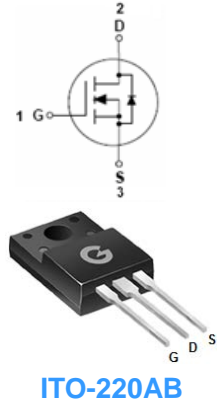


Features

- Fast switching
- Low on resistance
- Low gate charge
- 100% single pulse avalanche energy test



Mechanical Data

- Case: ITO-220AB
- Molding Compound: UL Flammability Classification Rating 94V-0
- Terminals: Matte tin-plated leads; solderability-per MIL-STD-202, Method 208

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
BL14N65F□	ITO-220AB	50pcs / Tube	14N65F

Note for □: none is for Lead-free package
"G" is for Halogen Free package

Maximum Ratings (@ T_A= 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V _{DSS}	650	V
Gate-to-Source Voltage	V _{GSS}	±30	V
Continuous Drain Current(T _C = 25°C)	I _D	14	A
Pulsed Drain Current *1	I _{DM}	56	A

Thermal Characteristics

Parameter	Symbol	Value	Unit
Power Dissipation(T _C = 25°C)	P _D	30	W
Thermal Resistance Junction-to-Air	R _{θJA}	75	°C/W
Thermal Resistance Junction-to-Case	R _{θJC}	4.2	°C/W
Operating Junction Temperature Range	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
V_{DSS}	Drain-Source Breakdown Voltage	$V_{GS} = 0V, I_D = 250\mu A$	650	-	-	V
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 650V, V_{GS} = 0V$	-	-	1	μA
I_{GSS}	Gate-Body Leakage Current	$V_{GS} = \pm 30V, V_{DS} = 0V$	-	-	± 100	nA
On Characteristics						
$R_{DS(ON)}$	Static Drain-Source On-resistance *1	$V_{GS} = 10V, I_D = 7A$	-	-	0.58	Ω
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250\mu A$	2	-	4	V
Dynamic Characteristics						
C_{ISS}	Input Capacitance	$V_{GS} = 0V$	-	2442	-	pF
C_{OSS}	Output Capacitance	$V_{DS} = 25V$	-	18.5	-	
C_{RSS}	Reverse Transfer Capacitance	$f = 1.0\text{MHz}$	-	218	-	
Switching Characteristics						
$t_{d(ON)}$	Turn-on Delay Time	$V_{DD} = 325V$ $R_G = 25\Omega$ $I_D = 14A$	-	30	-	ns
t_r	Turn-on Rise Time		-	70	-	
$t_{d(OFF)}$	Turn-Off Delay Time		-	145	-	
t_f	Turn-Off Fall Time		-	74	-	
Q_G	Total Gate-Charge	$V_{DD} = 325V$	-	54	-	nC
Q_{GS}	Gate to Source Charge	$V_{GS} = 10V$	-	10	-	
Q_{GD}	Gate to Drain (Miller) Charge	$I_D = 14A$	-	21	-	
Source-Drain Diode Characteristics						
V_{SD}	Diode Forward Voltage	$I_{SD} = 14A, V_{GS} = 0V$	-	-	1.5	V
I_S	Diode Continuous Forward Current	$T_C = 25^\circ\text{C}$	-	-	14	A
I_{SM}	Pulsed Source-Drain Current		-	-	56	A

Notes:

- The data tested by pulsed, pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$

Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

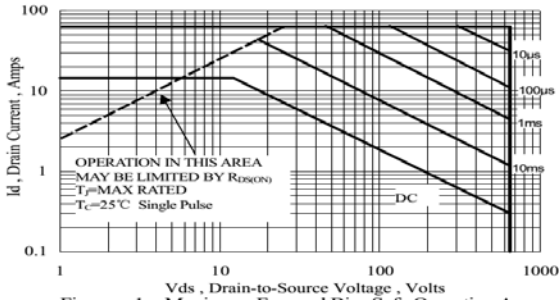


Figure 1 Maximum Forward Bias Safe Operating Area

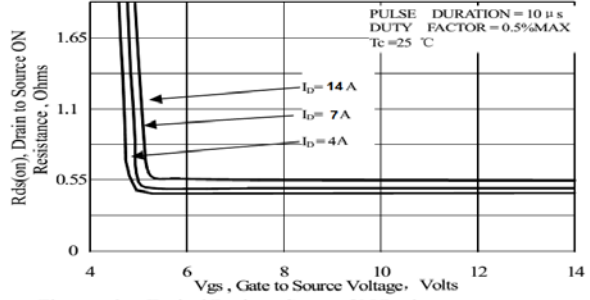


Figure 2 Typical Drain to Source ON Resistance vs Gate Voltage and Drain Current

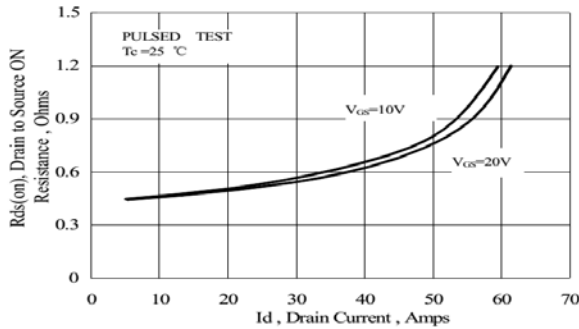


Figure 3 Typical Drain to Source ON Resistance vs Drain Current

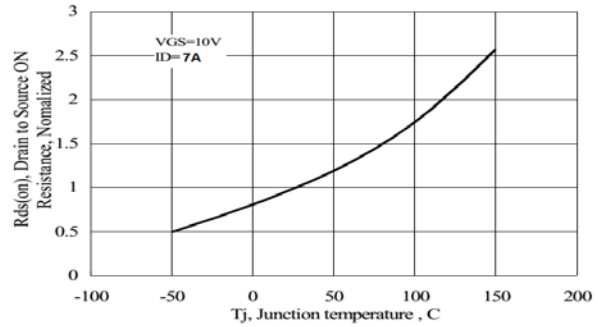


Figure 4 Typical Drain to Source on Resistance vs Junction Temperature

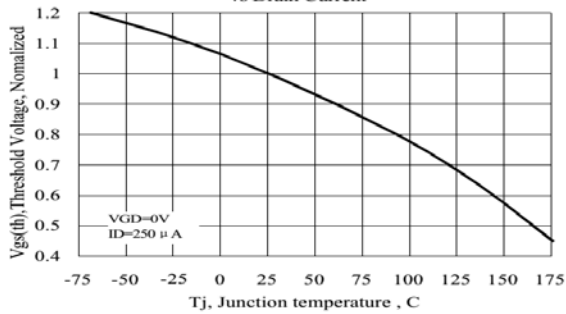


Figure 5 Typical Threshold Voltage vs Junction Temperature

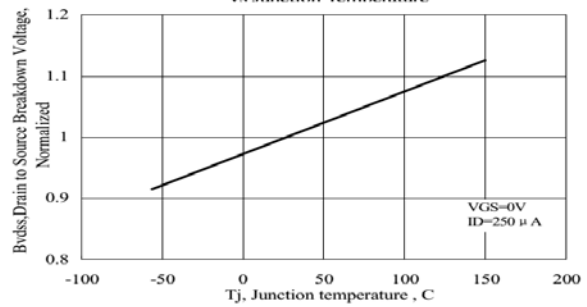


Figure 6 Typical Breakdown Voltage vs Junction Temperature

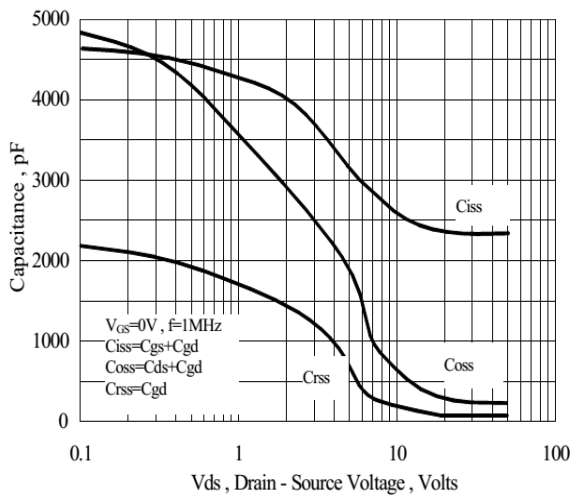


Figure 7 Typical Capacitance vs Drain to Source Voltage

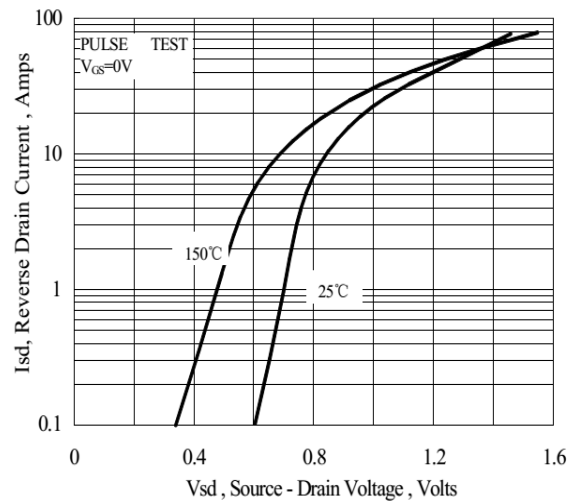
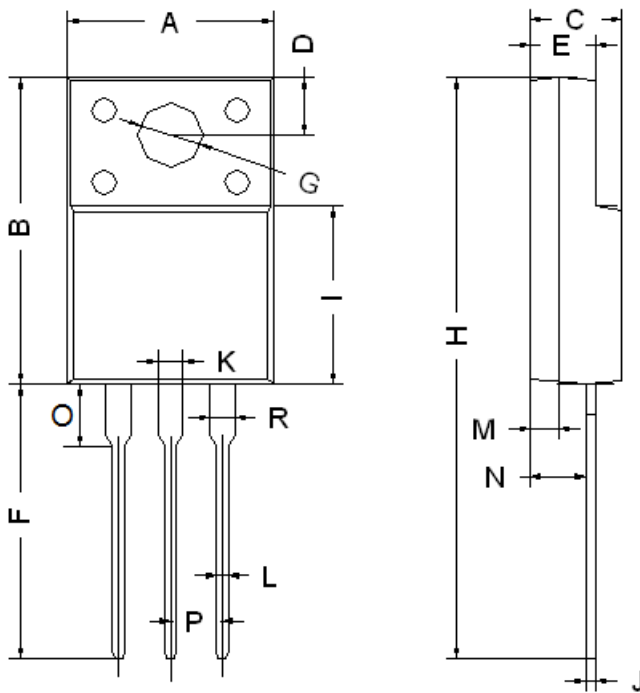


Figure 8 Typical Body Diode Transfer Characteristics

Package Outline Dimensions (Unit: mm)



ITO-220AB		
Dimension	Min.	Max.
A	9.90	10.30
B	14.80	15.20
C	4.30	4.70
D	2.50	2.90
E	2.80	3.30
F	13.00	13.60
G	3.10	3.30
H	28.00	28.60
I	7.90	8.90
J	0.40	0.60
L	0.70	0.90
M	1.30	1.50
N	2.60	2.80
O	2.60	3.10
P	2.45	2.65
K/R	1.10	1.30

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