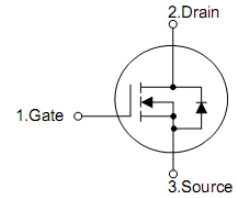
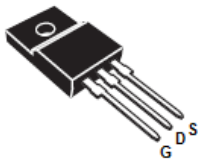
N-Channel Power MOSFET

BL7N80F

FEATURES

- 7A, 800V, RDS(on)=1.9Ω@VGS =10V
- High switching speed
- 100% avalanche tested





ITO-220AB

MAXIMUM RATINGS (TC=25°C, unless otherwise specified)

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	800	V
V_{GS}	Gate -Source Voltage	±30	V
I_D	Drain Current Continuous at T_C=25℃	7	A
I_{DM}	Drain Current(pulsed)Note1	26.4	A
P_D	Power Dissipation	48	W
E_{AS}	Avalanche Energy(Single Pulsed (Note 2))	580	mJ
E_{AR}	Avalanche Energy (Repetitive(Note 1))	16.7	mJ
$R_{\theta JA}$	Thermal Resistance,Junction-to-Ambient	62.5	℃/W
$R_{\theta JC}$	Thermal Resistance,Junction-to-Case	2.6	℃/W
T_j T_{stg}	Junction and StorageTemperature Range	-55 to +150	℃

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.
Absolute maximum ratings are stress ratings only and functional device operation is not implied.
Drain current limited by maximum junction temperature.

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=250μA	800	-	-	V
Drain-Source Leakage Current	I_{DSS}	V_{DS}=800V, V_{GS}=0V	-	-	10	μA
Gate- Source Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±30V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	3.0	-	5.0	V
Static drain-Source On-State resistance	$R_{DS(on)}$	V_{GS}=10V,I_D=3.3A	-	1.4	1.9	Ω
Input Capacitance	C_{ISS}	V_{DS}=25V,V_{GS}=0V,f=1.0MHz	-	1290	1680	pF
Output Capacitance	C_{OSS}		-	120	155	pF
Reverse Transfer Capacitance	C_{RSS}		-	10	13	pF
Turn-On Delay Time	$t_{D(ON)}$	V_{DD} = 400V, I_D=6.6A, R_G=25Ω	-	35	80	ns
Rise Time	t_R		-	100	210	ns
Turn-Off Delay Time	$t_{D(OFF)}$		-	50	110	ns
Fall Time	t_F		-	60	130	ns
Total Gate Charge	Q_g	V_{DS}=640V,V_{GS}=10V I_D=6.6A	-	27	35	nC
Gate-source Charge	Q_{gs}		-	8.2	-	nC
Gate-drain Charge	Q_{gd}		-	11	-	nC
Maximum Body-Diode Continuous Current	I_S		-	-	6.6	A
Maximum Body-Diode Pulsed Current	I_{SM}		-	-	2426.4	A

Notes: 1. Repetitive Rating: Pulse width limited by maximum junction temperature
2. L=25mH, IAS=6.6A, VDD= 50V, RG=25Ω, Starting TJ=25°C
3. ISD ≤8A, di/dt ≤200A/μs, VDD ≤BVDSS, Starting TJ=25°C
4. Pulse Test: Pulse width ≤ 300μs, Duty cycle ≤ 2%
5. Essentially independent of operating temperature

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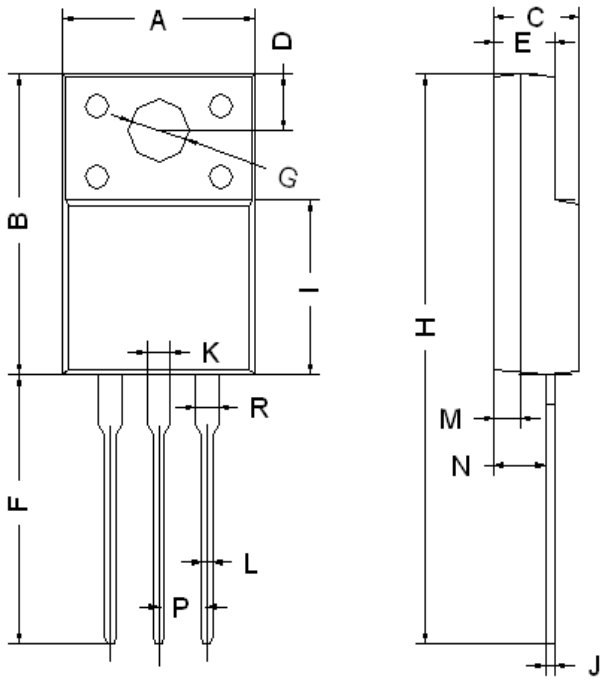
PACKAGE OUTLINE

Plastic surface mounted package ITO-220AB



ITO-220AB		
Dim	Min	Max
A	9.90	10.30
B	14.80	15.20
C	4.50 Typical	
D	2.70 Typical	
E	2.80	3.30
F	13.00	13.60
G	3.2 Typical	
H	28.00	28.60
I	7.90	8.90
J	0.50 Typical	
L	0.70	0.90
M	1.40 Typical	
N	2.60	2.80
P	2.45	2.65
K/R	1.20 Typical	
All Dimensions in mm		