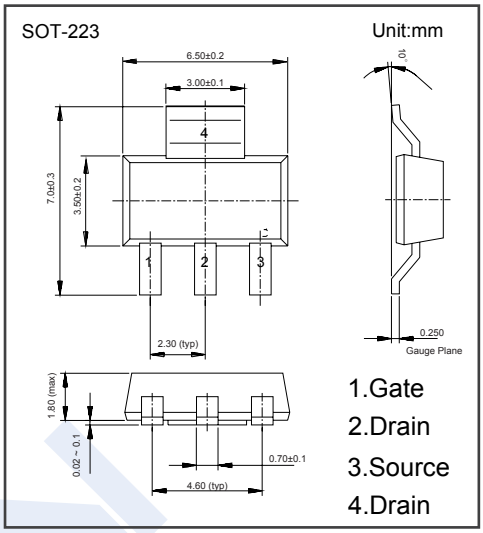
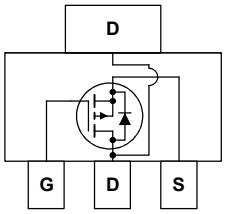
P-Channel MOSFET

NDT2955 (KDT2955)



■ Features

- $V_{DS\ (V)}$ =-60V
- I_D =-2.5 A (V_{GS} =-10V)
- $R_{DS(ON)}$ < 300mΩ (V_{GS} =-10V)
- $R_{DS(ON)}$ < 500mΩ (V_{GS} =-4.5V)



■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	±20	
Continuous Drain Current (Note.1)	I_D	-2.5	A
Pulsed Drain Current	I_{DM}	-15	
(Note.1)	P_D	3	W
Power Dissipation (Note.2)		1.3	
(Note.3)		1.1	
Thermal Resistance.Junction- to-Ambient (Note.1)	R_{thJA}	42	℃/W
Thermal Resistance.Junction- to-Case	R_{thJC}	12	
Junction Temperature	T_J	150	℃
Junction Storage Temperature Range	T_{stg}	-55 to 150	

Note.1: 42°C/W when mounted on a 1in² pad of 2 oz copper

Note.2: 95°C/W when mounted on a .0066 in² pad of 2 oz copper

Note.3: 110°C/W when mounted on a minimum pad.

P-Channel MOSFET

NDT2955 (KDT2955)

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=-250μA, V_{GS}=0V		-60		V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-60V, V_{GS}=0V			-10	uA
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	-2		-4	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=-10V, I_D=-2.5A			300	mΩ
		V_{GS}=-4.5V, I_D=-2A			500	
		V_{GS}=-10V, I_D=-2.5A T_J=125℃			513	
On state drain current	$I_{D(ON)}$	V_{GS}=-10V, V_{DS}=-5V	-12			A
Forward Transconductance	g_{FS}	V_{DS}=-10V, I_D=-2.5A		5.5		S
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=-30V, f=1MHz		601		pF
Output Capacitance	C_{oss}			85		
Reverse Transfer Capacitance	C_{rss}			35		
Total Gate Charge	Q_g	V_{GS}=-10V, V_{DS}=-30V, I_D=-2.5A (Note.1)		11	15	nC
Gate Source Charge	Q_{gs}			2.4		
Gate Drain Charge	Q_{gd}			2.7		
Turn-On DelayTime	$t_{d(on)}$	V_{GS}=-10V, V_{DS}=-30V, I_D=-1A,R_G=6Ω (Note.1)		12	21	ns
Turn-On Rise Time	t_r			10	20	
Turn-Off DelayTime	$t_{d(off)}$			19	34	
Turn-Off Fall Time	t_f			6	12	
Body Diode Reverse Recovery Time	t_{rr}	I_F=-2.5A, dI/dt=100A/μs		25		
Body Diode Reverse Recovery Charge	Q_{rr}			40		nC
Drain-Source Avalanche Energy	W_{DSS}	Single Pulse, V_{DD} = 30 V, I_D = 2.5 A			174	mJ
Maximum Body-Diode Continuous Current	I_S				-2.5	A
Diode Forward Voltage	V_{SD}	I_S=-2.5A,V_{GS}=0V (Note.1)			-1.2	V

Note.1: Pulse Test: Pulse Width < 300μs, Duty Cycle < 2.0%

■ Marking

Marking	* DT2955

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NDT2955 (KDT2955)

■ Typical Characterisitics

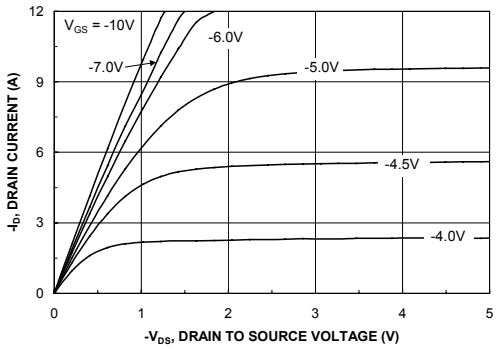

Figure 1. On-Region Characteristics.

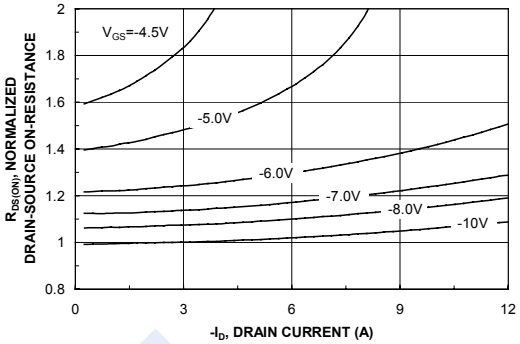

Figure 2. On-Resistance Variation with Drain Current and Gate Voltage.

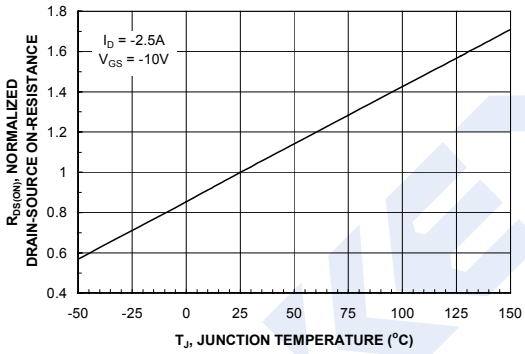

Figure 3. On-Resistance Variation withTemperature.

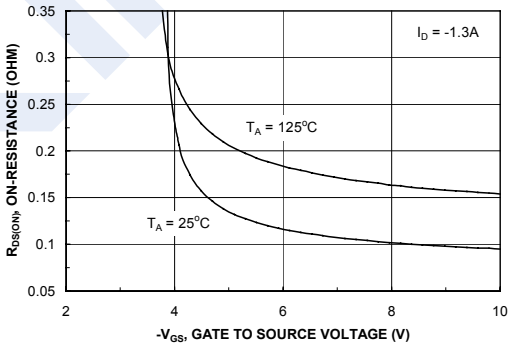

Figure 4. On-Resistance Variation with Gate-to-Source Voltage.

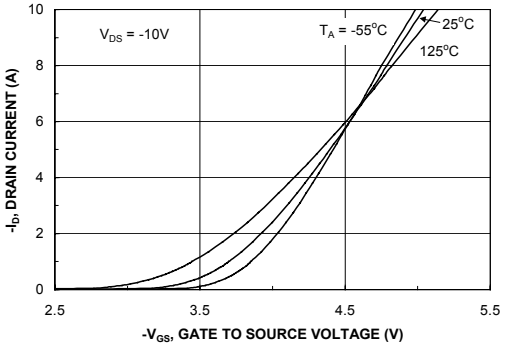

Figure 5. Transfer Characteristics.

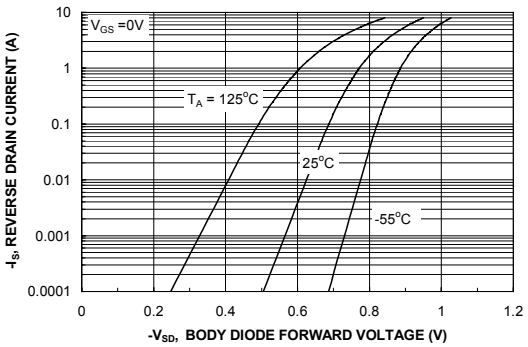

Figure 6. Body Diode Forward Voltage Variation with Source Current and Temperature.

P-Channel MOSFET

NDT2955 (KDT2955)

■ Typical Characterisitics

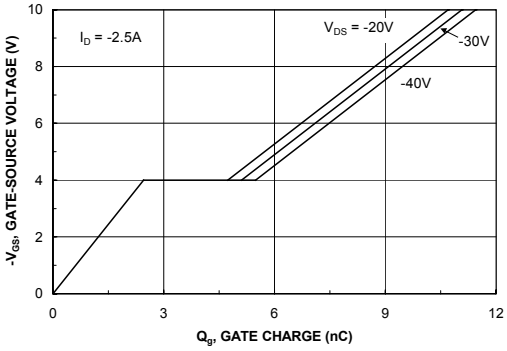

Figure 7. Gate Charge Characteristics.

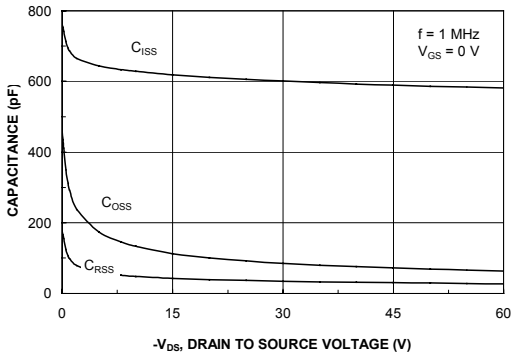

Figure 8. Capacitance Characteristics.

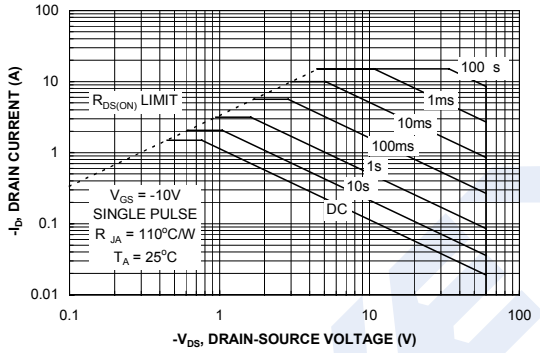

Figure 9. Maximum Safe Operating Area.

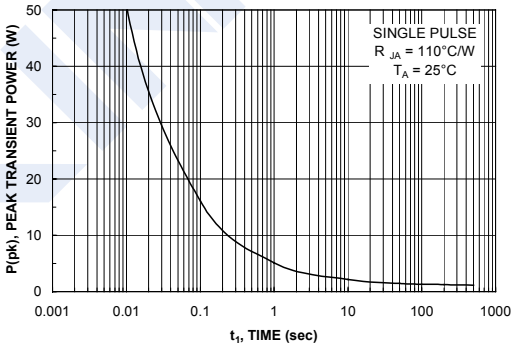

Figure 10. Single Pulse Maximum Power Dissipation.

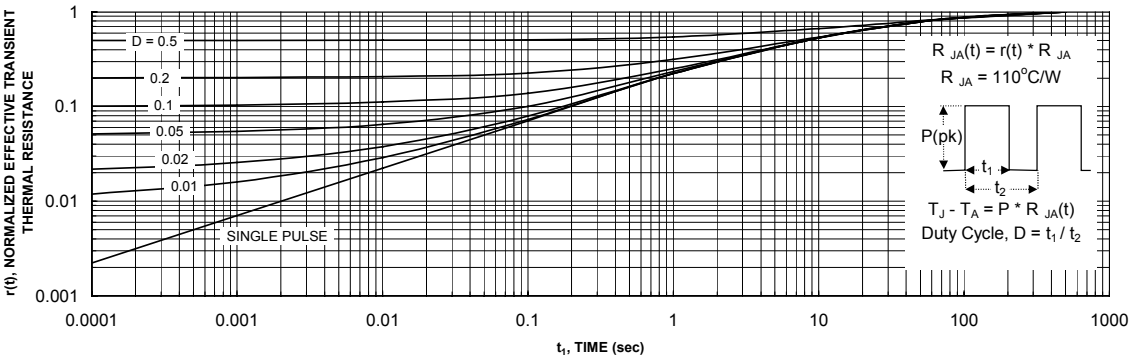

Figure 11. Transient Thermal Response Curve.

Thermal characterization performed using the conditions described in Note 1c.
Transient thermal response will change depending on the circuit board design.