SPECIFICATIONS (T_A = 25°C UNLESS OTHERWISE NOTED)

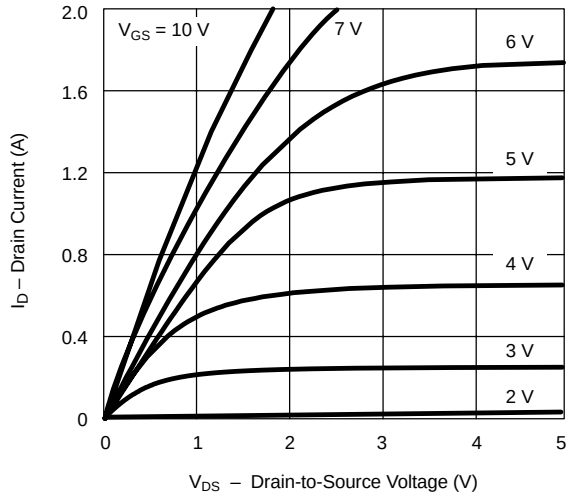
Parameter	Symbol	Test Conditions	Limits Min	Limits Typ[a]	Limits Max	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0 V, I_D = 10 µA	30	45		V
Gate-Threshold Voltage	$V_{GS(th)}$	V_{DS} = V_{GS}, I_D = 1 mA	0.8	1.5	2.5	V
Gate-Body Leakage	I_{GSS}	V_{DS} = 0 V, V_{GS} = ±16 V			±100	nA
		T_J = 125°C			±500	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 30 V, V_{GS} = 0 V			10	µA
		V_{DS} = 24 V, V_{GS} = 0 V, T_J = 125°C			500	µA
On-State Drain Current[b]	$I_{D(on)}$	V_{DS} = 10 V, V_{GS} = 12 V	2	3.5		A
Drain-Source On-Resistance[b]	$r_{DS(on)}$	V_{GS} = 5 V, I_D = 0.2 A		1.2	1.75	Ω
		V_{GS} = 12 V, I_D = 1 A		0.8	1	Ω
		T_J = 125°C		1.5	2	Ω
Forward Transconductance[b]	g_{fs}	V_{DS} = 10 V, I_D = 0.5 A	200	500		mS
Dynamic						
Input Capacitance	C_{iss}	V_{DS} = 15 V, V_{GS} = 0 V, f = 1 MHz		38	110	pF
Output Capacitance	C_{oss}			33	110	pF
Reverse Transfer Capacitance	C_{rss}			8	35	pF
Switching[c]						
Turn-On Time	t_{ON}	V_{DD} = 15 V, R_L = 23 Ω, I_D ≅ 0.6 A, V_{GEN} = 10 V, R_G = 25 Ω		9	30	ns
Turn-Off Time	t_{OFF}			14	30	ns

Notes
a. For DESIGN AID ONLY, not subject to production testing.
b. Pulse test: PW ≤ 300 µs duty cycle ≤ 2%.
c. Switching time is essentially independent of operating temperature.

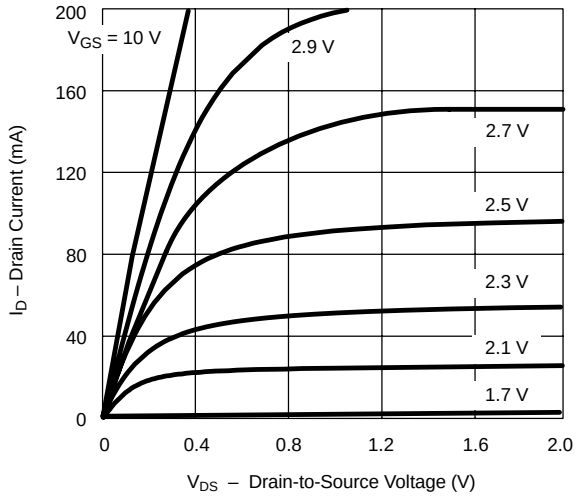
VNDQ03

TYPICAL CHARACTERISTICS (T_A = 25°C UNLESS OTHERWISE NOTED)

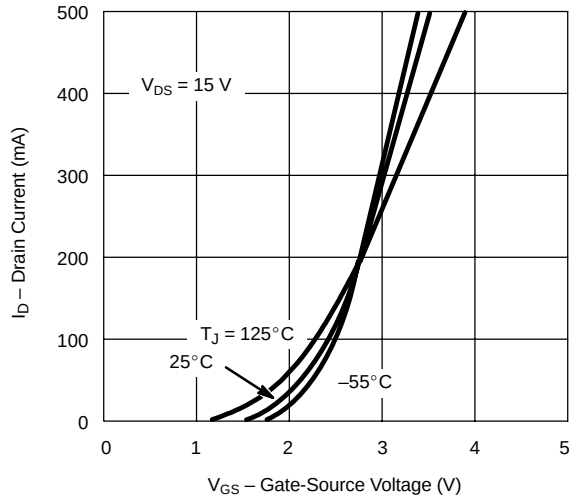
Ohmic Region Characteristics



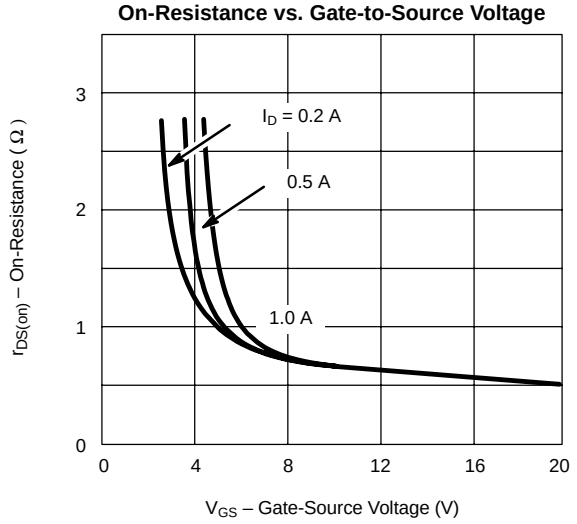
Output Characteristics for Low Gate Drive



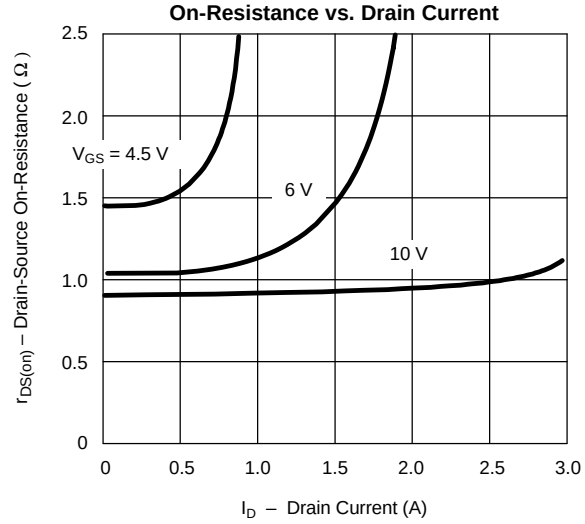
Transfer Characteristics



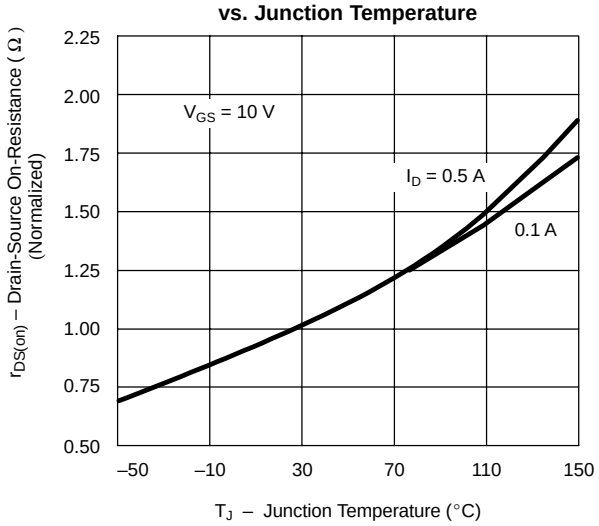
On-Resistance vs. Gate-to-Source Voltage



On-Resistance vs. Drain Current

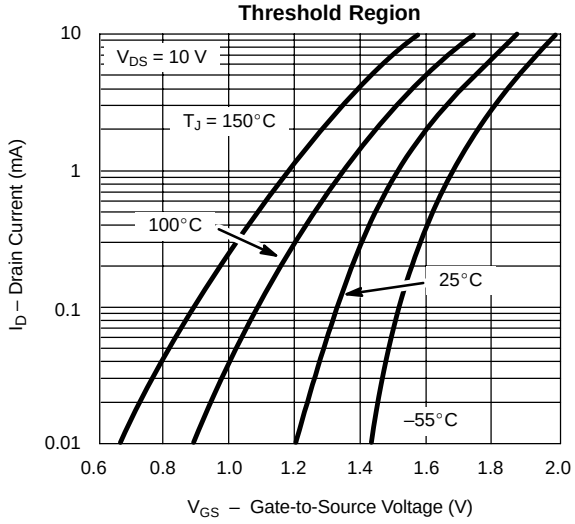


Normalized On-Resistance vs. Junction Temperature

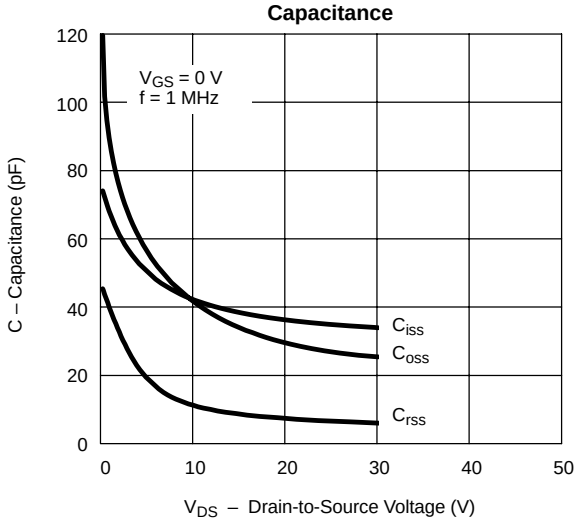


TYPICAL CHARACTERISTICS (T_A = 25°C UNLESS OTHERWISE NOTED)

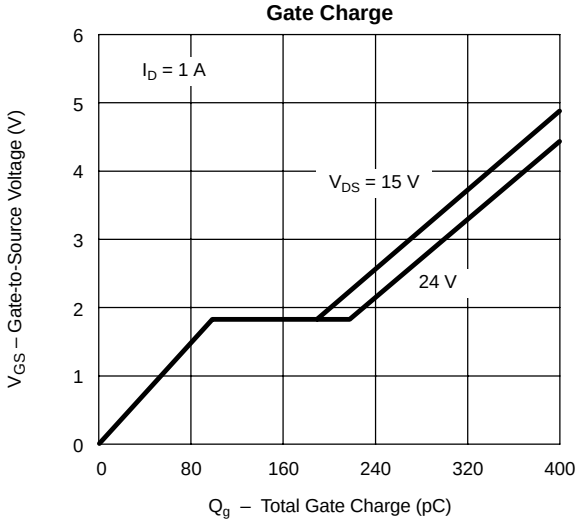
Threshold Region



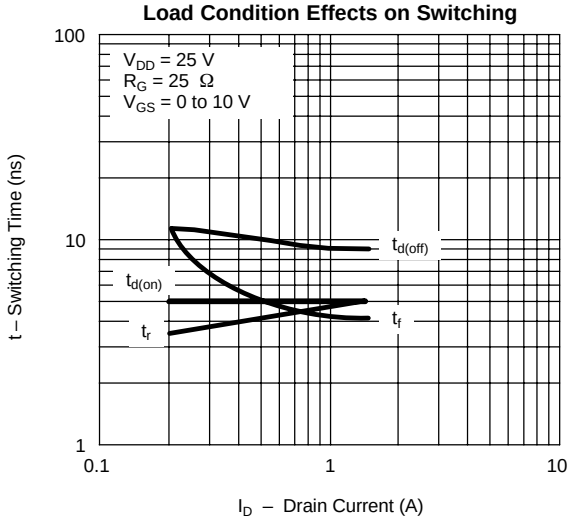
Capacitance



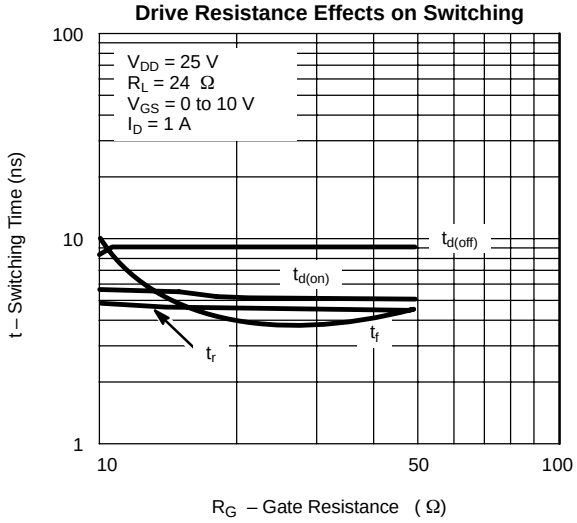
Gate Charge



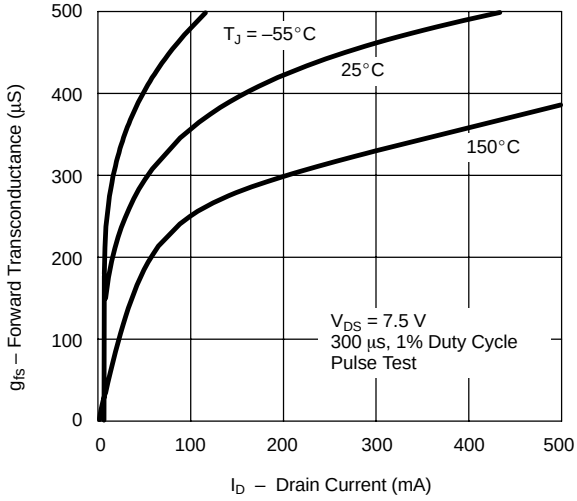
Load Condition Effects on Switching



Drive Resistance Effects on Switching



Transconductance



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