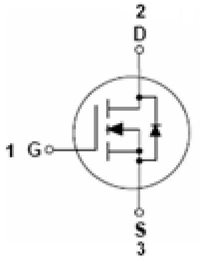
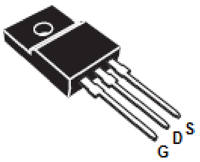
8A,800V N-Channel Power Mosfet BL8N80F

FEATURES

- Typically 35 nC Low Gate Charge
- 8A, 800V, $R_{DS(on)}$ = 1.55Ω @V_{GS} = 10 V
- Typically 13 pF Low Crss
- Improved dv/dt Capability
- Fast Switching Speed
- 100% Avalanche Tested
- RoHS–Compliant Product

Lead-free





ITO-220AB

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

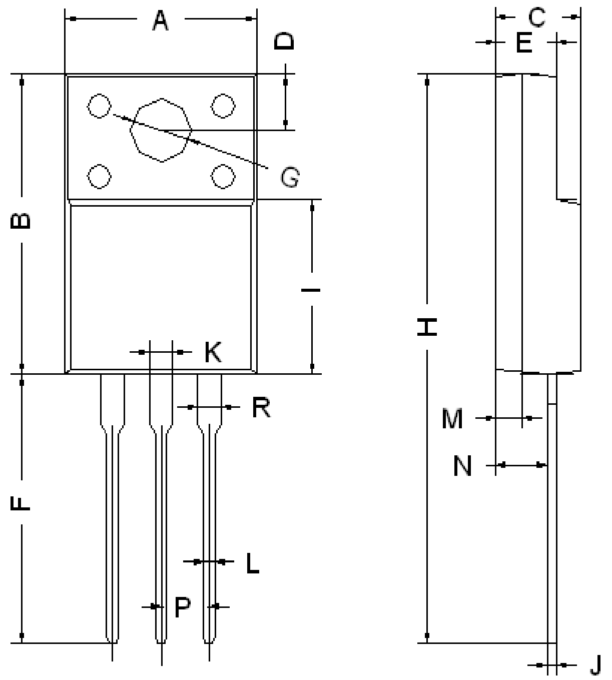
Symbol	**Parameter**	**Value**	**Units**
V_{DSS}	Drain-Source voltage	800	V
V_{GSS}	Gate -Source voltage	±30	V
I_D	Continuous Drain Current	8	A
I_{DM}	Pulsed Drain Current	32	A
E_{AS} E_{AR}	Avalanche Energy Single Pulsed Repetitive	850 17.8	mJ
dv/dt	Peak Diode Recovery dv/dt	4.5	V/ns
P_D	Power Dissipation	178	W
θJA	Junction to Ambient	62.5	℃/W
θJC	Junction to Case	0.7	℃/W
T_J	Junction Temperature	+150	℃
T_{OPR}, Tstg	Operating and Storage Temperature	-55 to +150	℃

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	800	-	-	V
Zero Gate Voltage Drain Current	I$_{DSS}$	V$_{DS}$=800V, 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	3.0	-	5.0	V
Static drain-Source on-resistance	R$_{DS(ON)}$	V$_{GS}$=10V,I$_{D}$=5.0A	-	0.94	1.55	Ω
Forward Transconductance	gFS	VDS=50V, ID=4A		5.6		S
DYNAMIC CHARACTERISTICS						
Input capacitance	C$_{ISS}$	V$_{DS}$=25V,V$_{GS}$=0V,f=1.0MHz	-	1580	2050	pF
Output capacitance	C$_{OSS}$		-	135	175	
Reverse transfer capacitance	C$_{RSS}$		-	13	17	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	t$_{D(ON)}$	V$_{DD}$ = 400V, I$_{D}$ = 8A, R$_{G}$= 25Ω	-	40	90	ns
Rise Time	tr		-	110	230	ns
Turn-Off Delay Time	t$_{D(OFF)}$		-	65	140	ns
Fall Time	tf		-	70	150	ns
Total Gate Charge	Qg	V$_{DS}$ =640V I$_{D}$= 8A V$_{GS}$= 10V,	-	35	45	nC
Gate−Source Charge	Qgs		-	10	-	nC
Gate−Drain Charge	Qgd		-	14	-	nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source diode forward voltage	V$_{SD}$	V$_{GS}$=0V,I$_{s}$=8A	-	-	1.4	V
Maximum Continuous Drain-Source Diode Forward Current	I$_{S}$		-	-	8	A
Maximum Pulsed Drain-Source Diode Forward Current	I$_{SM}$		-	-	32	A
Body Diode Reverse Recovery Time	trr	V$_{GS}$=0V ,Is=8A, dI/dt=100A/μs	-	690	-	nS
Body Diode Reverse Recovery Charge	Qrr		-	8.2	-	uC

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		