



## N-Channel MOSFET

### NDT06N03

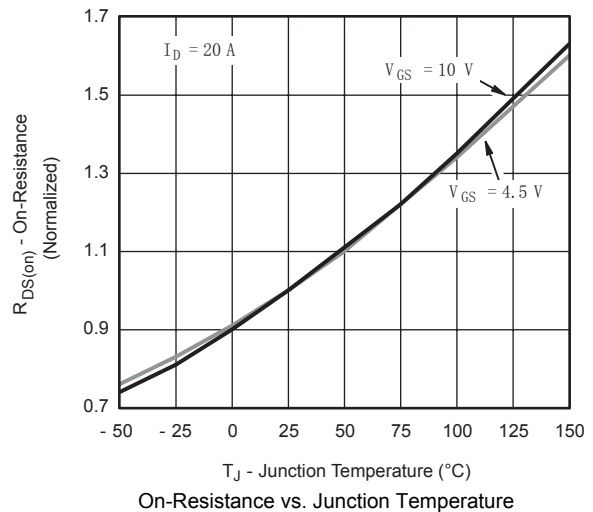
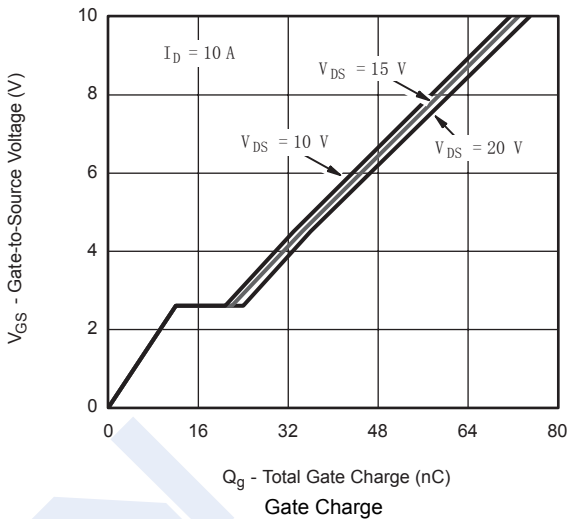
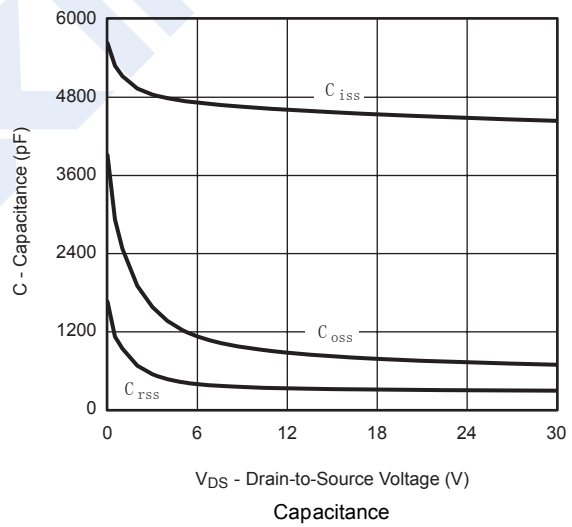
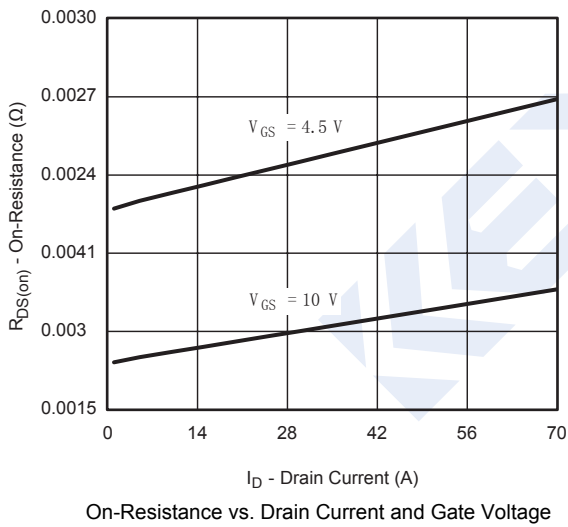
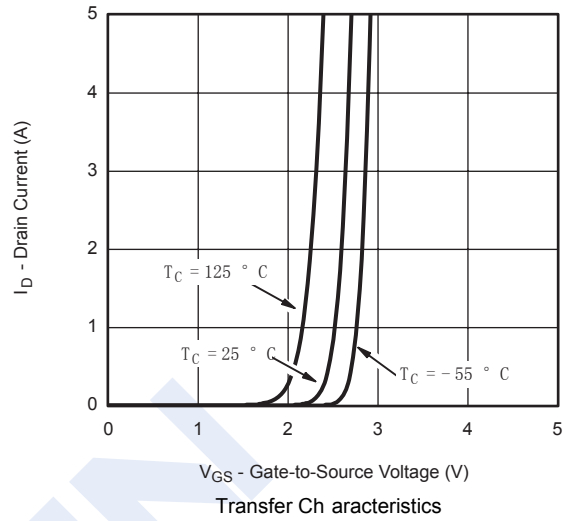
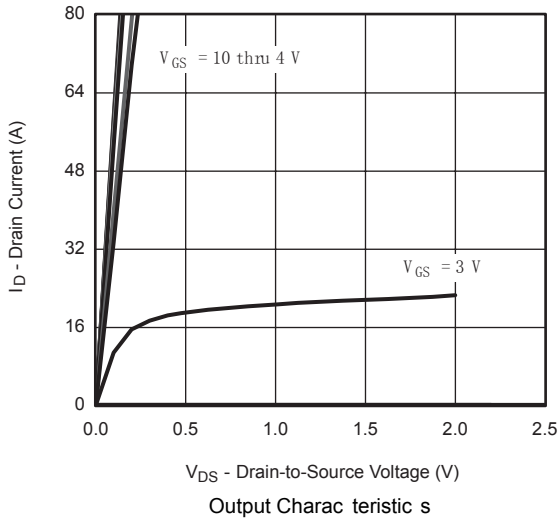
#### ■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit	
Drain-Source Breakdown Voltage	V <sub>DSS</sub>	I <sub>D</sub> =250 μA, V <sub>GS</sub> =0V	30			V	
Zero Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =30V, V <sub>GS</sub> =0V			1	μA	
		V <sub>DS</sub> =30V, V <sub>GS</sub> =0V, T <sub>J</sub> =55°C			10		
Gate-Body Leakage Current	I <sub>GSS</sub>	V <sub>DS</sub> =0V, V <sub>GS</sub> =±20V			±100	nA	
Gate Threshold Voltage	V <sub>GS(th)</sub>	V <sub>DS</sub> =V <sub>GS</sub> , I <sub>D</sub> =250 μA	1.2		2.5	V	
Static Drain-Source On-Resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> =10V, I <sub>D</sub> =20A			4.1	mΩ	
		V <sub>GS</sub> =4.5V, I <sub>D</sub> =20A			5.9		
On State Drain Current	I <sub>D(ON)</sub>	V <sub>GS</sub> =10V, V <sub>DS</sub> =5V	30			A	
Forward Transconductance	g <sub>FS</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =20A		100		S	
Input Capacitance	C <sub>iss</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =15V, f=1MHz		4590		pF	
Output Capacitance	C <sub>oss</sub>			810			
Reverse Transfer Capacitance	C <sub>rss</sub>			320			
Gate Resistance	R <sub>g</sub>	V <sub>GS</sub> =0V, V <sub>DS</sub> =0V, f=1MHz	0.2		1.6	Ω	
Total Gate Charge	Q <sub>g</sub>	V <sub>DS</sub> = 15 V, V <sub>GS</sub> = 10 V, I <sub>D</sub> = 20 A		74	110	nC	
				34	51		
Gate Source Charge	Q <sub>gs</sub>	V <sub>GS</sub> =4.5V, V <sub>DS</sub> =15V, I <sub>D</sub> =20A		12			
Gate Drain Charge	Q <sub>gd</sub>			10			
Turn-On DelayTime	t <sub>d(on)</sub>	V <sub>DD</sub> = 15 V, R <sub>L</sub> = 1.5 Ω I <sub>D</sub> = 10 A, V <sub>GEN</sub> = 10 V, R <sub>g</sub> = 1 Ω		19	35	ns	
Turn-On Rise Time	t <sub>r</sub>			5	10		
Turn-Off DelayTime	t <sub>d(off)</sub>			45	85		
Turn-Off Fall Time	t <sub>f</sub>			5	10		
Turn-On DelayTime	t <sub>d(on)</sub>	V <sub>DD</sub> = 10 V, R <sub>L</sub> = 1 Ω I <sub>D</sub> = 10 A, V <sub>GEN</sub> = 4.5 V, R <sub>g</sub> = 1 Ω		45	85	ns	
Turn-On Rise Time	t <sub>r</sub>			18	45		
Turn-Off DelayTime	t <sub>d(off)</sub>			60	110		
Turn-Off Fall Time	t <sub>f</sub>			30	60		
Body Diode Reverse Recovery Time	t <sub>rr</sub>	I <sub>F</sub> = 10A, di/dt= 100A/μs, T <sub>J</sub> = 25°C		33	50	nC	
Body Diode Reverse Recovery Charge	Q <sub>rr</sub>			25	40		
Reverse Recovery Fall Time	t <sub>a</sub>			16			nS
Reverse Recovery Rise Time	t <sub>b</sub>			17			
Maximum Body-Diode Continuous Current	I <sub>S</sub>				60	A	
Pulse Diode Forward Current	I <sub>SM</sub>				80		
Diode Forward Voltage	V <sub>SD</sub>	I <sub>S</sub> =4A, V <sub>GS</sub> =0V			1.1	V	

Note.Pulse test; pulse width ≤ 300 μs, duty cycle ≤ 2 %.

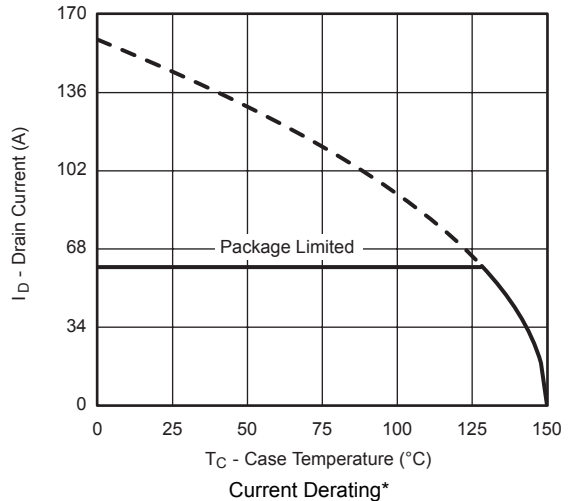
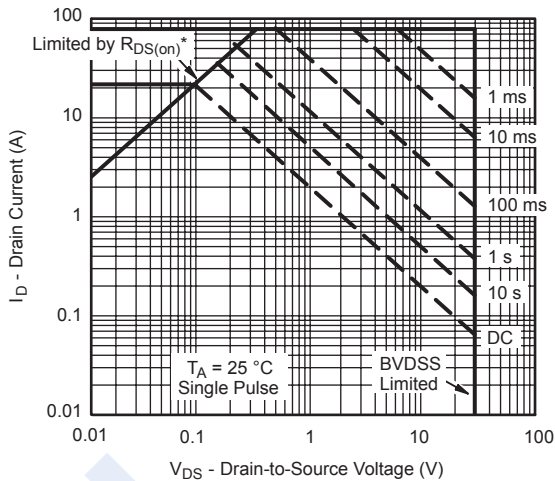
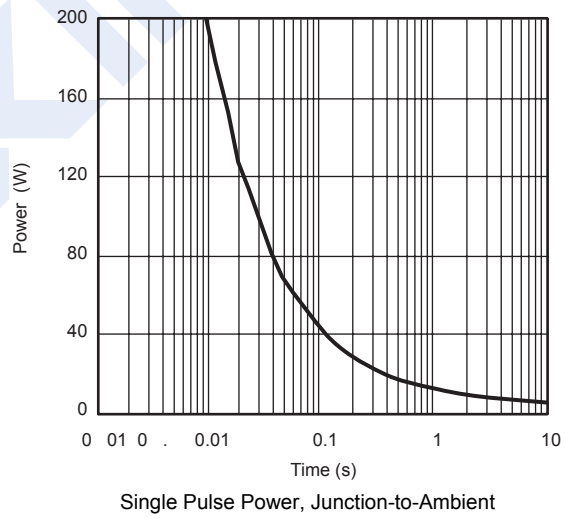
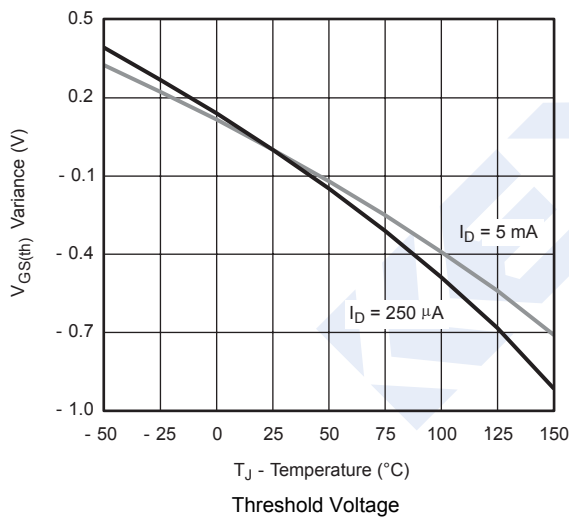
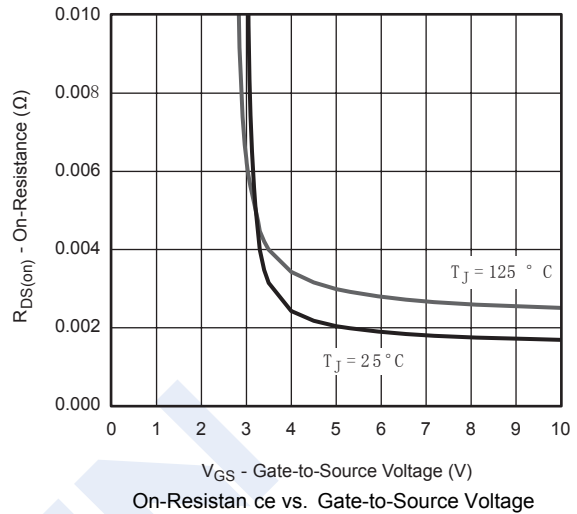
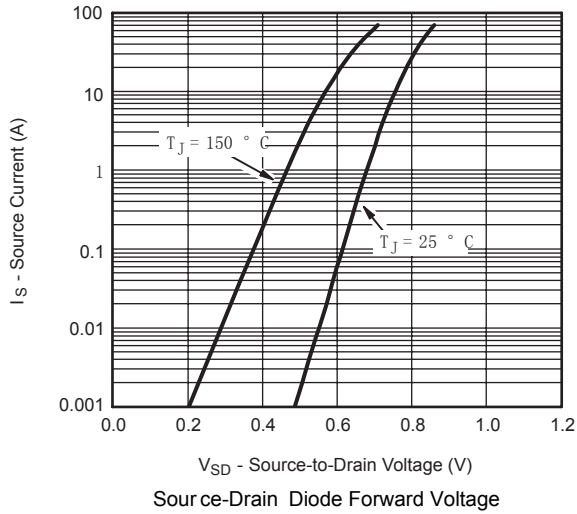
## N-Channel MOSFET NDT06N03

■ Typical Characteristics



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■ Typical Characteristics



\*  $V_{GS} >$  minimum  $V_{GS}$  at which  $R_{DS(on)}$  is specified  
Safe Operating Area, Junction-to-Ambient

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■ Typical Characteristics

