

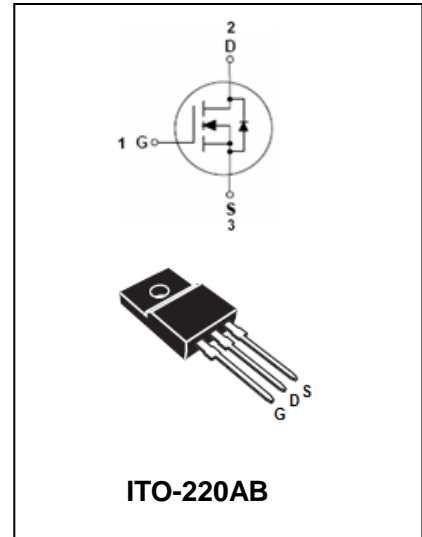
8A,800V N-Channel Power Mosfet

BL8N80F

FEATURES

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

HF



Ordering Information

Part Number	Package	Shipping	Marking Code
BL8N80F	ITO-220AB	50/Tube	8N80F

MAXIMUM RATING @ $T_a=25^\circ\text{C}$ 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}	Avalanche Energy	850	mJ
E_{AR}	Repetitive	17.8	
dv/dt	Peak Diode Recovery dv/dt	4.5	V/ns
P_D	Power Dissipation	178	W
$R_{\theta JA}$	Junction to Ambient	62.5	$^\circ\text{C/W}$
$R_{\theta JC}$	Junction to Case	0.7	$^\circ\text{C/W}$
T_J	Junction Temperature	+150	$^\circ\text{C}$
T_{OPR}, T_{stg}	Operating and Storage Temperature	-55 to +150	$^\circ\text{C}$

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	800	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=800V, V_{GS}=0V$	-	-	10	μA
Gate-body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 30V$	-	-	± 100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	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	g_{FS}	$V_{DS}=50V, I_D=4A$		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	$t_{D(ON)}$	$V_{DD} = 400V,$ $I_D = 8A,$ $R_G = 25\Omega$	-	40	90	ns
Rise Time	t_r		-	110	230	ns
Turn-Off Delay Time	$t_{D(OFF)}$		-	65	140	ns
Fall Time	t_f		-	70	150	ns
Total Gate Charge	Q_g	$V_{DS} = 640V$	-	35	45	nC
Gate-Source Charge	Q_{gs}	$I_D = 8A$	-	10	-	nC
Gate-Drain Charge	Q_{gd}	$V_{GS} = 10V,$	-	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	t_{rr}	$V_{GS}=0V, I_S=8A,$	-	690	-	nS
Body Diode Reverse Recovery Charge	Q_{rr}	$di/dt=100A/\mu s$	-	8.2	-	μC

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PACKAGE OUTLINE

Plastic surface mounted package

ITO-220AB

