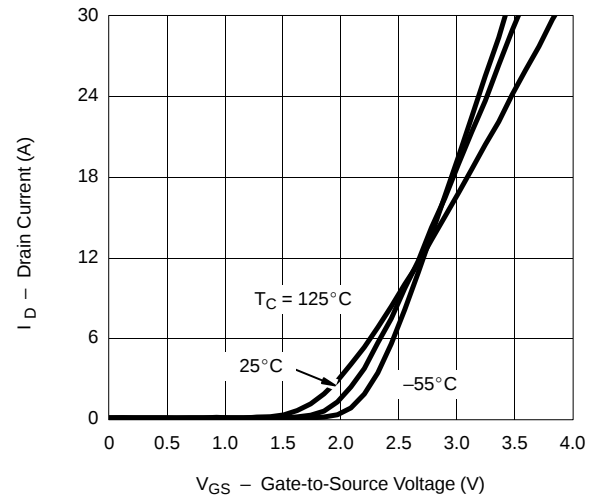
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

CHANNEL-1

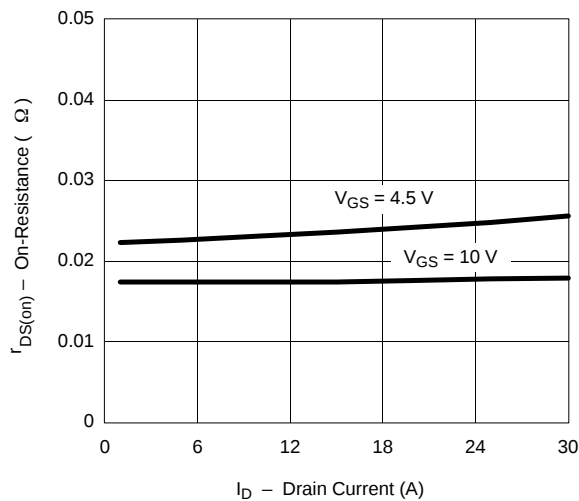
Output Characteristics



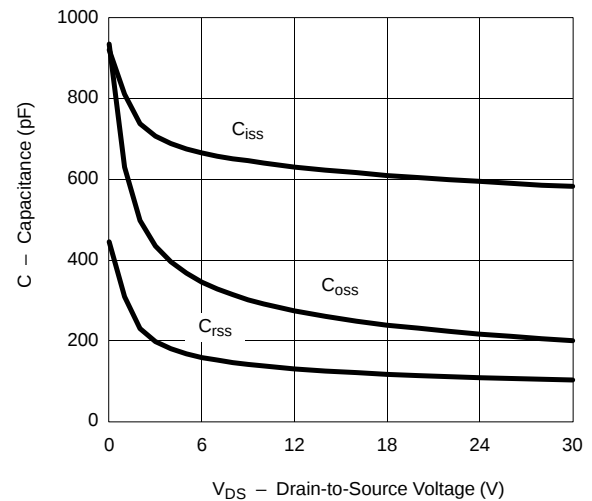
Transfer Characteristics



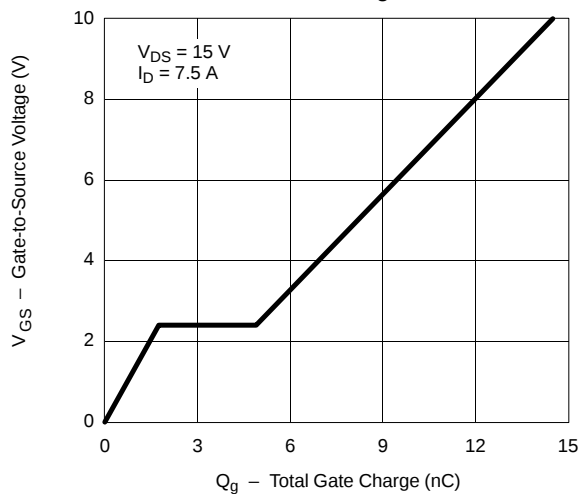
On-Resistance vs. Drain Current



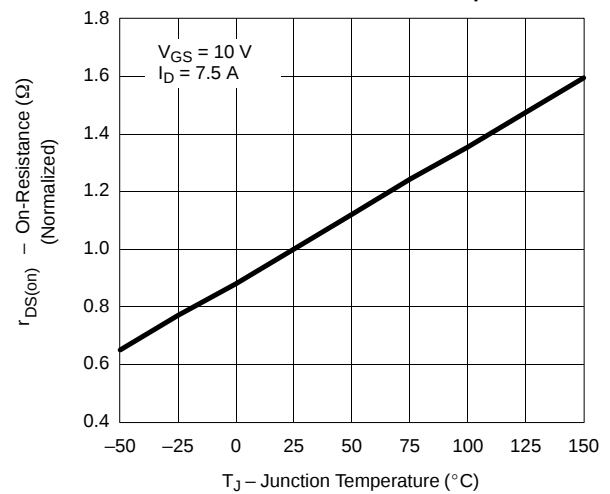
Capacitance



Gate Charge

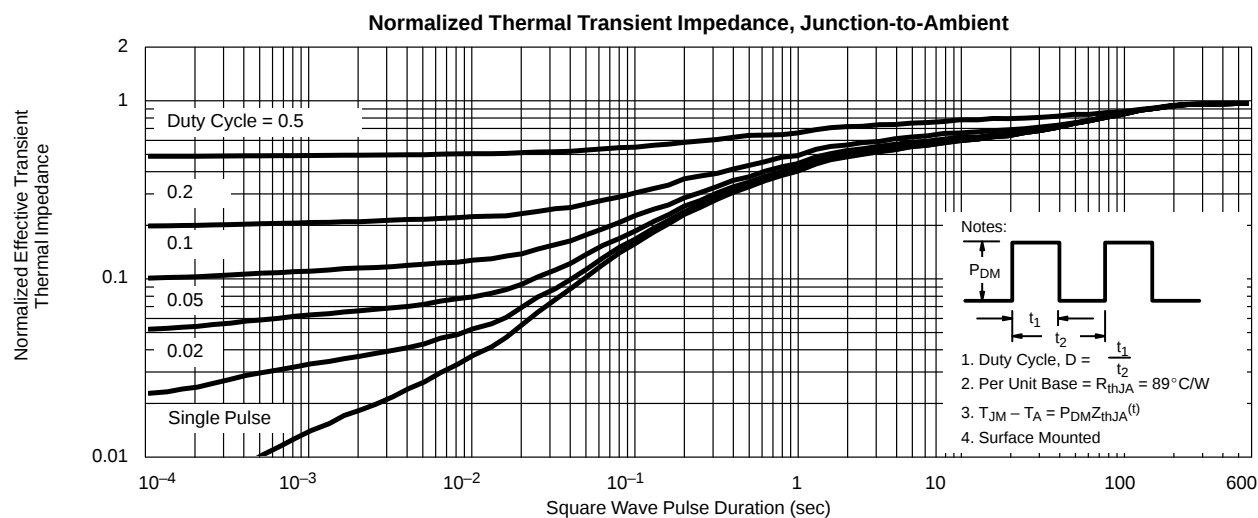
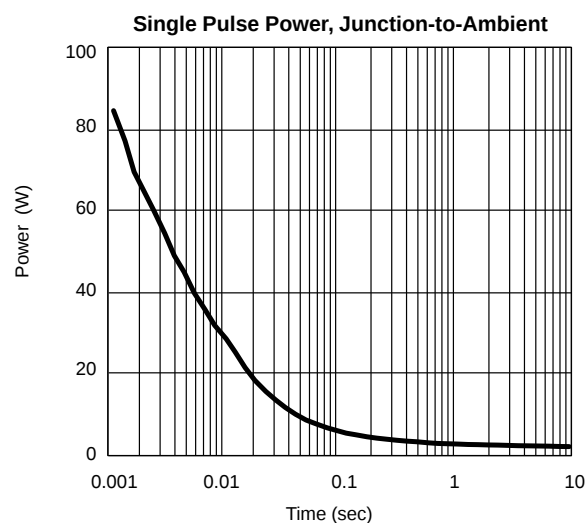
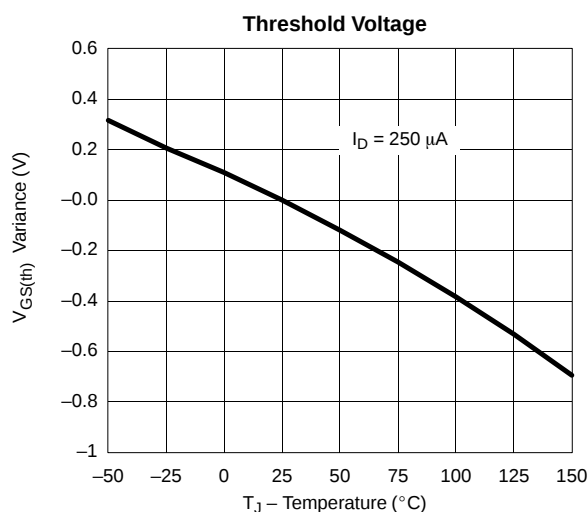
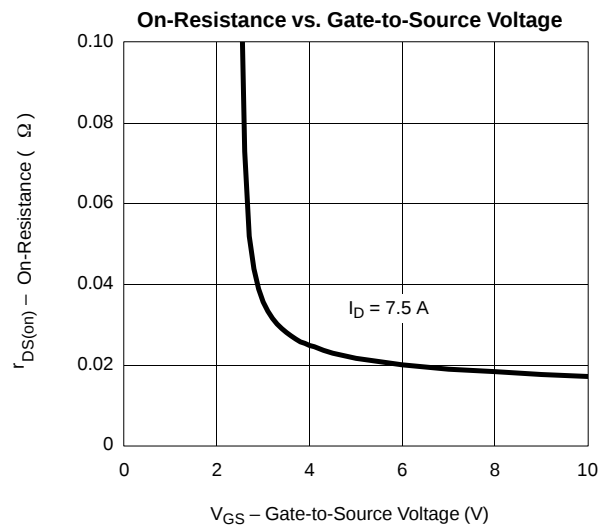
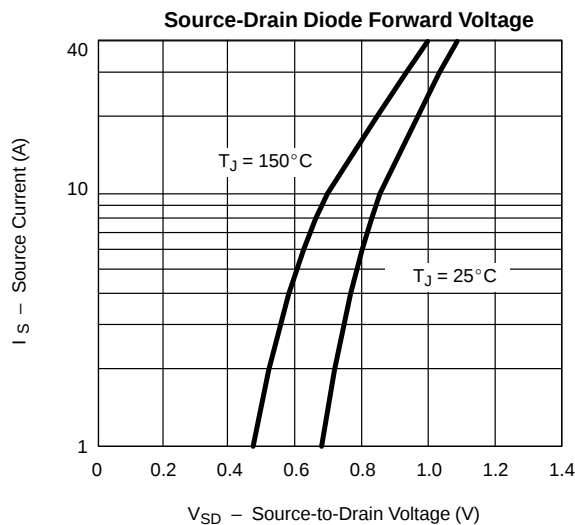


On-Resistance vs. Junction Temperature



TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

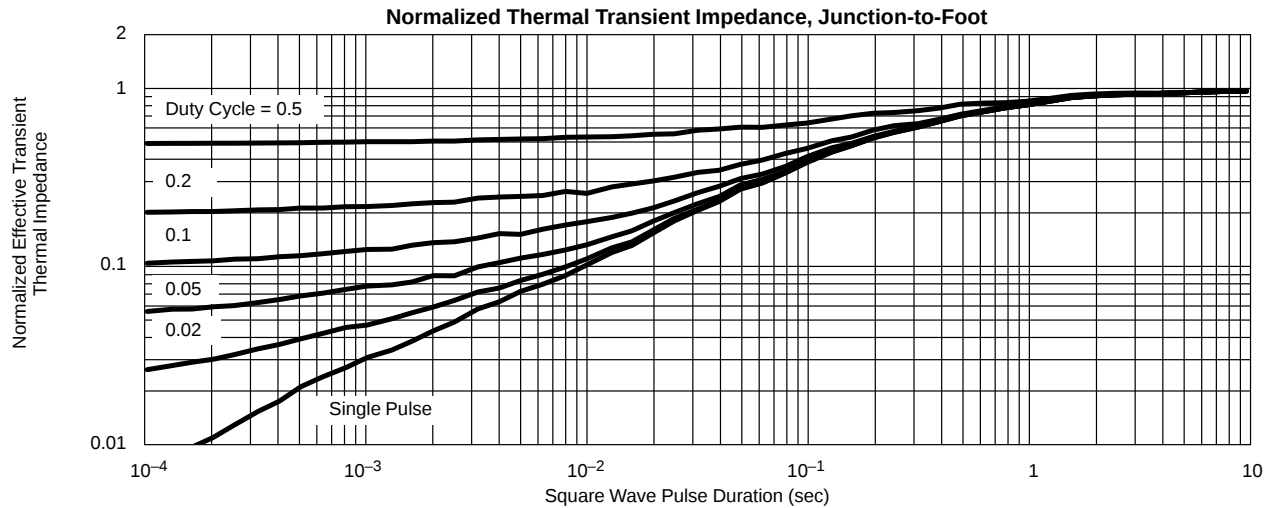
CHANNEL-1





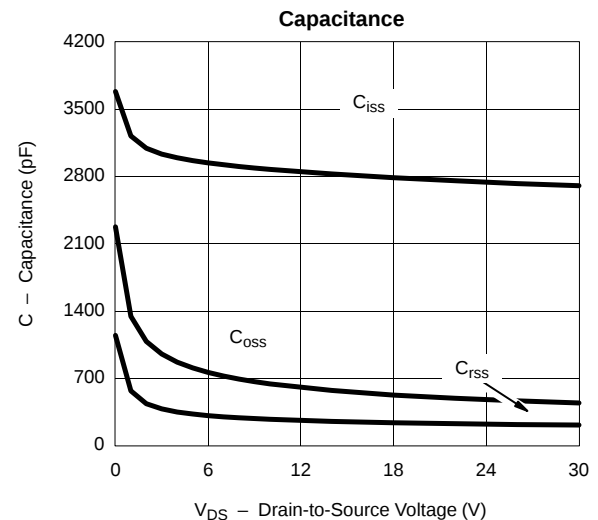
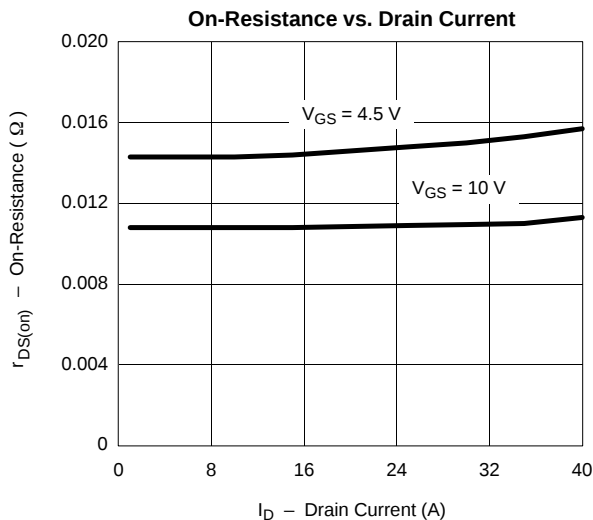
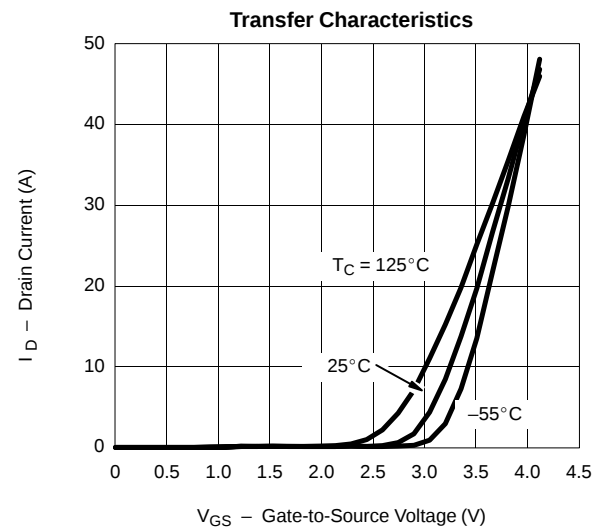
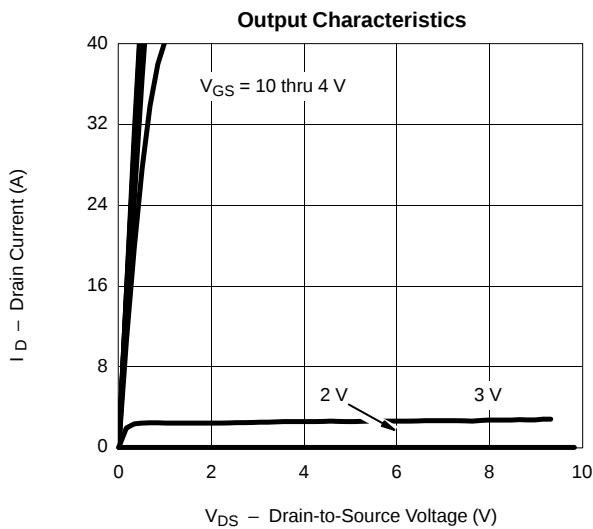
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

CHANNEL-1



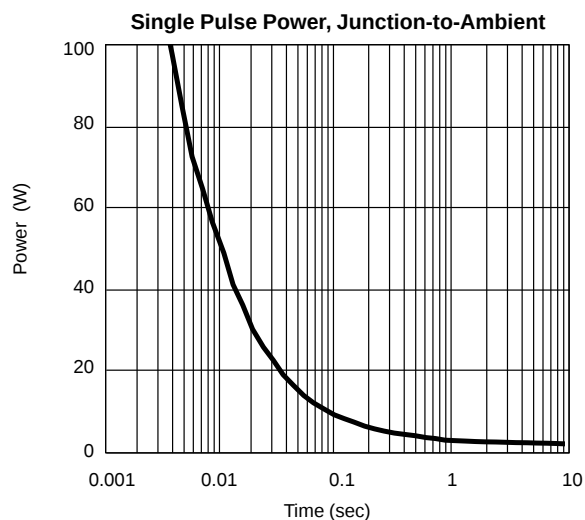
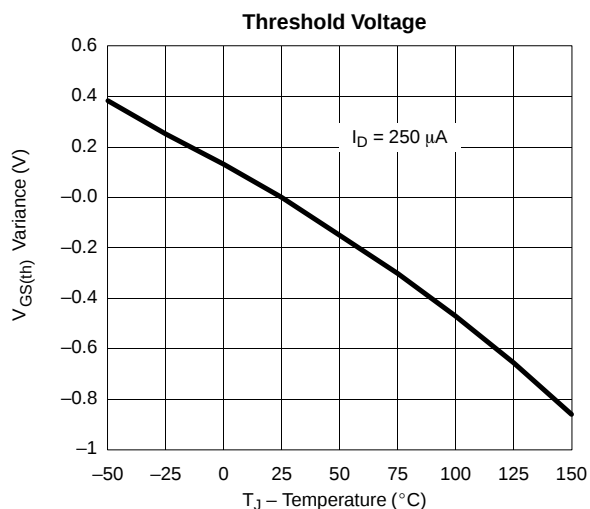
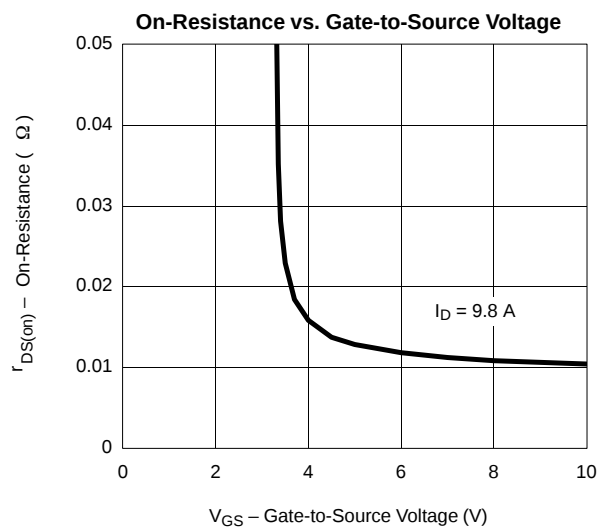
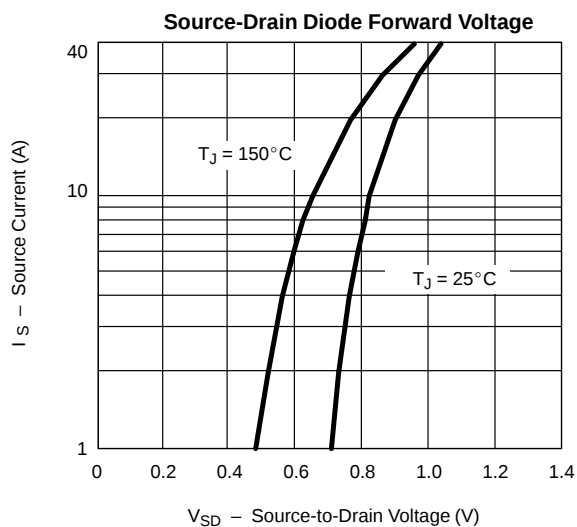
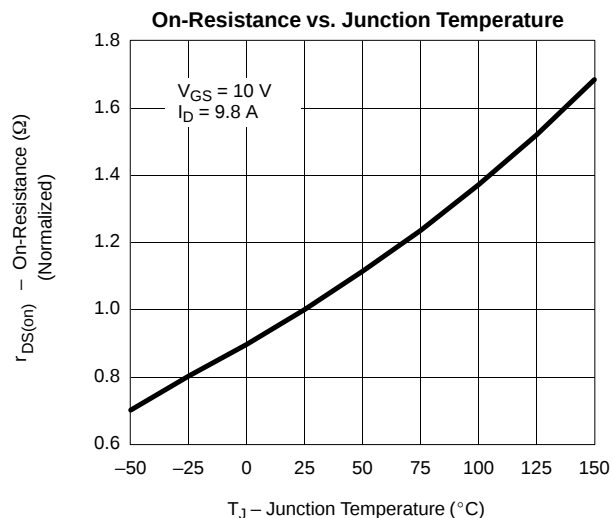
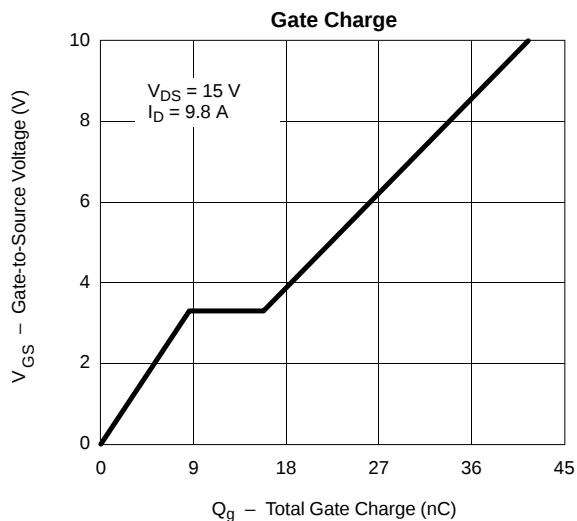
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

CHANNEL-2



TYPICAL CHARACTERISTICS (25 °C UNLESS NOTED)

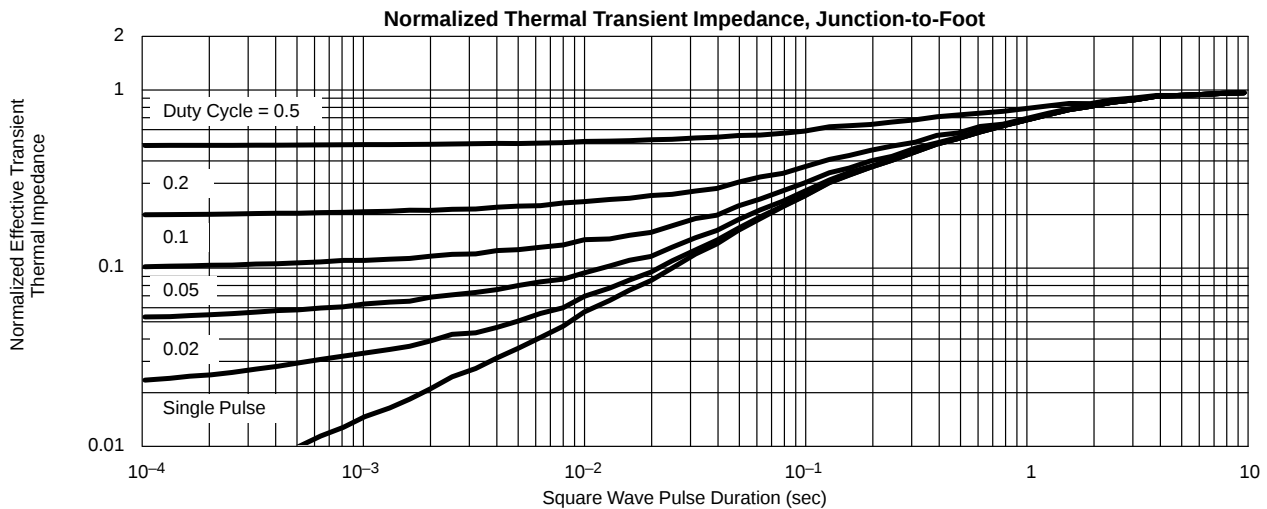
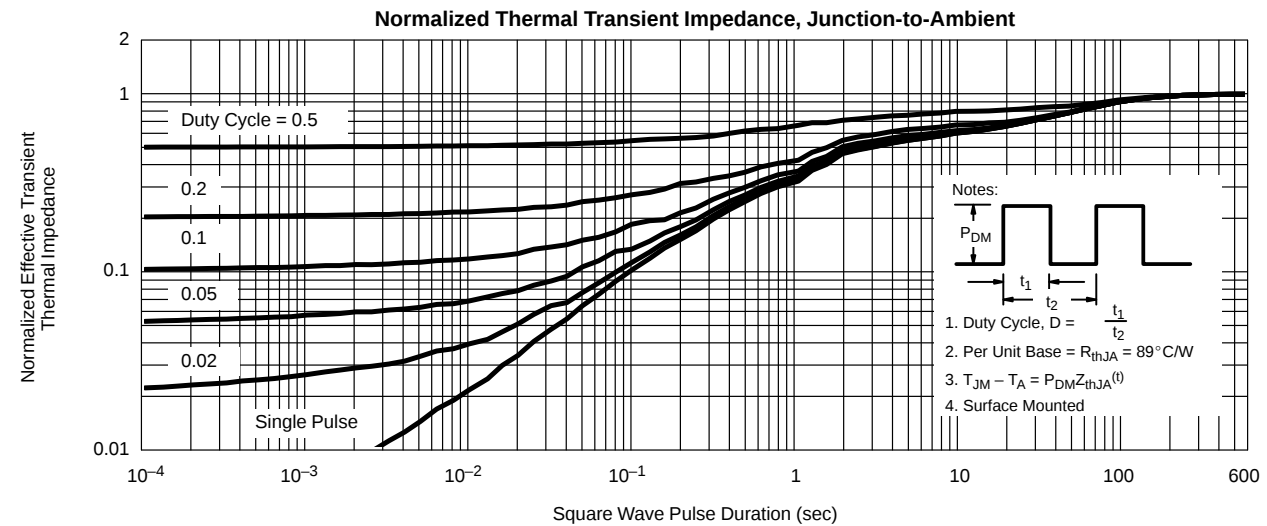
CHANNEL-2





TYPICAL CHARACTERISTICS (25°C UNLESS NOTED)

CHANNEL-2





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