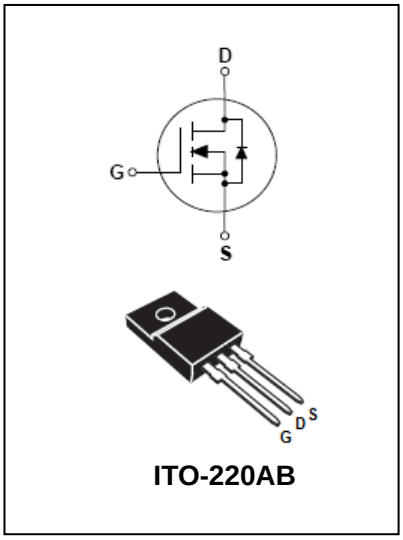
N-Channel Enhancement Mode Field Effect Transistor BL8N60F

FEATURES

- RDS(ON) =1.2Ω@VGS = 10V.
- Ultra Low gate charge (typical 28nC)
- Low reverse transfer capacitance (CRSS = typical 12.0 pF)
- Fast switching capability
- Avalanche energy specified
- Improved dv/dt capability, high ruggedness

Pb
Lead-free



ITO-220AB

MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
V_{DS}	Drain-Source voltage	600	V
V_{GS}	Gate -Source voltage	±30	V
I_D	Continuous Drain current T_C=25℃	7.5	A
	Continuous Drain current T_C=100℃	4.6	A
E_{AS}	Single Pulse Avalanche Energy(Note2)	230	mJ
E_{AR}	Avalanche Energy,Repetitive(Note1)	14.7	mJ
I_{AR}	Avalanche Current(Note2)	7.5	A
ISD	Continuous Drain-Source Current	7.5	A
ISM	Pulsed Drain-Source Current	30	A
dv/dt	Peak Diode Recovery dv/dt(Note4)	4.5	V/ns
P_D	Power Dissipation	48	W
$R_{\theta JC}$	Junction-to-Case	2.6	℃/W
$R_{\theta JA}$	Junction-to-Ambient	62.5	℃/W
T_J, T_{stg}	Junction and Storage Temperature	-55 to +150	℃
T_L	Maximum Temperature for Soldering	+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.

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ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=250μA	600	-	-	V
Bvdss Temperature Coefficient	$\triangle BV_{DSS}/\triangle T_J$	I_D=250mA,	-	0.7	-	V/℃
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS}= V_{GS}, I_D =250uA	2		4	V
Drain to Source Leakage Current	I_{DSS}	V_{DS}=600V, V_{GS}=0V	-	-	10	uA
Static drain-Source on-resistance	$R_{DS(ON)}$	V_{GS}=10V,I_D=3.75A	-	1.0	1.2	Ω
Gate-body Leakage Forward Reverse	I_{GSS}	V_{GS}=±30V			±100	nA
Input Capacitance	C_{iss}	V_{GS} = 0V V_{DS} = 25V f = 1.0MHz	-	965	1255	pF
Output Capacitance	C_{oss}		-	105	135	
Reverse Transfer Capacitance	C_{rss}		-	12	16	
Turn-on Delay Time	$td_{(ON)}$	I_D =7.5A V_{DD} = 300V	-	16.5	45	ns
Rise Time	tr		-	60.5	130	
Turn-Off Delay Time	$td_{(OFF)}$		-	81	170	
Fall Time	tf		-	64.5	140	
Total Gate Charge	Q_g	I_D =1.2A V_{DD} =480V V_{GS} = 10V	-	28	36	nC
Gate to Source Charge	Q_{gs}		-	4.5		nC
Gate to Drain (“Miller”)Charge	Q_{gd}		-	12		nC
Reverse Recovery Time	trr	I_S=7.5A,Tj = 25℃ dIF/dt=100A/us, VGS=0V	-	365	-	ns
Reverse Recovery Charge	Qrr		-	3.4	-	nC

Note: 1. Repetitive Rating : Pulse width limited by TJ
2. L = 7.3mH, IAS = 7.5A, VDD = 50V, RG = 25 Ω, Starting TJ = 25°C
3. ISD ≤ 7.5A, 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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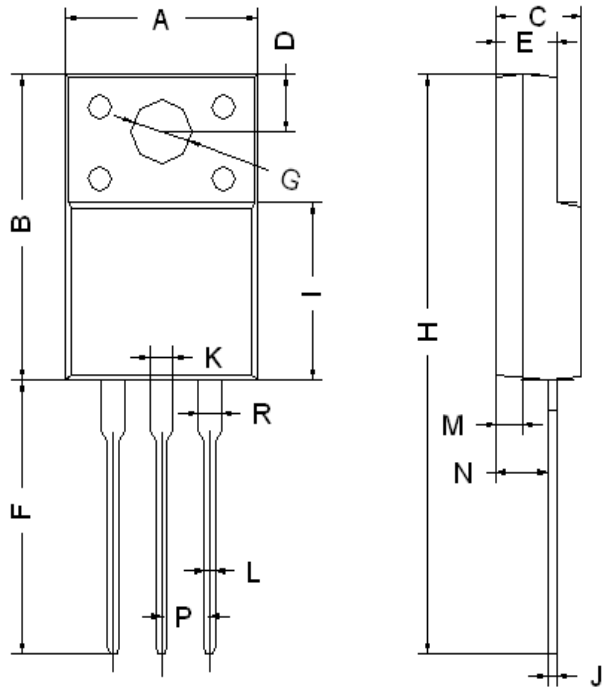
PACKAGE OUTLINE

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		