10N65 N-Channel Power MOSFET

$V_{(BR)DSS}$	$R_{DS(on)}$MAX	I_D
650 V	1.0Ω@10V	10A

Description

The 10N65 is a high voltage and high current power MOSFET, designed to have characteristics, such as fast switching time, low gate charge, low on-state resistance and have rugged avalanche characteristics.

This power MOSFET is usually used at high speed switching applications in power supplies, PWM motor controls, high efficient DC to DC converters and bridge circuits.

TO-220F

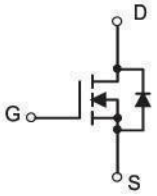
1. GATE
2. DRAIN
3. SOURCE

1 2 3

FEATURES

- Low C_{rss}
- Fast Switching
- 100% avalanche tested

EQUIVALENT CIRCUIT



Maximum ratings (T_a=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	650	V
Gate-Source Voltage	V_{GS}	±30	
Continuous Drain Current	I_D	10	A
Power Dissipation	P_D	2	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	62.5	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{stg}	-50 ~+150	

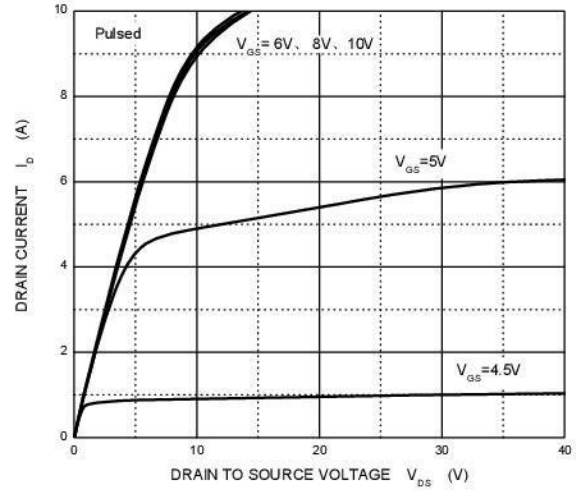
T_a=25℃ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)\ DSS}$	V_{GS} = 0V, I_D =250μA	650			V
Gate-Threshold Voltage (note1)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	2.0	3.5	4.0	
Gate-Body Leakage Current (note1)	I_{GSS}	V_{DS} =0V, V_{GS} =±30V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =600V, V_{GS} =0V			10	μA
Drain-Source On-State Resistance (note1)	$R_{DS(on)}$	V_{GS} =10V, I_D =5A		0.75	1	Ω
Input Capacitance	C_{iss}	V_{DS} =25V,V_{GS} =0V, f =1MHz		1430		pF
Output Capacitance	C_{oss}			117		
Reverse Transfer Capacitance	C_{rss}			2.2		
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=325V,I_D=10A, R_G=25Ω		46		ns
Rise Time	t_r			74		
Turn-Off Delay Time	$t_{d(off)}$			340		
Fall Time	t_f			66		
Forward on Voltage(note1)	V_{SD}	V_{GS} =0V, I_S=10A			1.4	V

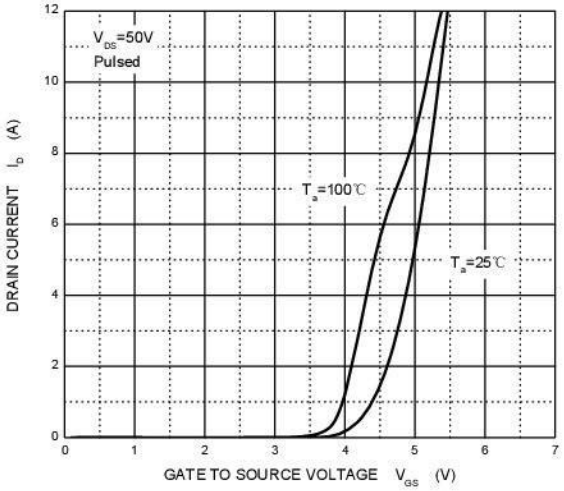
Notes:

1. Pulse Test : Pulse Width≤300μs, Duty Cycle ≤2%.

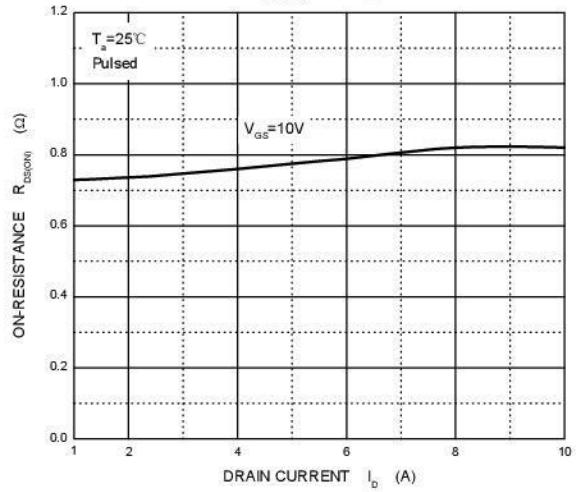
Output Characteristics



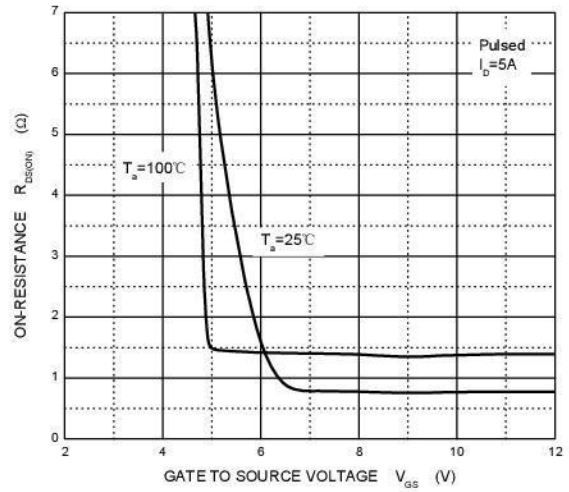
Transfer Characteristics



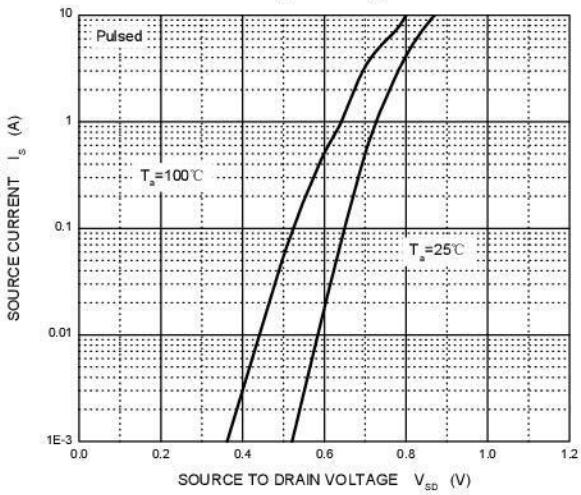
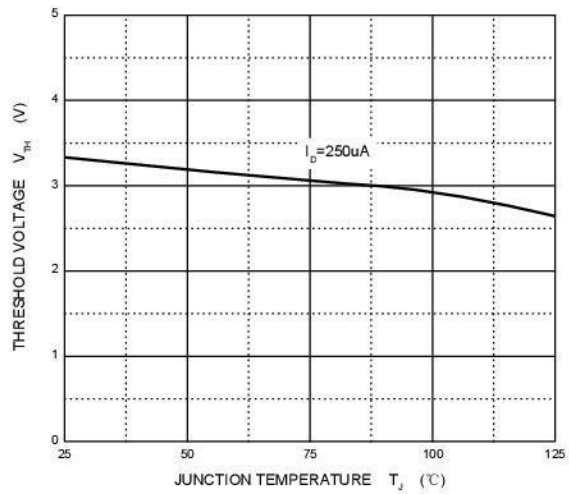
$R_{DS(ON)}$ —— I_D



$R_{DS(ON)}$ —— V_{GS}



I_S —— V_{SD}



Threshold Voltage