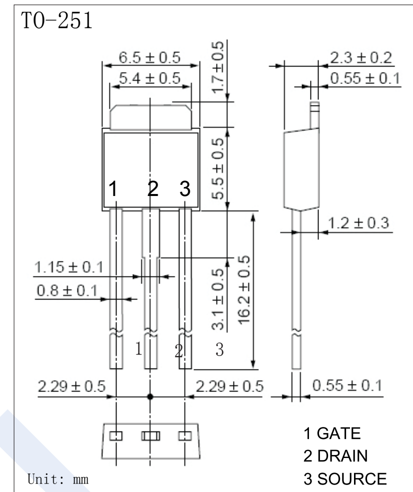
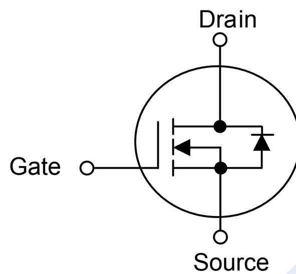
N-Channel MOSFET
NDT6N60P



■ Features

- V_{DS} (V) = 600V
- I_D = 6.2 A (V_{GS} = 10V)
- $R_{DS(ON)}$ < 1.5Ω (V_{GS} = 10V)
- Fast switching capability
- Low reverse transfer Capacitance



■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	600	V
Gate-Source Voltage		V_{GS}	±30	
Continuous Drain Current		I_D	6.2	A
Pulsed Drain Current		I_{DM}	24.8	
Avalanche Current		I_{AR}	6.2	
Power Dissipation		P_D	55	W
Avalanche Energy	Single Pulsed (Note 1)	E_{AS}	440	mJ
	Repetitive	E_{AR}	13	
Peak Diode Recovery dv/dt	(Note.2)	dv/dt	4.5	ns
Thermal Resistance.Junction- to-Ambient		R_{thJA}	110	℃/W
Thermal Resistance.Junction- to-Case		R_{thJC}	2.27	
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{stg}	-55 to 150	

Note.1: L = 14mH, I_{AS} = 6A, V_{DD} = 90V, R_G = 25 Ω, Starting T_J = 25°C

Note.2: I_{SD} ≤ 6.2A, di/dt ≤200A/us, V_{DD} ≤ BV_{DSS}, Starting T_J = 25°C

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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	600			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=600V, V_{GS}=0V			10	uA
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±30V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} , I_D=250μA	2		4	V
Static Drain-Source On-Resistance	$R_{DS(On)}$	V_{GS}=10V, I_D=3.1A			1.5	Ω
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=25V, f=1MHz			1000	pF
Output Capacitance	C_{oss}				120	
Reverse Transfer Capacitance	C_{rss}				13	
Total Gate Charge	Q_g	V_{GS}=10V, V_{DS}=480V, I_D=6.2A (Note.1)		20	25	nC
Gate Source Charge	Q_{gs}			4.9		
Gate Drain Charge	Q_{gd}			9.4		
Turn-On DelayTime	$t_{d(on)}$	V_{DS}= 300 V, I_D=6.2A,R_G=25Ω (Note.1)			50	ns
Turn-On Rise Time	t_r				150	
Turn-Off DelayTime	$t_{d(off)}$				90	
Turn-Off Fall Time	t_f				100	
Body Diode Reverse Recovery Time	t_{rr}	I_F= 6.2A, V_{GS}=0 , dI/dt= 100A/μs (Note.1)		290		
Body Diode Reverse Recovery Charge	Q_{rr}			2.35		nC
Maximum Body-Diode Continuous Current	I_S				6.2	A
Maximum Pulsed Drain-Source Diode Forward Current	I_{SM}				24.8	
Diode Forward Voltage	V_{SD}	I_S=6.2A,V_{GS}=0V			1.4	V

Note.1: Pulse Test: Pulse width ≤ 300us, Duty cycle ≤ 2%

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■ Typical Characterisitics