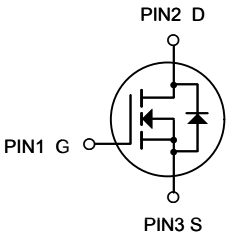
GOODWORK

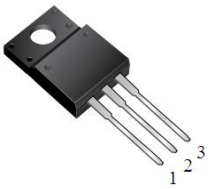
4N65

10A mps,650 Volts N-CHANNEL MOSFET

FEATURE

- 4A,650V,$R_{DS(ON)MAX}$=2.6 Ω @V_{GS}=10V/2A
- Low gate charge
- Low C_{iss}
- Fast switching
- 100% avalanche tested
- Improved dv/dt capability





ITO-220AB

4N65F

TO-252

4N65

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating 25℃ ambient temperature uniess otherwies specified.
Single phase half wave, 60Hz, resistive or inductive load.

Absolute Maximum Ratings(T_C=25℃,unless otherwise noted)

Parameter		Symbol	4N65	UNIT
Drain-Source Voltage		V_{DSS}	650	V
Gate-Source Voltage		V_{GSS}	±30	
Continuous Drain Current		I_D	4	A
Pulsed Drain Current(Note1)		I_{DM}	16	
Single Pulse Avalanche Energy (Note 2)		E_{AS}	150	mJ
Reverse Diode dV/dt (Note 3)		dv/dt	2.63	V/ns
Operating Junction and Storage Temperature Range		T_J,T_{STG}	-55 to +150	℃
Maximum lead temperature for soldering purposes, 1/8″from case for 5 seconds		T_L	260	℃
Mounting Torque	6-32 or M3 screw		10	lbf • in
			1.1	N • m

Thermal Characteristics

Parameter		Symbol	MAX	Units
Maximum Junction-to-Case		R_{thJC}	3.47	℃/W
Maximum Power Dissipation	T_C=25℃	P_D	34	W

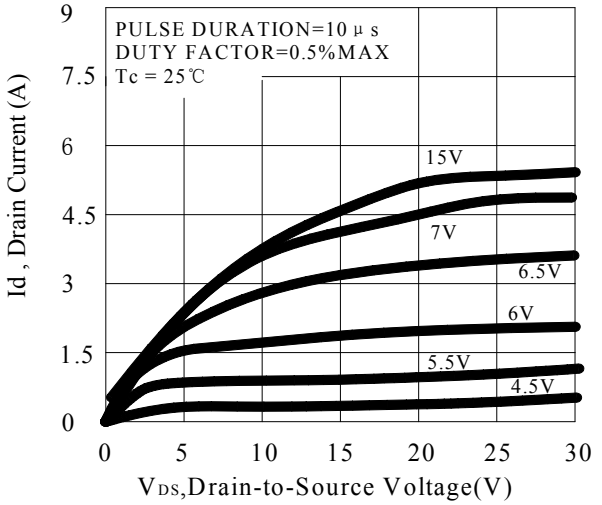
Electrical Characteristics (T_c=25℃,unless otherwise noted)

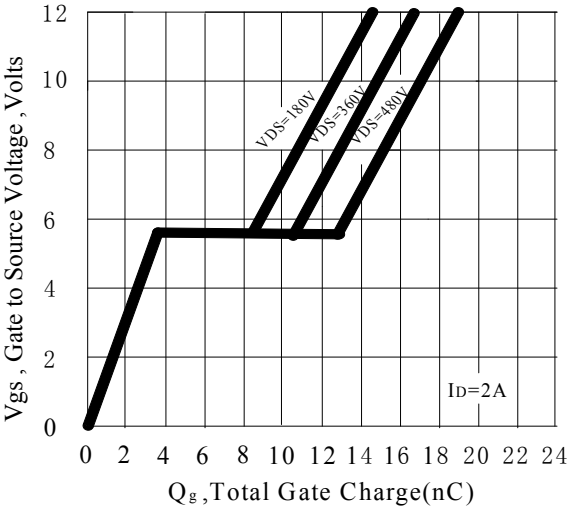
Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V,I_D=250uA	650	—	—	V
Breakdown Temperature Coefficient	ΔBV_{DSS} /ΔT_J	Reference to 25℃, I_D=250uA	—	0.67	—	V/℃
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=650V,V_{GS}=0V	—	—	10	μA
Gate-Body Leakage Current,Forward	I_{GSSF}	V_{GS}=30V,V_{DS}=0V	—	—	100	nA
Gate-Body Leakage Current,Reverse	I_{GSSR}	V_{GS}=-30V,V_{DS}=0V	—	—	-100	nA
On Characteristics						
Gate-Source Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250uA	2	—	4	V
Drain-Source On-State Resistance	$R_{DS(on)}$	V_{GS}=10V,I_D=2A	—	2.1	2.6	Ω
Pulse width tp≤380μs, δ ≤2%						
Dynamic Characteristics						
Input Capacitance	C_{iss}	V_{DS}=25V,V_{GS}=0V, f=1.0MHZ	—	425	—	pF
Output Capacitance	C_{oss}		—	55	—	pF
Reverse Transfer Capacitance	C_{rss}		—	5.8	—	pF
Switching Characteristics						
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=325V,I_D=4A, R_G=10Ω (Note3,4)	—	10	—	ns
Turn-On Rise Time	t_r		—	11	—	ns
Turn-Off Delay Time	$t_{d(off)}$		—	31	—	ns
Turn-Off Fall Time	t_f		—	16	—	ns
Total Gate Charge	Qg	V_{DS}=325V,I_D=4A, V_{GS}=10V(Note3,4)	—	14.5	—	nC
Gate-Source Charge	Qgs		—	3	—	nC
Gate-Drain Charge	Qgd		—	6	—	nC
Drain-Source Body Diode Charcteristics and Maximum Ratings						
Diode Forward Voltage	V_{SD}	I_S=4A,V_{GS}=0V	—	—	1.5	V
Reverse Recovery Time	t_{rr}	V_{GS}=0V,I_S=4A,Tj=25℃ dI$_F$/dt=100A/us(Note3)	—	320	—	ns
Reverse Recovery Charge	Q_{rr}		—	2.0	—	nC
Pulse width tp≤380μs, δ ≤2%						

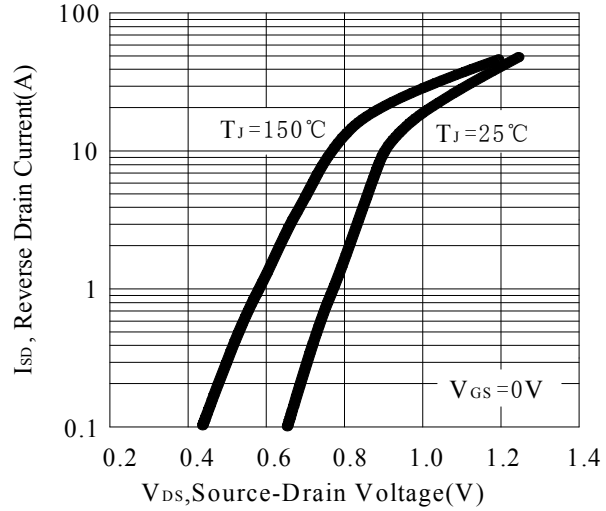
Notes

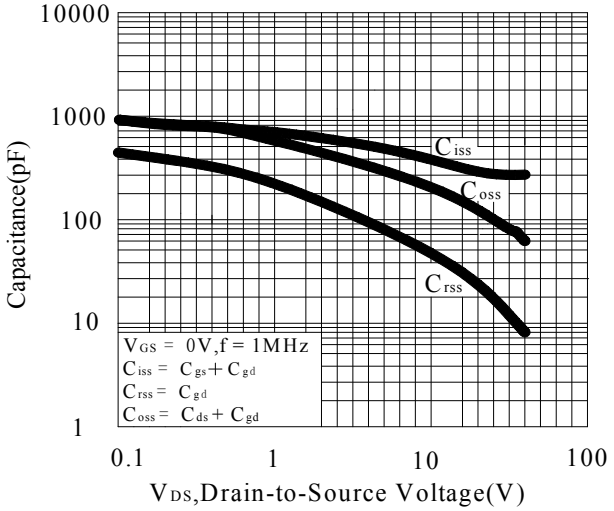
1. Repetitive Rating:pulse width limited by maximum junction temperature .
2. V_{DD}=50V,starling,L=18.8mH,R_g=25Ω,I_{AS}=4A , T_J=25℃.
3. dI/dt=_A/us,starting T_J=25℃.Pulse width≤300us;duty cycle≤2%.
4. Repetitive rating; pulse width limited by maximum junction temperature.

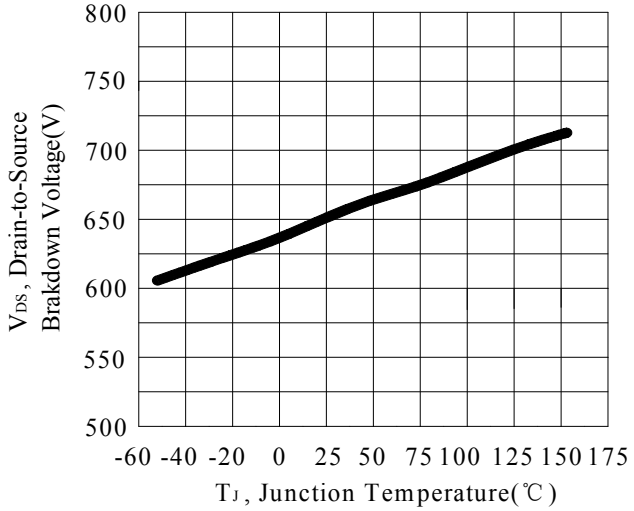
RATING AND CHARACTERISTIC CURVES (4N65)

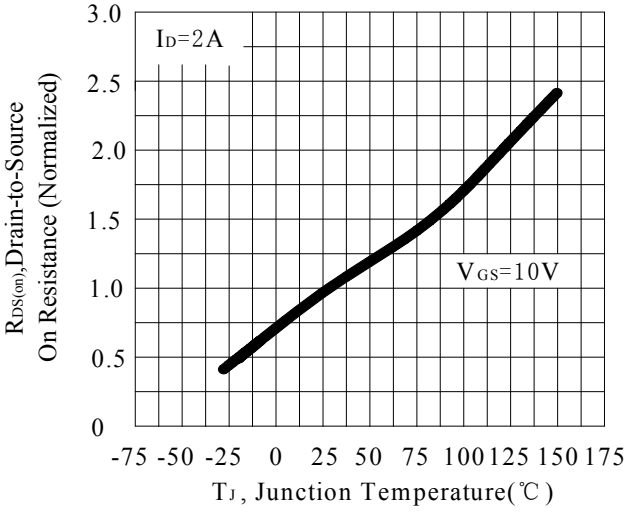




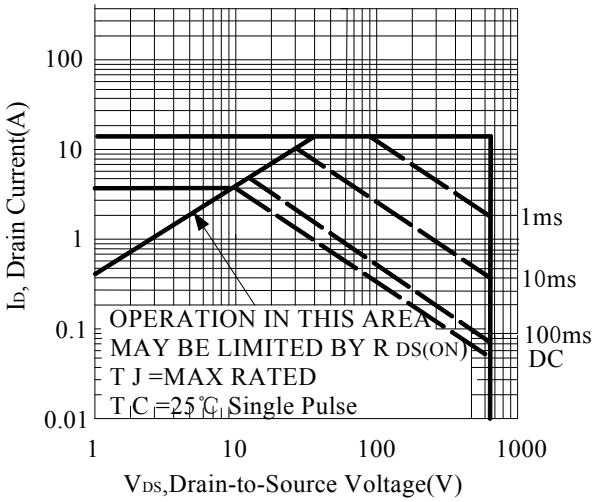


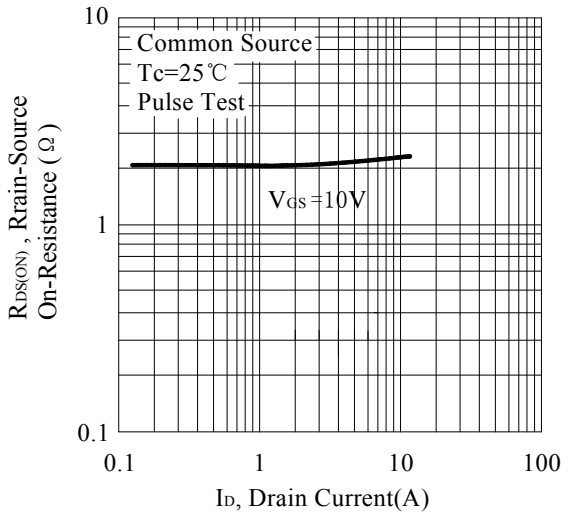


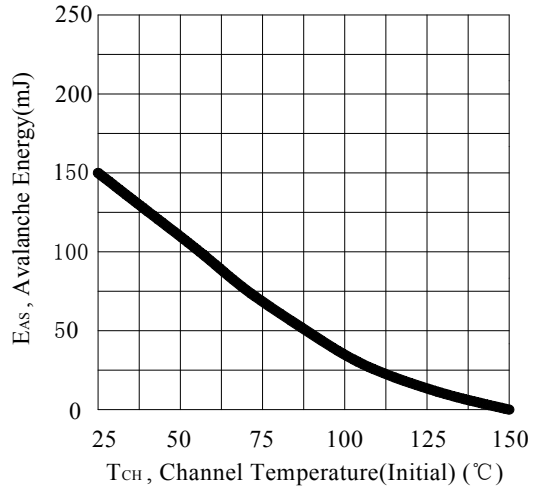


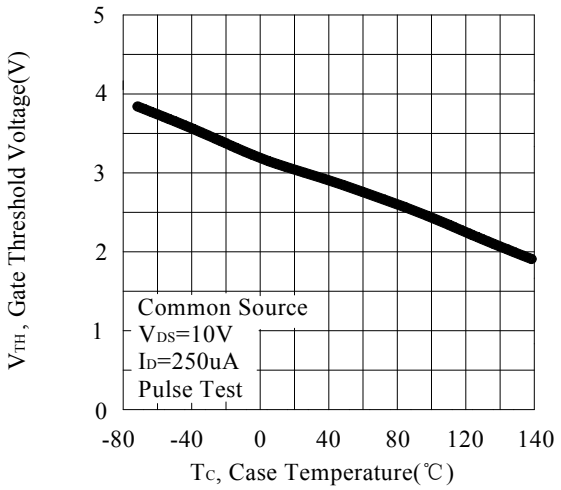


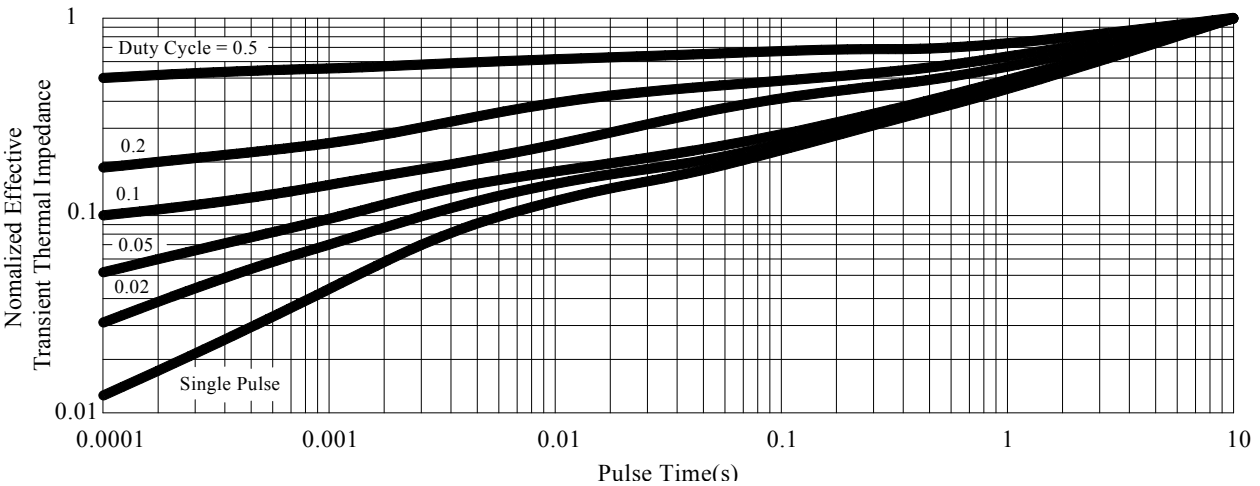
RATING AND CHARACTERISTIC CURVES (4N65)





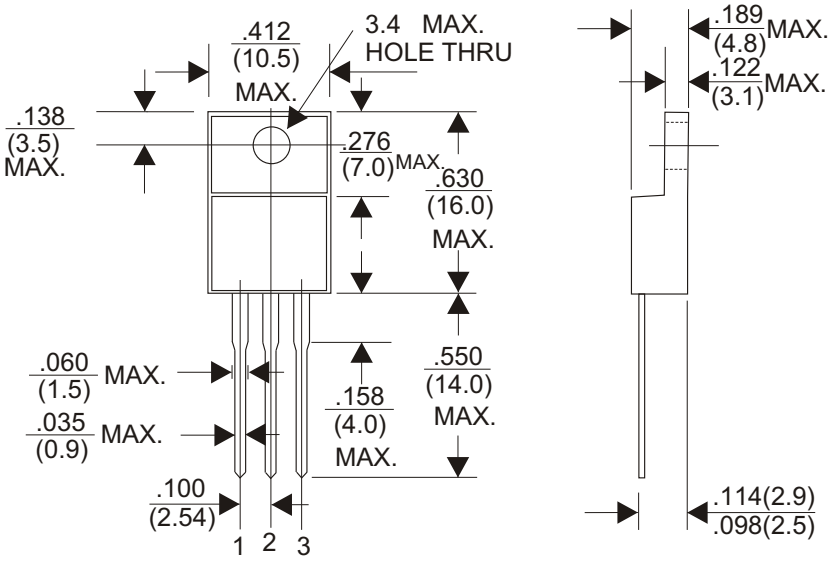






RATING AND CHARACTERISTIC CURVES (4N65)

ITO-220 Mechanical Drawing



TO-252 Mechanical Drawing

Unit: mm