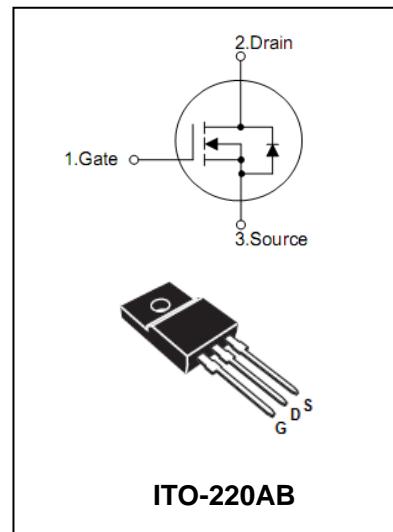


N-Channel Power MOSFET**BL10N30F****FEATURES**

- High switching speed.
- RDS(ON)=0.65Ω @ VGS=10V.
- 100% avalanche tested.
- Very Good Manufacturing Reliability.

**APPLICATIONS**

- N-Channel Power MOSFET.
- Switching Applications.

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

Symbol	Parameter	Value	Unit
V _{DS}	Drain-Source Voltage	300	V
V _{GS}	Gate -Source Voltage	±30	V
I _D	Drain Current Continuous at T _C =25°C	10	A
I _{DM}	Drain Current(pulsed)Note1	40	A
P _D	Power Dissipation at T _C =25°C	115	W
E _{AS}	Avalanche Energy(Single Pulsed (Note 2))	360	mJ
E _{AR}	Avalanche Energy (Repetitive(Note 3))	13.5	mJ
P _D	Power Dissipation T _C =25°C Derate above 25°C	135 1.07	W W/°C
R _{θJA}	Thermal Resistance,Junction-to-Ambient	62.5	°C/W
R _{θJC}	Thermal Resistance,Junction-to-Case	0.93	°C/W
T _j T _{stg}	Junction and StorageTemperature Range	-55 to +150	°C

N-Channel Power MOSFET**BL10N30F**

Note: 1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. L = 5.7mH, $I_{AS} = 10.5A$, $V_{DD} = 50V$, $R_G = 25\Omega$, Starting $T_J = 25^\circ C$

3. $I_{SD} \leq 10.5A$, $di/dt \leq 200A/\mu s$, $V_{DD} \leq BV_{DSS}$, Starting $T_J = 25^\circ C$

ELECTRICAL CHARACTERISTICS @ $T_a=25^\circ C$ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	300	-	-	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=300V, V_{GS}=0V$	-	-	1	μA
Gate- Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 30V$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.0	-	4.0	V
Static drain-Source On-State resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=10A$	-	0.5	0.9	Ω
Drain-Source Diode Forward Voltage	V_{SD}	$I_{SD}=10A, V_{GS}=0$	-	-	1.4	V
Input Capacitance	C_{ISS}	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$	-	840	1090	pF
Output Capacitance	C_{OSS}		-	250	325	pF
Reverse Transfer Capacitance	C_{RSS}		-	80	110	pF
Turn-On Delay Time	$t_{D(ON)}$	$V_{DD} = 30V, I_D=4A, R_G=25\Omega, V_{GS}=10V$ (Note 1, 2)	-	14	40	ns
Rise Time	t_R		-	89	190	ns
Turn-Off Delay Time	$t_{D(OFF)}$		-	81	170	ns
Fall Time	t_F		-	81	170	ns
Total Gate Charge	Q_g	$V_{DS}=480V, V_{GS}=10V, I_D=8A$	-	50	70	nC
Gate-source Charge	Q_{gs}		-	10	-	nC
Gate-drain Charge	Q_{gd}		-	25	-	nC
Maximum Body-Diode Continuous Current	I_S		-	-	10	A
Maximum Body-Diode Pulsed Current	I_{SM}		-	-	40	A

Notes: 1. Pulse Test: Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$.

2. Essentially independent of operating temperature.

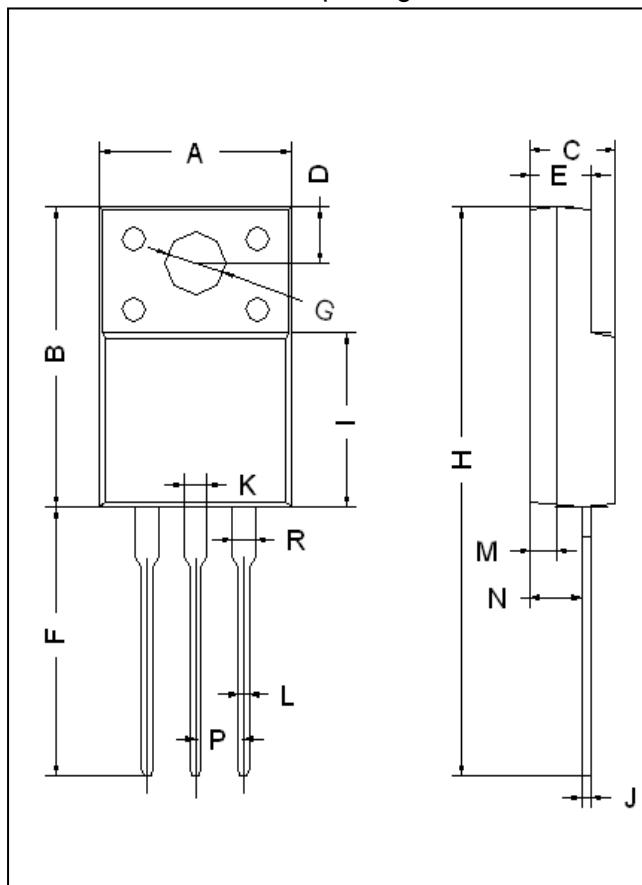
N-Channel Power MOSFET

BL10N30F

PACKAGE OUTLINE

Plastic surface mounted package

ITO-220AB



The diagram illustrates the physical dimensions of the ITO-220AB package. The top view shows a rectangular package with lead spacing (A) of 9.90 to 10.30 mm, lead height (B) of 14.80 to 15.20 mm, lead thickness (C) of 4.50 mm typical, lead width (D) of 2.70 mm typical, lead pitch (E) of 2.80 to 3.30 mm, lead length (F) of 13.00 to 13.60 mm, lead gap (G) of 3.2 mm typical, lead height (H) of 28.00 to 28.60 mm, lead thickness (I) of 7.90 to 8.90 mm, lead width (J) of 0.50 mm typical, lead thickness (K/R) of 0.70 to 0.90 mm, lead gap (L) of 1.40 mm typical, lead length (M) of 2.60 to 2.80 mm, lead gap (N) of 2.45 to 2.65 mm, and lead gap (P) of 1.20 mm typical. The side view shows the overall height (H) of 28.00 to 28.60 mm, lead thickness (I) of 7.90 to 8.90 mm, lead width (J) of 0.50 mm typical, lead thickness (K/R) of 0.70 to 0.90 mm, lead gap (L) of 1.40 mm typical, lead length (M) of 2.60 to 2.80 mm, lead gap (N) of 2.45 to 2.65 mm, and lead gap (P) of 1.20 mm typical.

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