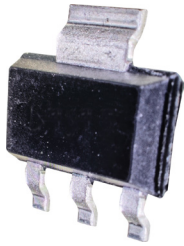


N Channel Enhancement Mode MOSFET **multicomp** PRO



**RoHS
Compliant**

Features

- $R_{DS(ON)} = 100m\Omega$ max. @ $V_{GS} = 10V$
- $R_{DS(ON)} = 120m\Omega$ max. @ $V_{GS} = 4.5V$

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	60	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current	I_D	4	A
Pulsed Drain Current	I_{DM}	25	
Power Dissipation	$T_A=25^\circ C$ P_D	3	W
Thermal Resistance.Junction- to-Ambient	$R_{\theta JA}$	42	$^\circ C/W$
Operating Junction and Storage Temperature Range	T_j, T_{stg}	-65 to 150	$^\circ C$

Electrical Characteristics Ta = 25°C

Characteristic	Symbol	Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	$V_{GS}=0V, I_D=-250\mu A$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=60V, V_{GS}=0V$			1	μA
Gate-Body leakage	I_{GSS}	$V_{GS}=2V, V_{DS}=0V$			± 100	nA
Gate Threshold Voltage (Note 2)	$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=-250\mu A$	1	1.6	2	V
Drain-Source On-State Resistance (Note 2)	$R_{DS(on)}$	$V_{GS}=10V, I_D=4A$			100	m Ω
		$V_{GS}=4.5V, I_D=3.7A$			120	
On state drain current (Note 2)	$I_{D(ON)}$	$V_{DS}=10V, V_{GS}=5V$	10			A
Forward Transconductance (Note 2)	g_{FS}	$V_{DS}=5V, I_D=4A$		7		S
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=-0V, f=1MHz$		345		pF
Output Capacitance	C_{oss}			110		
Reverse Transfer Capacitance	C_{rss}			30		
Turn-On delay Time	$t_{D(on)}$	$V_{DD}=25V, I_D=1A, V_{GS}=10V$ $R_{GEN}=6\Omega$			20	nS
Rise Time	t_r				20	
Turn-Off Delay Time	$t_{D(off)}$				50	
Fall Time	t_f				20	
Total Gate Charge	Q_g	$V_{DS}=-40V, I_D=4A, V_{GS}=10V$		13	20	nC
Gate-Source Charge	Q_{gs}			1.7		
Gate Drain Charge	Q_{gd}			3.2		
Drain Source-Diode Forward Current (Note 2)	I_S				2.5	A
Diode Forward Voltage	V_{SD}	$I_S=-0.42A, V_{GS}=0V$		0.8	1.2	V

Note

1. Surface Mounted on FR4 Board $t \leq 10sec$.
2. Pulse Test : Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$

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Typical Characteristics

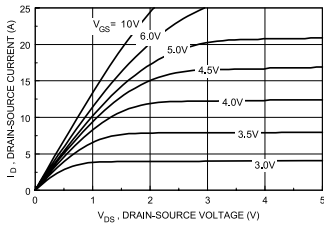


Figure 1. On-Region Characteristics.

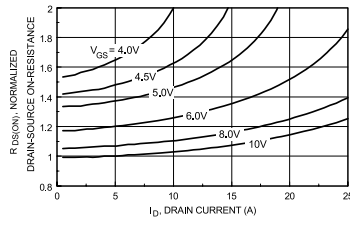


Figure 2. On-Resistance Variation with Drain Current and Gate Voltage.

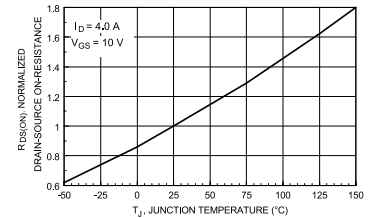


Figure 3. On-Resistance Variation with Temperature.

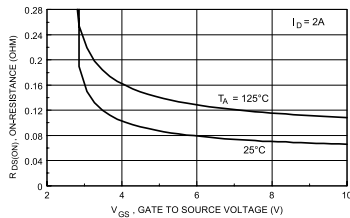


Figure 4. On-Resistance Variation with Gate-to-Source Voltage.

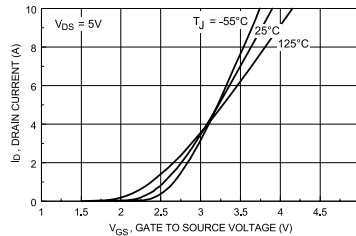


Figure 5. Transfer Characteristics.

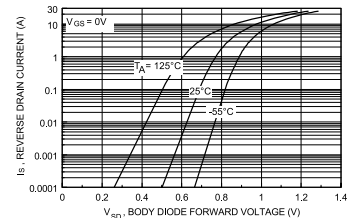


Figure 6. Body Diode Forward Voltage Variation with Current and Temperature.

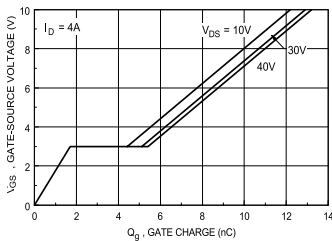


Figure 7. Gate Charge Characteristics.

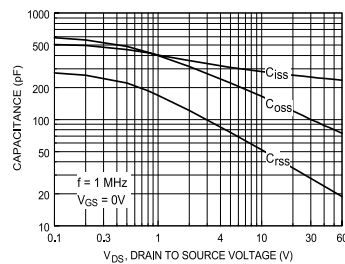


Figure 8. Capacitance Characteristics.

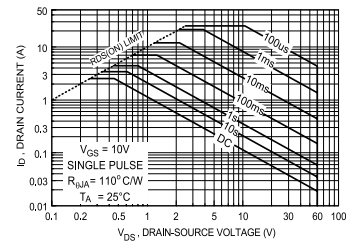


Figure 9. Maximum Safe Operating Area.

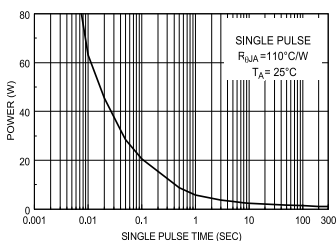


Figure 10. Single Pulse Maximum Power Dissipation.

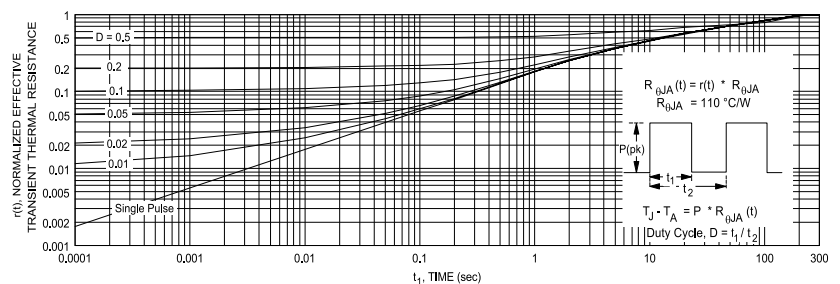
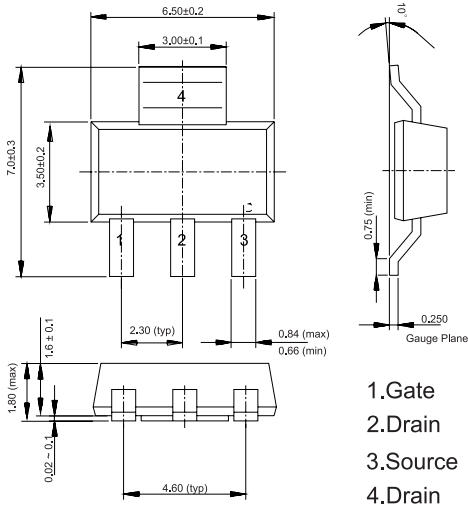


Figure 11. Transient Thermal Response Curve.

N Channel Enhancement Mode MOSFET **multicomp** PRO

Diagram



Part Number Table

Description	Part Number
N Channel Enhancement Mode MOSFET, 4A, 60V	NDT3055L

Dimensions : Millimetres

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