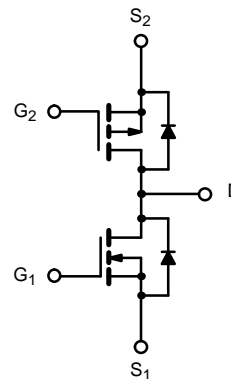
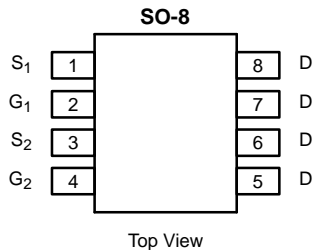


N- and P-Channel 30-V (D-S) MOSFET

PRODUCT SUMMARY			
	V _{DS} (V)	r _{DS(on)} (Ω)	I _D (A)
N-Channel	30	0.040 @ V _{GS} = 10 V	± 6
		0.060 @ V _{GS} = 4.5 V	± 4.8
P-Channel	-30	0.040 @ V _{GS} = -10 V	± 6
		0.070 @ V _{GS} = -4.5 V	± 4.4



ABSOLUTE MAXIMUM RATINGS (T _A = 25 °C UNLESS OTHERWISE NOTED)				
Parameter	Symbol	N-Channel	P-Channel	Unit
Drain-Source Voltage	V _{DS}	30	-30	V
Gate-Source Voltage	V _{GS}	± 20	± 20	
Continuous Drain Current (T _J = 150 °C) ^a	I _D	T _A = 25 °C	± 6	A
		T _A = 70 °C	± 4.7	
Pulsed Drain Current	I _{DM}	± 30	± 30	A
Continuous Source Current (Diode Conduction) ^a	I _S	2	-2	
Maximum Power Dissipation ^a	P _D	T _A = 25 °C	2.4	W
		T _A = 70 °C	1.5	
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 150		°C

THERMAL RESISTANCE RATINGS			
Parameter	Symbol	N- or P- Channel	Unit
Maximum Junction-to-Ambient ^a	R _{thJA}	52	°C/W

Notes

a. Surface Mounted on FR4 Board, t ≤ 10 sec.



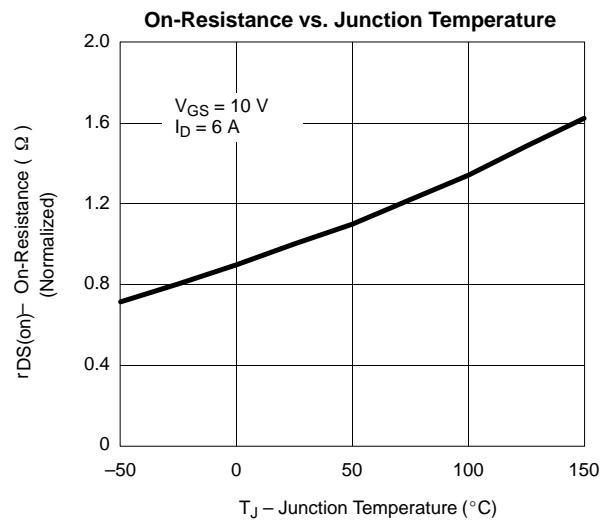
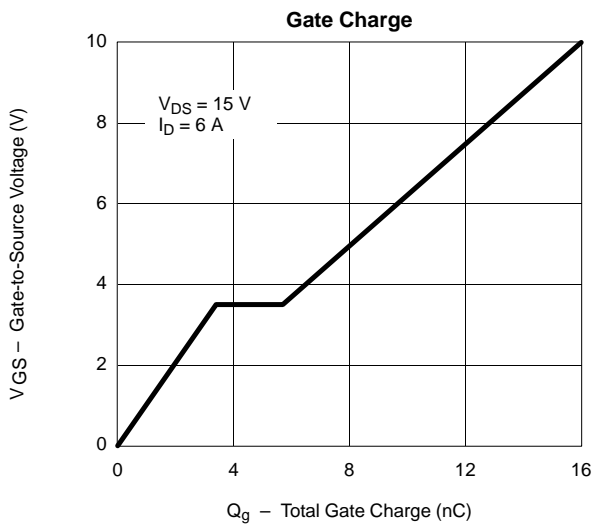
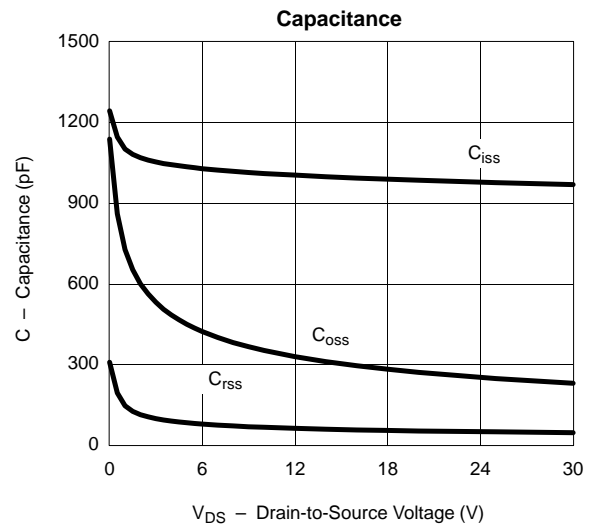
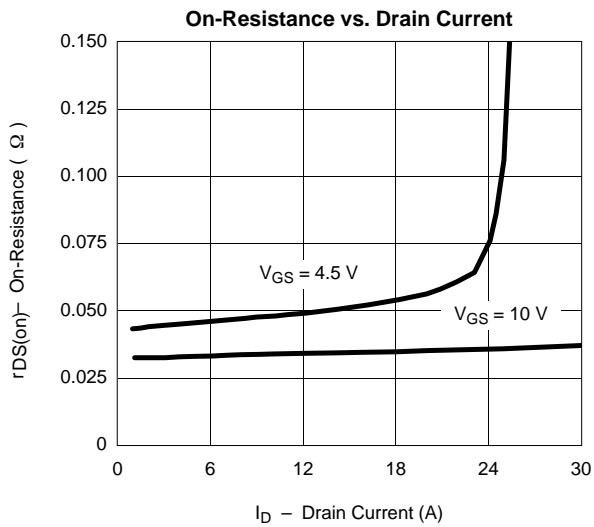
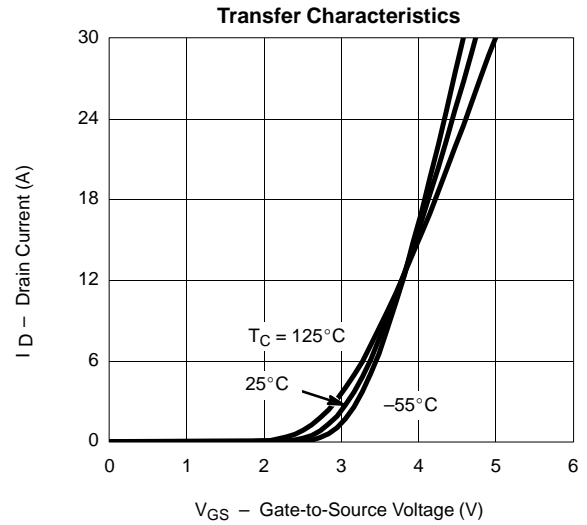
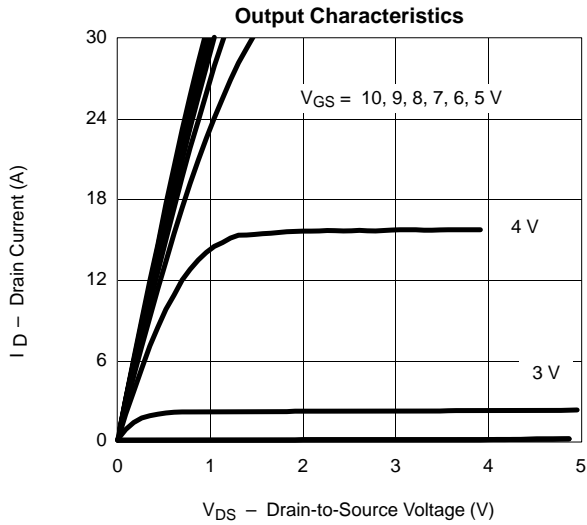
SPECIFICATIONS (T_J = 25 °C UNLESS OTHERWISE NOTED)							
Parameter	Symbol	Test Condition		Min	Typ ^a	Max	Unit
Static							
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	N-Ch	1.0			V
		V _{DS} = V _{GS} , I _D = -250 μA	P-Ch	-1.0			
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = ±20 V				±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 30 V, V _{GS} = 0 V	N-Ch			1	μA
		V _{DS} = -30 V, V _{GS} = 0 V	P-Ch			-1	
		V _{DS} = 24 V, V _{GS} = 0 V, T _J = 70 °C	N-Ch			5	
		V _{DS} = -24 V, V _{GS} = 0 V, T _J = 70 °C	P-Ch			-5	
On-State Drain Current ^b	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 10 V	N-Ch	30			A
		V _{DS} = -5 V, V _{GS} = -10 V	P-Ch	-30			
		V _{DS} = 5 V, V _{GS} = 4.5 V	N-Ch	8.0			
		V _{DS} = -5 V, V _{GS} = -4.5 V	P-Ch	-8.0			
Drain-Source On-State Resistance ^b	r _{DS(on)}	V _{GS} = 10 V, I _D = 6 A	N-Ch		0.032	0.040	Ω
		V _{GS} = -10 V, I _D = -6 A	P-Ch		0.032	0.040	
		V _{GS} = 4.5 V, I _D = 4.8 A	N-Ch		0.045	0.060	
		V _{GS} = -4.5 V, I _D = -4.4 A	P-Ch		0.056	0.070	
Forward Transconductance ^b	g _{fs}	V _{DS} = 15 V, I _D = 6 A	N-Ch		13		S
		V _{DS} = -15 V, I _D = -6 A	P-Ch		10.6		
Diode Forward Voltage ^b	V _{SD}	I _S = 2 A, V _{GS} = 0 V	N-Ch		0.77	1.2	V
		I _S = -2 A, V _{GS} = 0 V	P-Ch		0.77	-1.2	
Dynamic^a							
Total Gate Charge	Q _g	N-Channel V _{DS} = 15 V, V _{GS} = 10 V, I _D = 6 A P-Channel V _{DS} = -15 V, V _{GS} = -10 V I _D = -6 A	N-Ch		16	30	nC
Gate-Source Charge	Q _{gs}		P-Ch		22	35	
Gate-Drain Charge	Q _{gd}		N-Ch		3.4		
Turn-On Delay Time	t _{d(on)}	N-Channel V _{DD} = 15 V, R _L = 15 Ω I _D ≅ 1 A, V _{GEN} = 10 V, R _G = 6 Ω P-Channel V _{DD} = -15 V, R _L = 15 Ω I _D ≅ -1 A, V _{GEN} = -10 V, R _G = 6 Ω	N-Ch		12	25	ns
			P-Ch		12	25	
Rise Time	t _r		N-Ch		12	25	
			P-Ch		12	25	
Turn-Off Delay Time	t _{d(off)}		N-Ch		27	55	
			P-Ch		38	55	
Fall Time	t _f		N-Ch		24	50	
			P-Ch		25	50	
Source-Drain Reverse Recovery Time	t _{rr}	I _F = 2 A, di/dt = 100 A/μs	N-Ch		45	80	
		I _F = -2 A, di/dt = 100 A/μs	P-Ch		50	80	

Notes

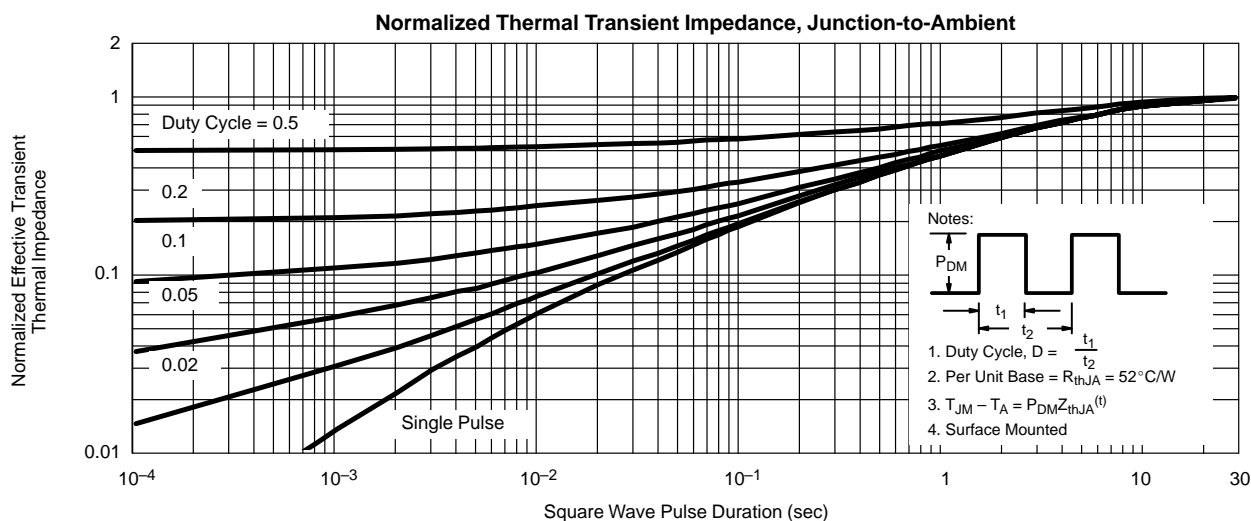
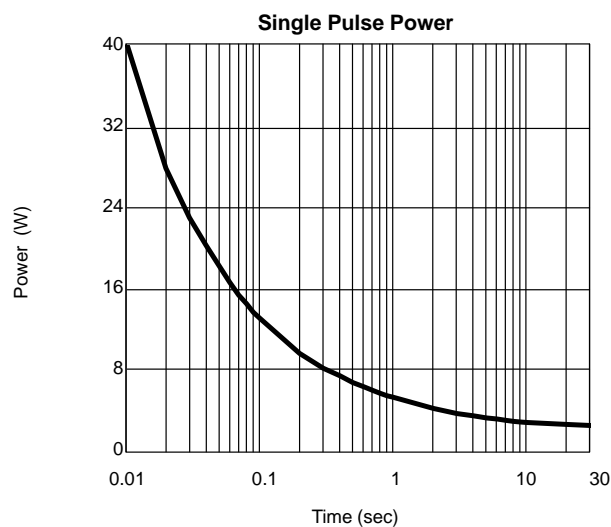
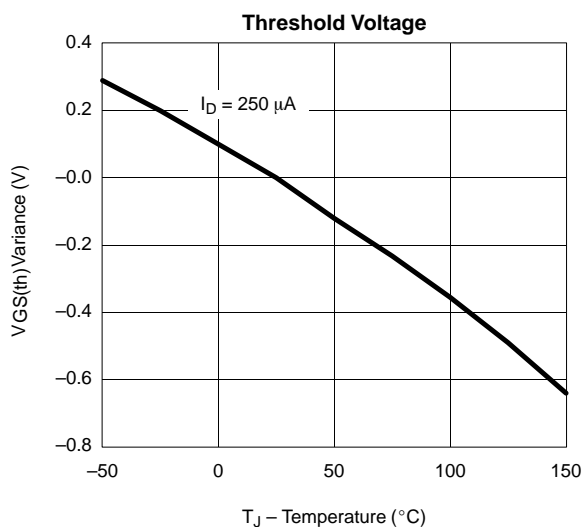
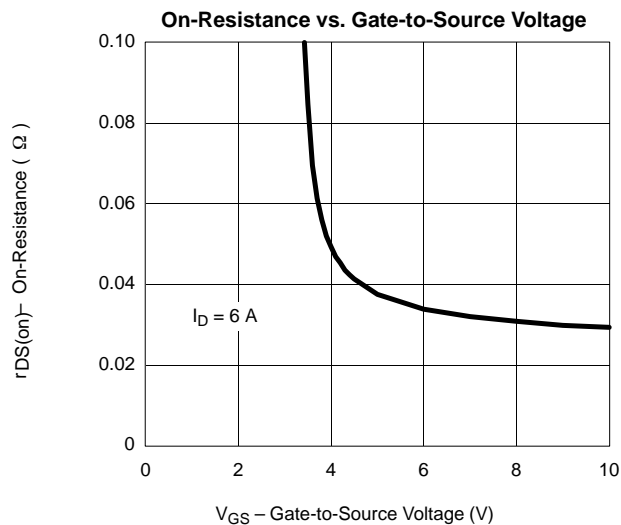
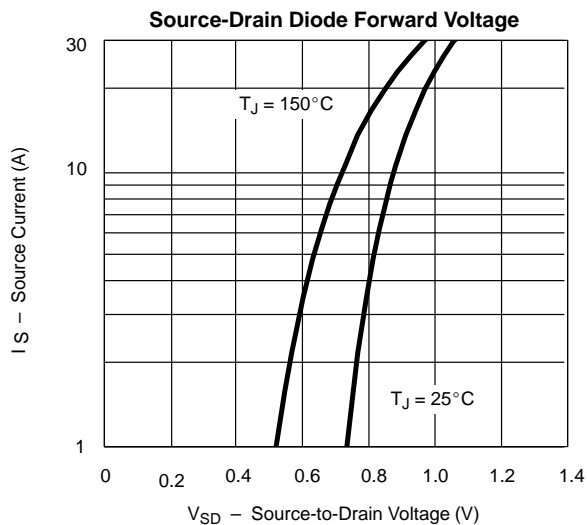
- a. Guaranteed by design, not subject to production testing.
- b. Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2%.



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



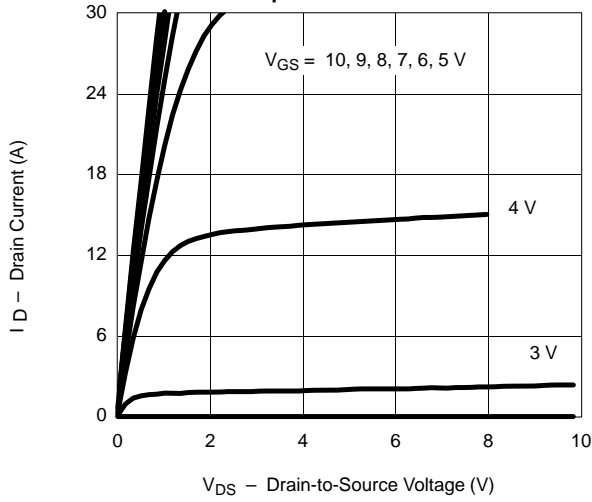
TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) N-CHANNEL



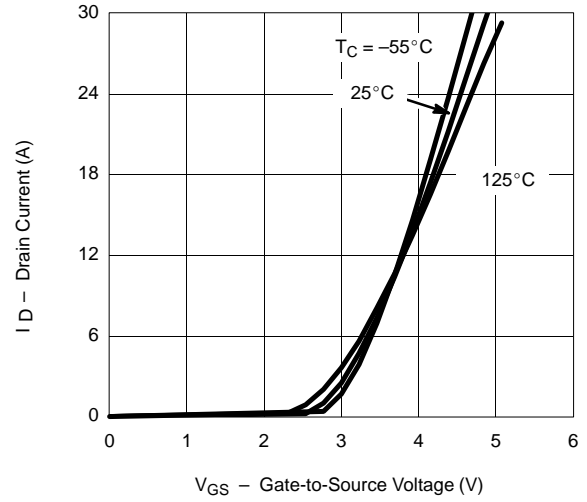


TYPICAL CHARACTERISTICS (25°C UNLESS NOTED) P-CHANNEL

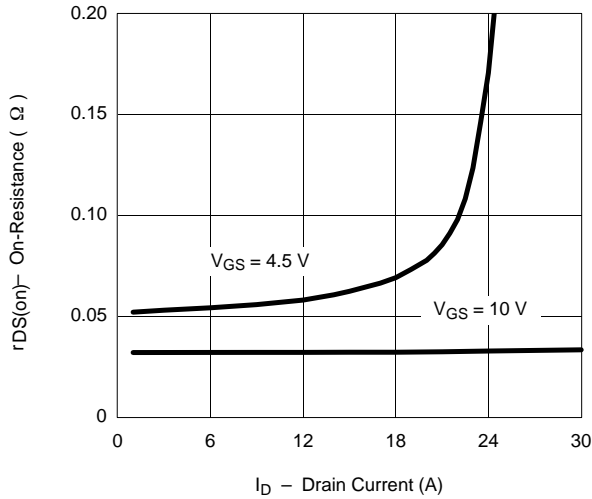
Output Characteristics



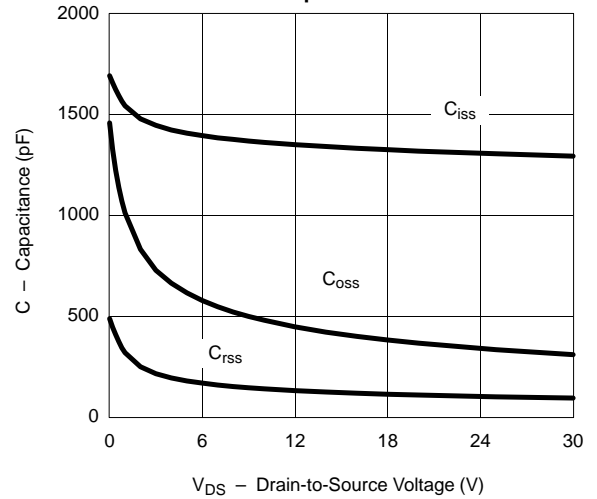
Transfer Characteristics



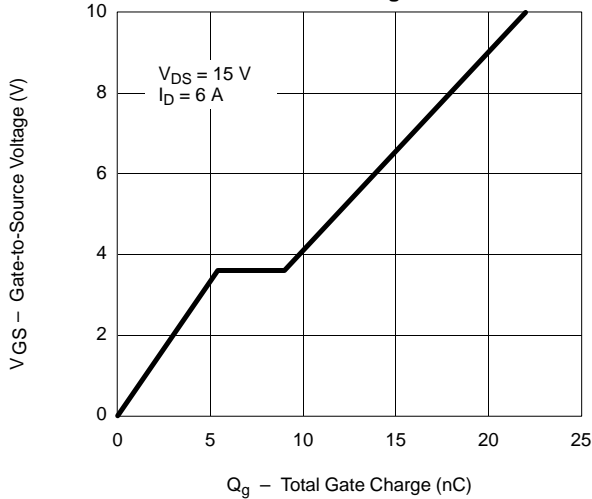
On-Resistance vs. Drain Current



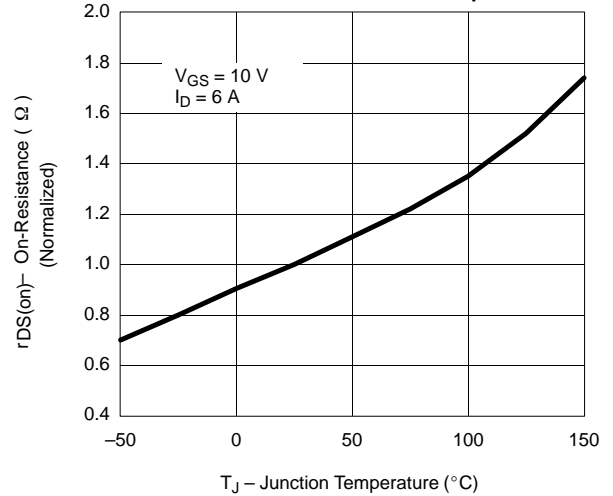
Capacitance



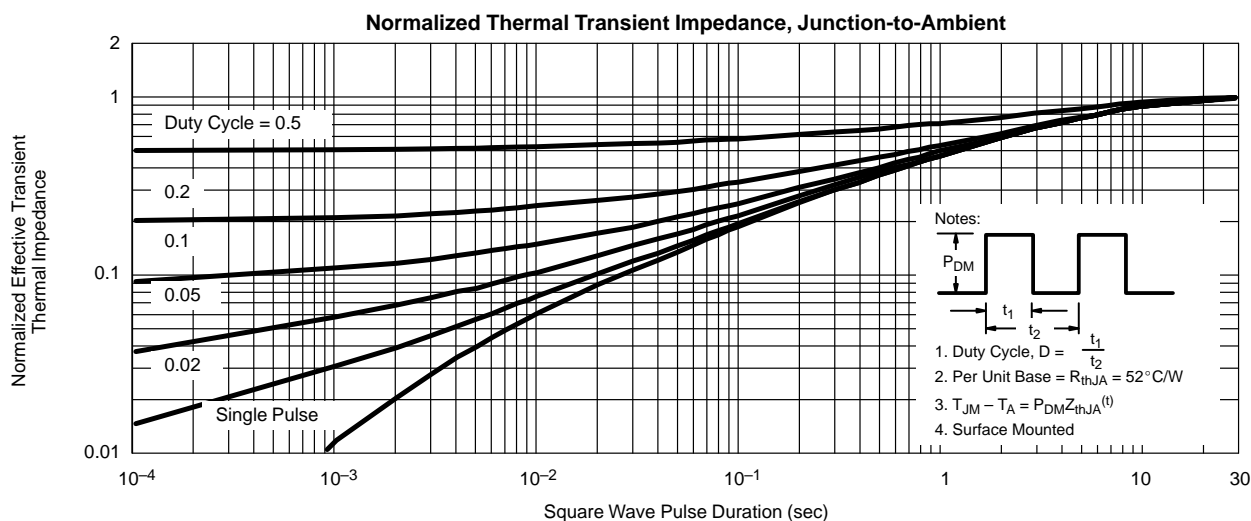
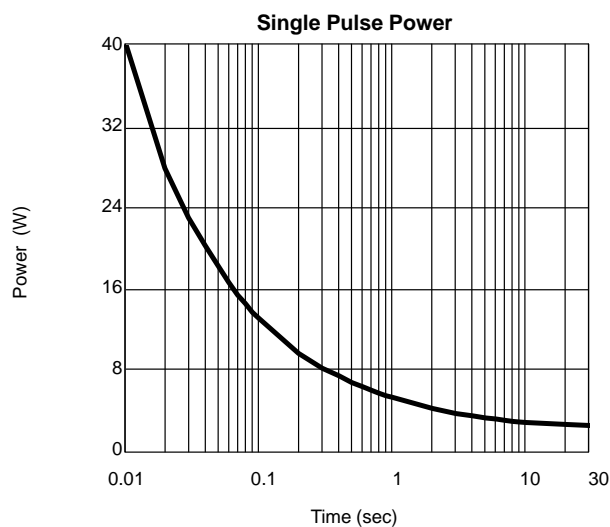
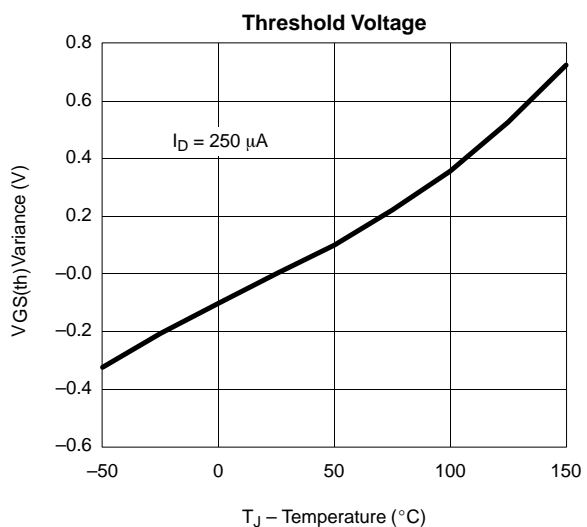
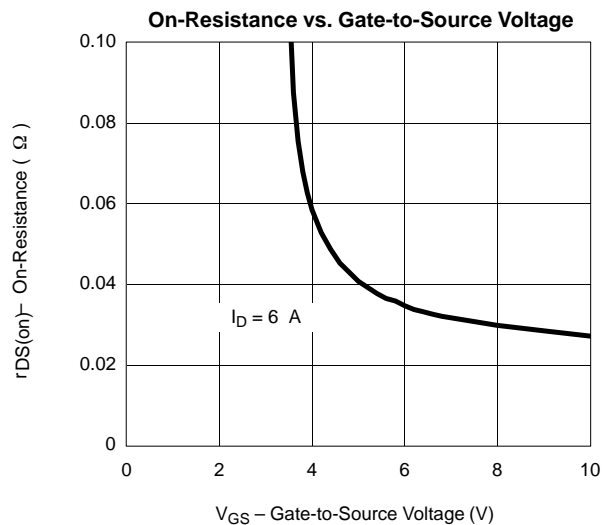
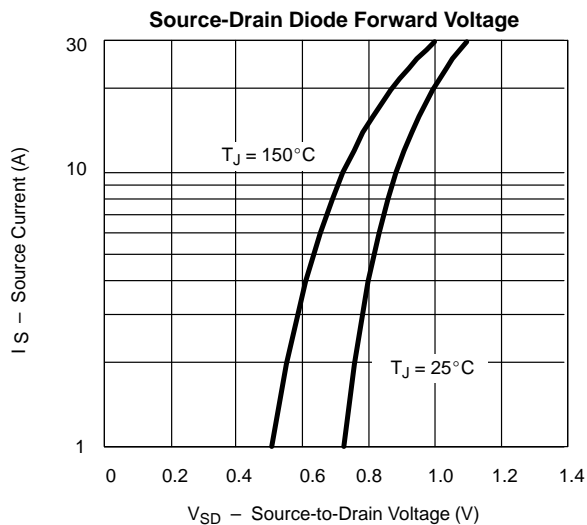
Gate Charge



On-Resistance vs. Junction Temperature



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





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