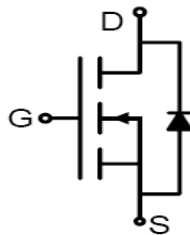
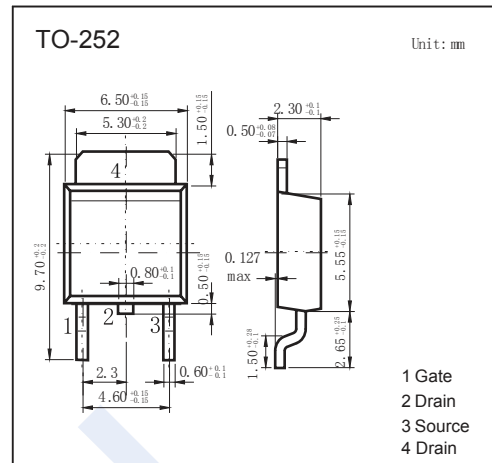


N-Channel MOSFET

NDT110N03

■ Features

- $V_{DS} (V) = 30V$
- $I_D = 110 A$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 4m\Omega$ ($V_{GS} = 10V$)
- $R_{DS(ON)} < 6m\Omega$ ($V_{GS} = 4.5V$)
- High Power and current handing capability
- Lead free product is acquired
- Surface Mount Package



■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DS}	30	V
Gate-Source Voltage		V_{GS}	± 20	
Continuous Drain Current	$T_c = 25^\circ C$	I_D	110	A
	$T_c = 70^\circ C$		78	
Pulsed Drain Current		I_{DM}	300	
Power Dissipation	$T_c = 25^\circ C$	P_D	100	W
	$T_c = 70^\circ C$		50	
Repetitive Avalanche Energy (Note.1)		E_{AR}	150	mJ
Thermal Resistance.Junction- to-Case		R_{thJC}	1.5	$^\circ C/W$
Junction Temperature		T_J	175	$^\circ C$
Storage Temperature Range		T_{stg}	-55 to 175	

Note.1:EAS condition: $T_J = 25^\circ C$, $V_{DD} = 20V$, $V_G = 10V$, $R_G = 25\Omega$

N-Channel MOSFET

NDT110N03

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =250 μA, V _{GS} =0V	30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V, 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 =250 μA	1.2		2.4	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =10V, I _D =20A T _C =25°C			4	mΩ
		V _{GS} =10V, I _D =20A T _C =125°C			5.5	
		V _{GS} =4.5V, I _D =20A			6	
Forward Transconductance	g _{FS}	V _{DS} =5V, I _D =20A	50			S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =15V, f=1MHz		4400		pF
Output Capacitance	C _{oss}			720		
Reverse Transfer Capacitance	C _{rss}			410		
Gate Resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		0.5	0.7	Ω
Total Gate Charge (10V)	Q _g	V _{GS} =10V, V _{DS} =15V, I _D =20A		59		nC
Total Gate Charge (4.5V)				30		
Gate Source Charge	Q _{gs}			10		
Gate Drain Charge	Q _{gd}			20		
Turn-On DelayTime	t _{d(on)}	V _{GS} =10V, V _{DS} =15V, R _L =0.75Ω, R _{GEN} =3Ω		15		ns
Turn-On Rise Time	t _r			17		
Turn-Off DelayTime	t _{d(off)}			44		
Turn-Off Fall Time	t _f			18		
Body Diode Reverse Recovery Time	t _{rr}	I _F =20A, di/dt=100A/us		36		nC
Body Diode Reverse Recovery Charge	Q _{rr}			30		
Maximum Body-Diode Continuous Current	I _S				110	A
Diode Forward Voltage	V _{SD}	I _S =20A, V _{GS} =0V			1	V

■ Marking

Marking	CSD30N30
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N-Channel MOSFET

NDT110N03

Typical Characteristics

Figure1. Power Dissipation

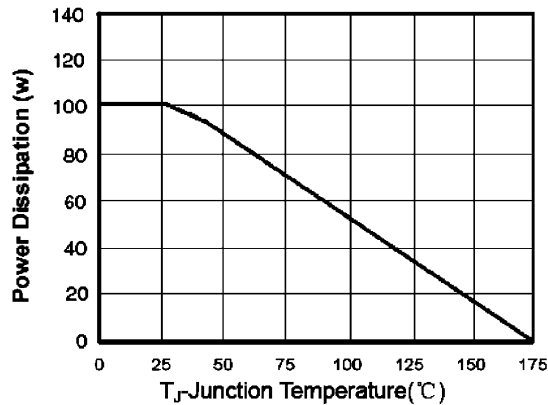


Figure2. Drain Current



Figure3. Output Characteristics

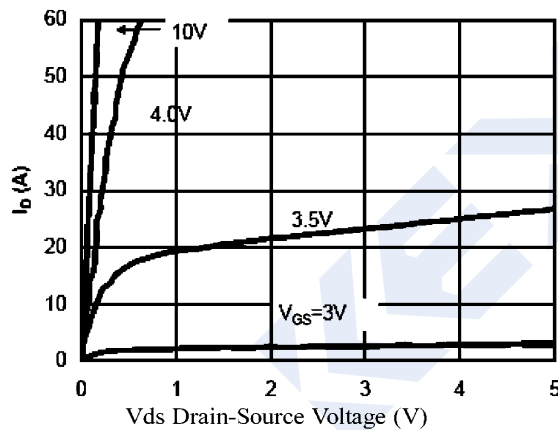


Figure4. Transfer Characteristics

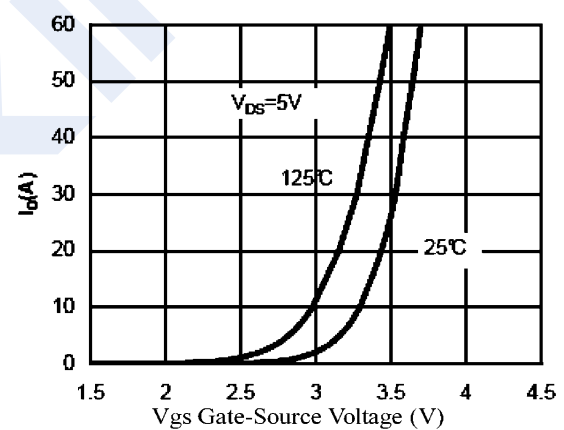


Figure5. Capacitance

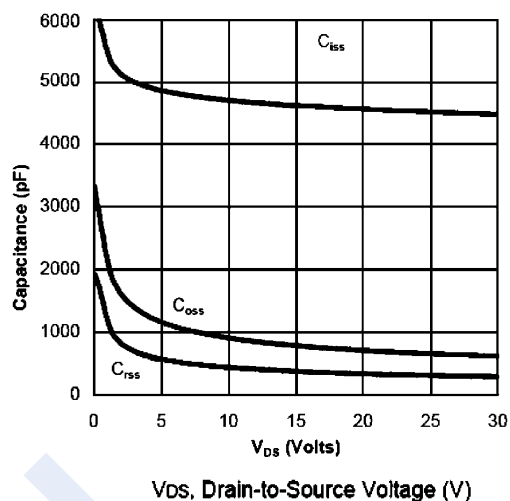
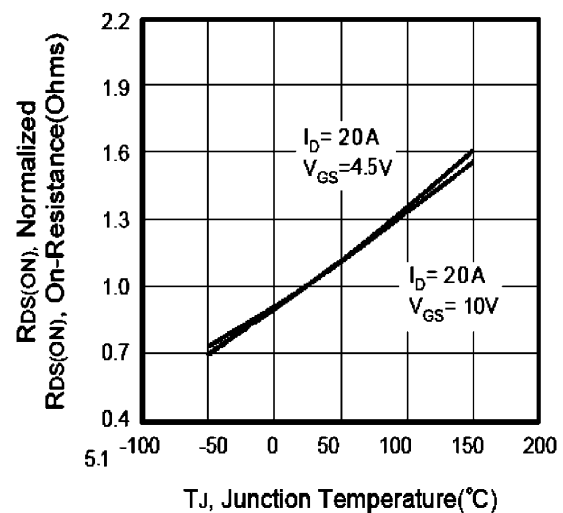


Figure6. RDS(ON) vs Junction Temperature



N-Channel MOSFET

NDT110N03

■ Typical Characteristics

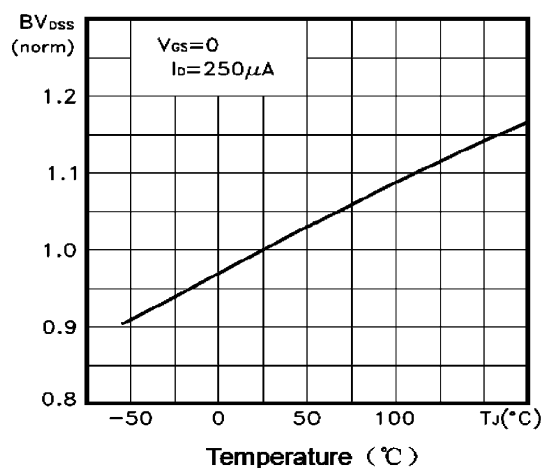
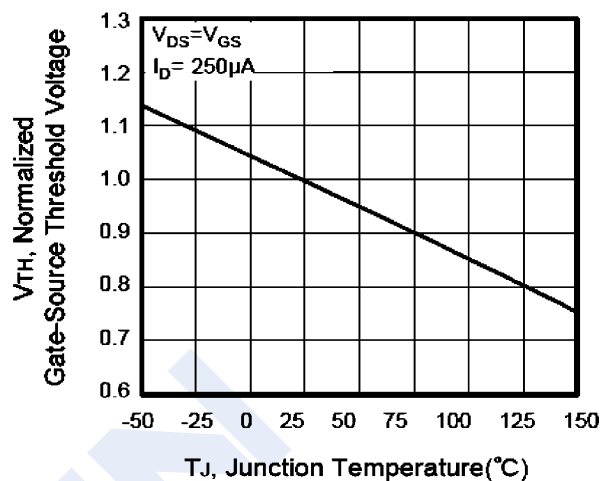
Figure7. Max BV_{DS} vs Junction TemperatureFigure8. $V_{GS(th)}$ vs Junction Temperature

Figure9. Gate Charge Waveforms

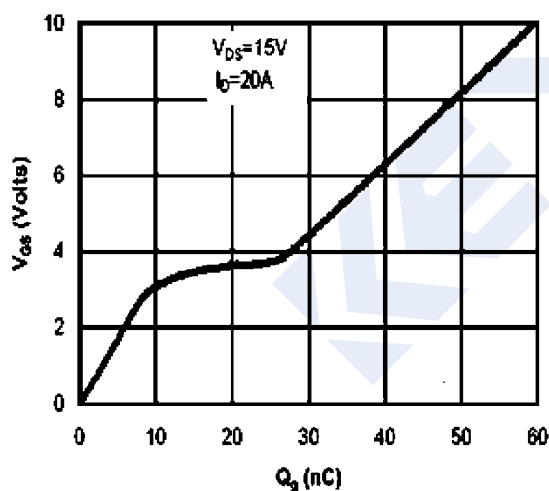


Figure10. Maximum Safe Operating Area

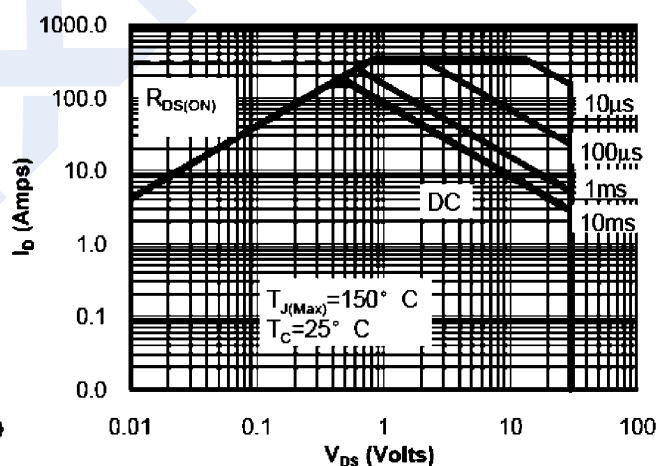


Figure11. Normalized Maximum Transient Thermal Impedance

