N-Channel Power MOSFET

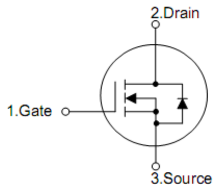
BL15N30F

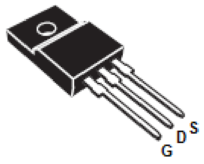
FEATURES

- RDS(on)=240m (Typ.) @ VGS=10V, ID=7.5A
- Low Gate Charge (Typ. 28 nC)
- Low Crss (Typ. 17 pF)
- 100% Avalanche Tested
- Improved dv/dt Capability
- RoHS Compliant

Lead-free

HF





ITO-220AB

APPLICATIONS

- Lighting
- Uninterruptible Power Supply

Ordering Information

Part Number	Package	Shipping	Marking Code
BL15N30F☐	ITO-220AB	50/Tube	15N30F

☐: none is for Lead Free package;

"G" is for Halogen Free package

MOSFET Maximum Ratings T_C = 25°C unless otherwise noted*

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℃ Continuous at T_C=100℃	15 9	A
I_{DM}	Drain Current(pulsed)Note1	60	A
E_{AS}	Single Pulsed Avalanche Energy (Note 2)	731	mJ
E_{AR}	Repetitive Avalanche Energy (Note 1)	17	mJ
IAR	Avalanche Current (Note 1)	15	A
dv/dt	Peak Diode Recovery dv/dt (Note 3)	15	V/ns
P_D	Power Dissipation T_C=25℃ Derate above 25°C	170 1.45	W W/℃
$R_{\theta JA}$	Thermal Resistance,Junction-to-Ambient	62.5	℃/W
$R_{\theta JC}$	Thermal Resistance,Junction-to-Case	0.7	℃/W
T_j T_{stg}	Junction and StorageTemperature Range	-55 to +150	℃

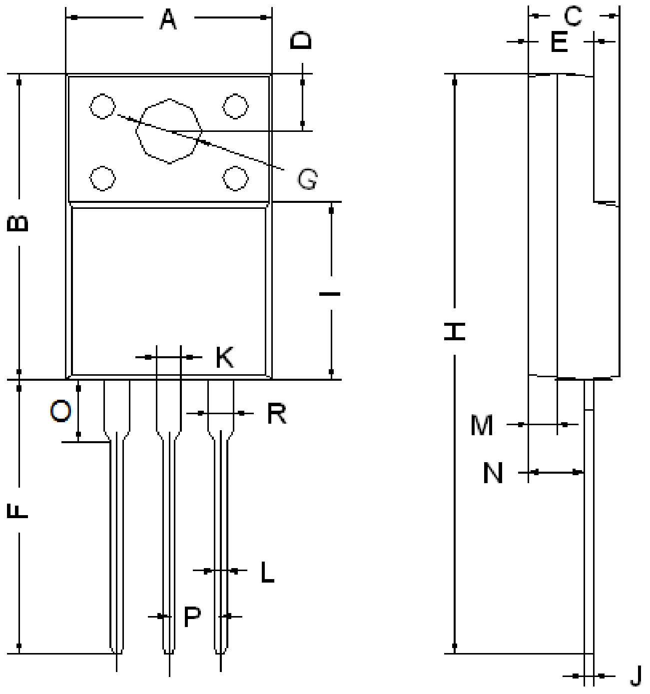
ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=250µA	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}=±30V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250µA	2.5	-	5.0	V
Static drain-Source On-State resistance	$R_{DS(on)}$	V_{GS}=10V,I_D=7.5A	-	0.24	0.3	Ω
Drain-Source Diode Forward Voltage	V_{SD}	I_{SD}=15A,V_{GS}=0	-	-	1.4	V
Input Capacitance	C_{ISS}	V_{DS}=25V,V_{GS}=0V,f=1.0MHz	-	1310	1750	pF
Output Capacitance	C_{OSS}		-	210	280	pF
Reverse Transfer Capacitance	C_{RSS}		-	17	25	pF
Turn-On Delay Time	$t_{D(ON)}$	V_{DD} =200V, I_D=15A, R_G=25Ω	-	26	62	ns
Rise Time	t_R		-	55	120	ns
Turn-Off Delay Time	$t_{D(OFF)}$		-	72	154	ns
Fall Time	t_F		-	40	90	ns
Total Gate Charge	Q_g	V_{DS}=320V,V_{GS}=10V I_D=15A	-	28	36	nC
Gate-source Charge	Q_{gs}		-	8		nC
Gate-drain Charge	Q_{gd}		-	12		nC
Maximum Body-Diode Continuous Current	I_S		-	-	15	A
Maximum Body-Diode Pulsed Current	I_{SM}		-	-	60	A

Notes: 1: Repetitive Rating: Pulse width limited by maximum junction temperature
2: L = 6.5mH, IAS = 15A, VDD = 50V, RG = 25 , Starting TJ = 25°C
3: ISD 15A, di/dt 200A/ s, VDD BVDSS, Starting TJ = 25°C
4: Essentially Independent of Operating Temperature Typical Characteristics

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		