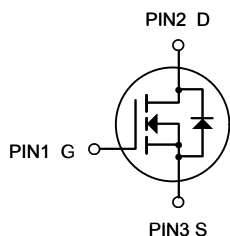


FEATURE

- 4A,650V, $R_{DS(ON)MAX}=2.6\ \Omega$ @ $V_{GS}=10V/2A$
- 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°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.

Absolute Maximum Ratings($T_c=25^\circ\text{C}$, 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	°C
Maximum lead temperature for soldering purposes, 1/8" from case for 5 seconds		T_L	260	°C
Mounting Torque	6-32 or M3 screw		10	lbf • in
			1.1	N • m

RATING AND CHARACTERISTIC CURVES (4N65)

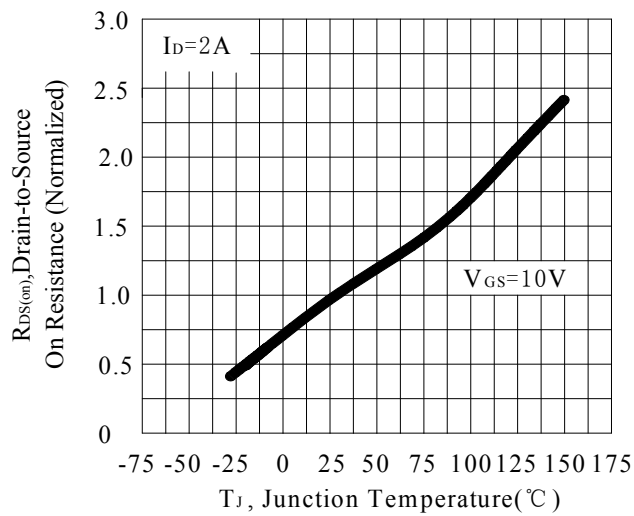
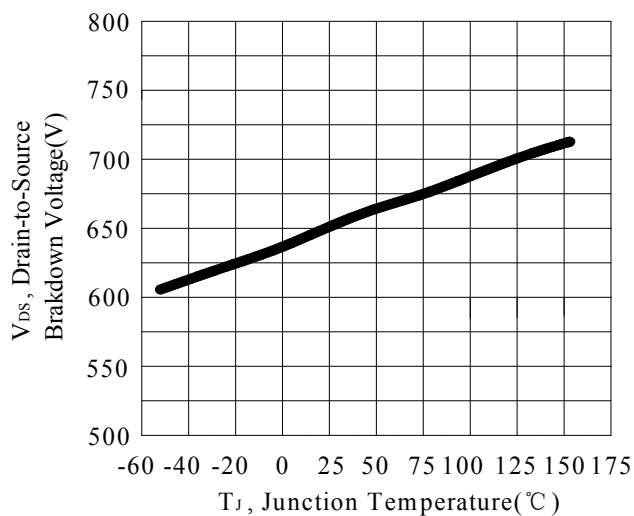
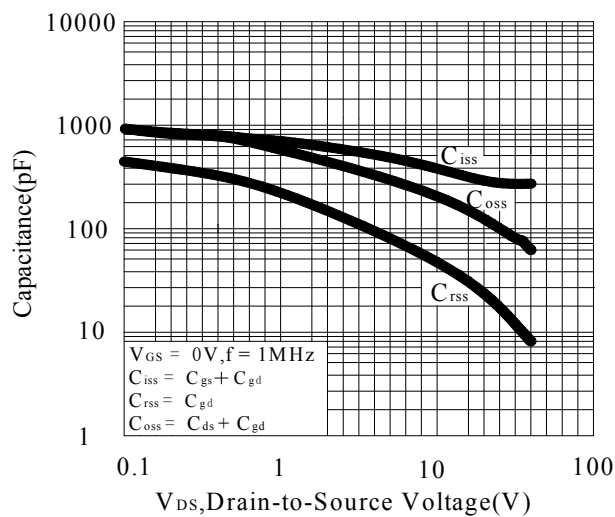
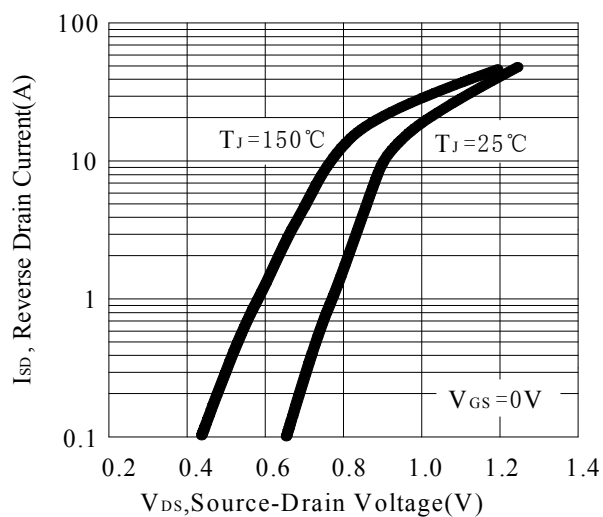
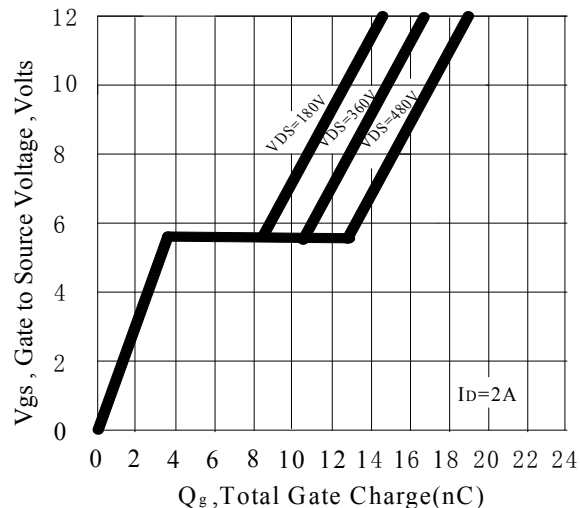
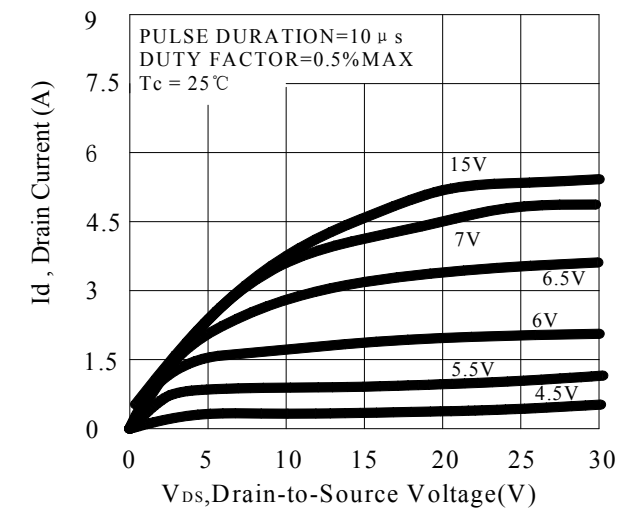
Thermal Characteristics						
Parameter		Symbol	MAX	Units		
Maximum Junction-to-Case		R_{thJC}	3.47	°C/W		
Maximum Power Dissipation	$T_c=25^{\circ}\text{C}$	P_D	34	W		

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	μ A
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	Q _g	V _{DS} =325V,I _D =4A, V _{GS} =10V(Note3,4)	—	14.5	—	nC
Gate-Source Charge	Q _{gs}		—	3	—	nC
Gate-Drain Charge	Q _{gd}		—	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,T _j =25℃	—	320	—	ns
Reverse Recovery Charge	Q _{rr}	dI _F /dt=100A/us(Note3)	—	2.0	—	nC
Pulse width tp≤380μs, δ ≤2%						

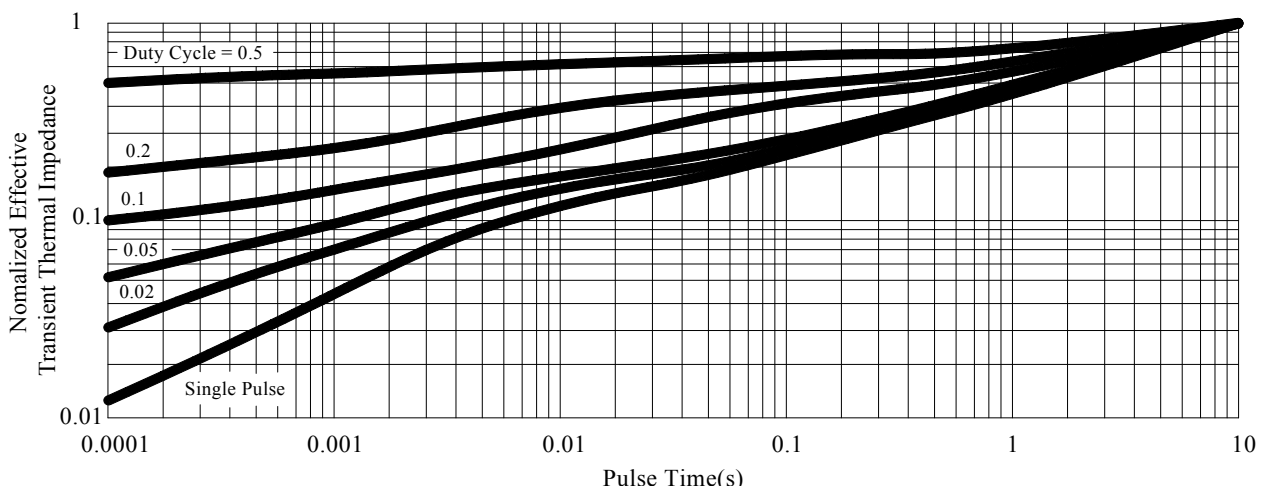
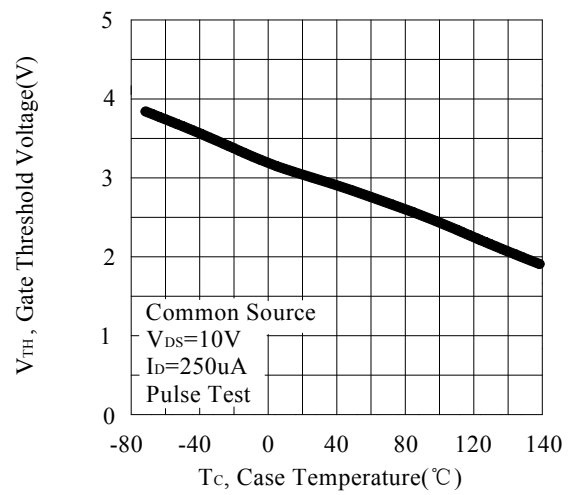
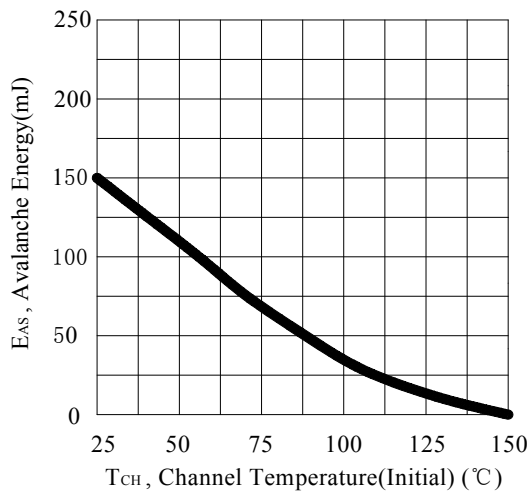
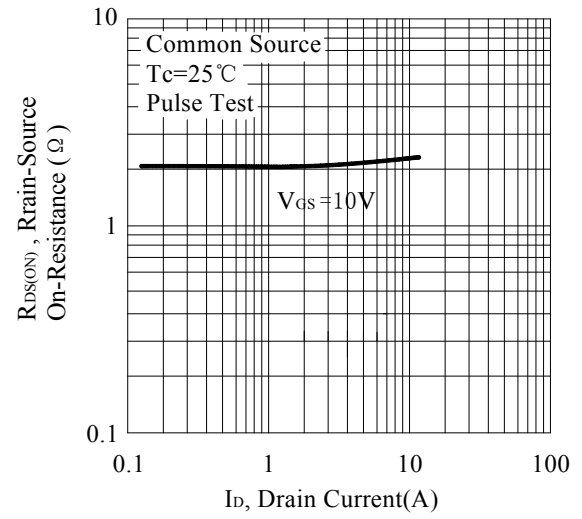
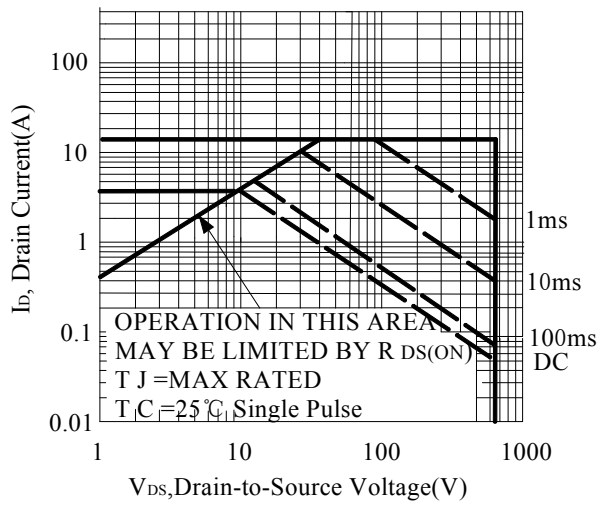
Notes

1. Repetitive Rating: pulse width limited by maximum junction temperature.
2. $V_{DD}=50V$, starling, $L=18.8\text{mH}$, $R_g=25\Omega$, $I_{AS}=4A$, $T_J=25^{\circ}\text{C}$.
3. $dI/dt= _A/\mu s$, starting $T_J=25^{\circ}\text{C}$. Pulse width $\leq 300\mu s$; duty cycle $\leq 2\%$.
4. Repetitive rating; pulse width limited by maximum junction temperature.

RATING AND CHARACTERISTIC CURVES (4N65)

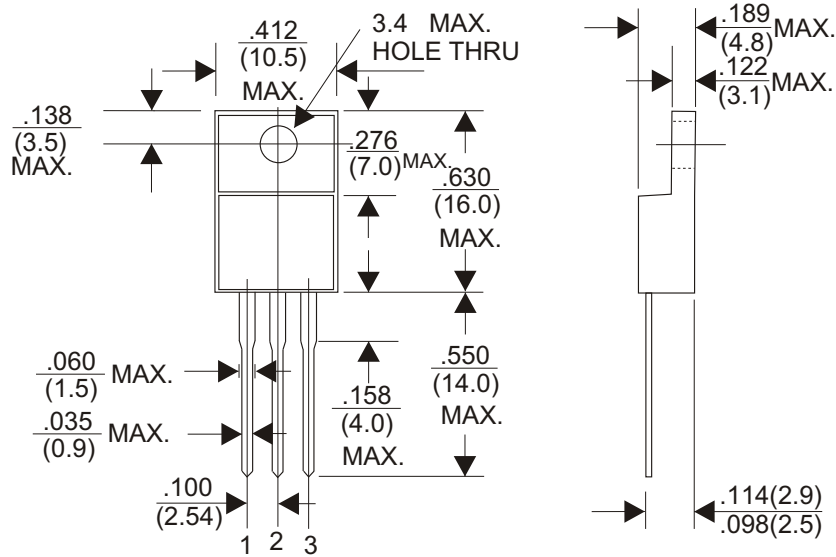


RATING AND CHARACTERISTIC CURVES (4N65)



RATING AND CHARACTERISTIC CURVES (4N65)

ITO-220 Mechanical Drawing



TO-252 Mechanical Drawing

Unit: mm

