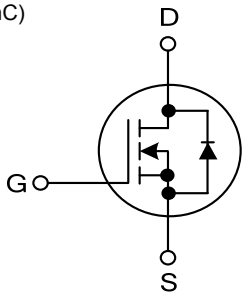
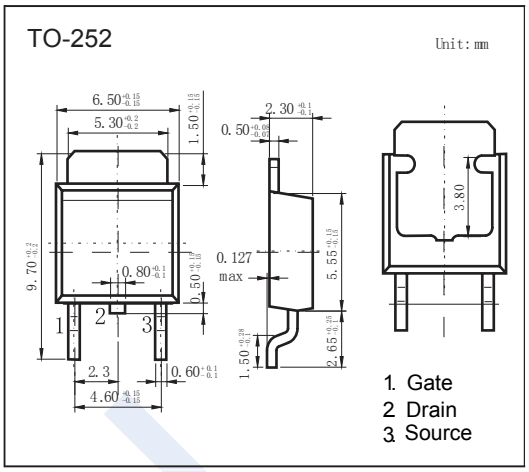
N-Channel MOSFET
NDT15N10

■ Features

- $R_{DS(ON)}$ = 80mΩ @V_{GS} = 10V,I_D=8A
- Low gate charge (Typ=24nC)
- Low C_{RSS} (Typ=23pF)
- High switching speed





■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	100	V
Gate-Source Voltage		V_{GS}	±20	
Continuous Drain Current	T_C=25℃,T_J=150℃	I_D	14.7	A
	T_C=70℃,T_J=150℃		13.6	
Pulsed Drain Current		I_{DM}	59	
Power Dissipation	T_C=25℃	P_D	34.7	W
	T_C=70℃		22.2	
Thermal Resistance.Junction- to-Case (Note.1)		R_{thJC}	3.6	℃/W
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{stg}	-55 to 150	

Note.1: The device mounted on 1in^2 FR4 board with 2 oz copper.

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=250μA, V_{GS}=0V	100			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=80V, V_{GS}=0V			1	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±20V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250μA	1		3	V
Static Drain-Source On-Resistance (Note.1)	$R_{DS(ON)}$	V_{GS}=10V, I_D=8A		80	100	mΩ
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=15V, f=1MHz		890		pF
Output Capacitance	C_{oss}			58		
Reverse Transfer Capacitance	C_{rss}			23		
Gate-Resistance	Rg	V_{GS}=0, V_{DS}=0, f=1MHz		0.9		Ω
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=80V, I_D=10A		24		nC
		V_{GS}=4.5V, V_{DS}=80V, I_D=10A		13		
Gate Source Charge	Q_{gs}			4.6		
Gate Drain Charge	Q_{gd}			7.6		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=10V, V_{DS}=50V, R_L=5Ω, R_{GEN}=1Ω		14		ns
Turn-On Rise Time	t_r			33		
Turn-Off DelayTime	$t_{d(off)}$			39		
Turn-Off Fall Time	t_f			5		
Diode Forward Voltage	V_{SD}	I_S=8A,V_{GS}=0V		0.9	1.2	V

Note.1:Pulse test: pulse width≤300us, duty cycle≤2%, Guaranteed by design, not subject to production testing.

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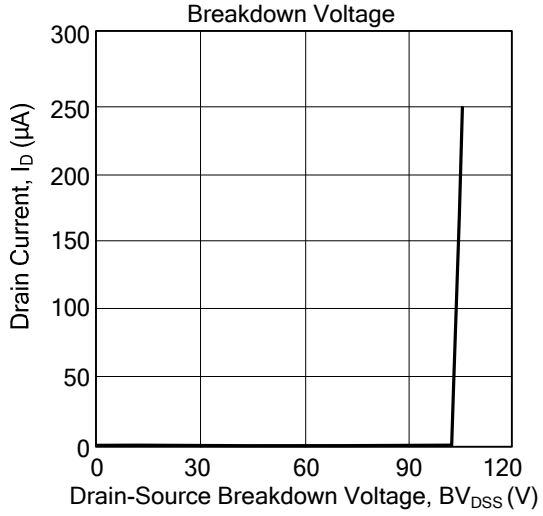
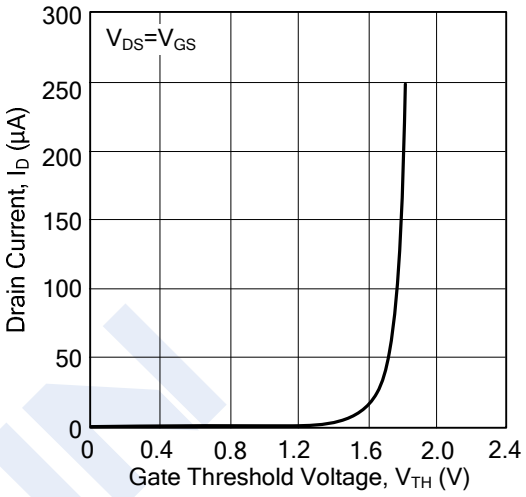
■ Typical Characterisitics

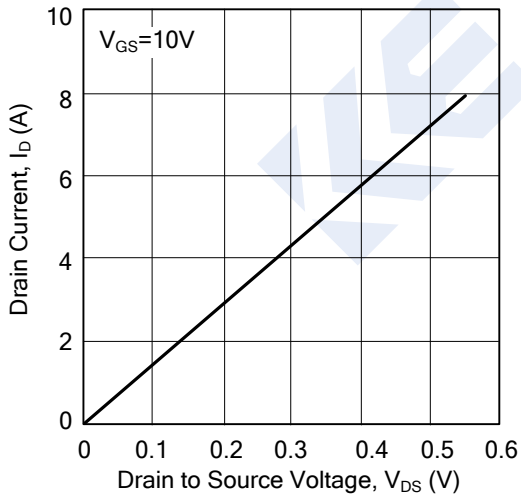
Drain Current vs. Drain-Source Breakdown Voltage



Drain Current vs. Gate Threshold Voltage



Drain-Source On-State Resistance Characteristics



Drain Current vs. Source to Drain Voltage