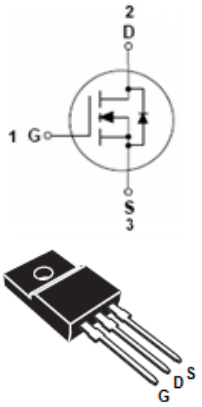
6A,650V N-Channel Power Mosfet BL6N65F

FEATURES

- $R_{DS(ON)}$ =1.7Ω@ V_{GS} = 10V
- Ultra low gate charge (typical 20 nC)
- Low reverse transfer Capacitance (CRSS = typical 10 pF)
- Fast switching capability
- Avalanche energy specified
- Improved dv/dt capability, high ruggedness

Lead-free

HF



ITO-220AB

Ordering Information

Part Number	Package	Shipping	Marking Code
BL6N65F□	ITO-220AB	50/Tube	6N65F

□: none is for Lead Free package;

"G" is for Halogen Free package.

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter	Value	Units
V_{DSS}	Drain-Source voltage	650	V
V_{GSS}	Gate -Source voltage	±30	V
I_D	Continuous Drain Current	6.2	A
I_{DM}	Pulsed Drain Current	24.8	A
E_{AS}	Avalanche Energy Single Pulsed	440	mJ
dv/dt	Peak Diode Recovery dv/dt	4.5	V/ns
P_D	Power Dissipation	40	W
$R_{\theta JA}$	Thermal resistance,Junction-to-Ambient	62.5	℃/W
T_J	Junction Temperature	+150	℃
T_{OPR}, Tstg	Operating and Storage Temperature	-55 to +150	℃

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V,I_D=250μA	650	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=650V, V_{GS}=0V	-	-	10	μA
Gate-body Leakage	I_{GSS}	V_{DS}=0V, V_{GS}=±30V	-	-	±100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	2.0	-	4.0	V
Static drain-Source on-resistance	$R_{DS(ON)}$	V_{GS}=10V,I_D=3.1A	-	1.1	1.7	Ω
DYNAMIC CHARACTERISTICS						
Input capacitance	C_{ISS}	V_{DS}=25V,V_{GS}=0V,f=1.0MHz	-	770	1000	pF
Output capacitance	C_{OSS}		-	95	120	
Reverse transfer capacitance	C_{RSS}		-	10	13	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	$t_{D(ON)}$	V_{DD} = 325V, I_D = 6.2A, R_G= 25Ω	-	20	50	ns
Rise Time	tr		-	70	150	ns
Turn-Off Delay Time	$t_{D(OFF)}$		-	40	90	ns
Fall Time	tf		-	45	100	ns
Total Gate Charge	Qg	V_{DS} = 520V I_D= 6.2A V_{GS}= 10V,	-	20	25	nC
Gate-Source Charge	Qgs		-	4.9	-	nC
Gate-Drain Charge	Qgd		-	9.4	-	nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source diode forward voltage	V_{SD}	V_{GS}=0V,I_s=6.2A	-	-	1.4	V
Maximum Continuous Drain-Source Diode Forward Current	I_S		-	-	6.2	A
Maximum Pulsed Drain-Source Diode Forward Current	I_{SM}		-	-	24.8	A
Body Diode Reverse Recovery Time	trr	V_{GS}=0V ,Is=4.4A, dI/dt=100A/μs	-	290	-	nS
Body Diode Reverse Recovery Charge	Qrr		-	2.35	-	uC

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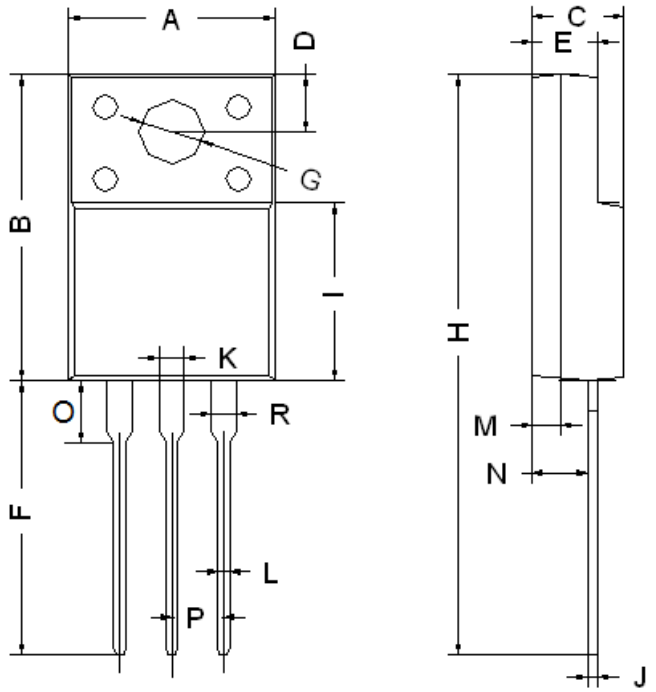
PACKAGE OUTLINE

Plastic surface mounted package ITO-220AB



ITO-220AB		
Dim	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
All Dimensions in mm		