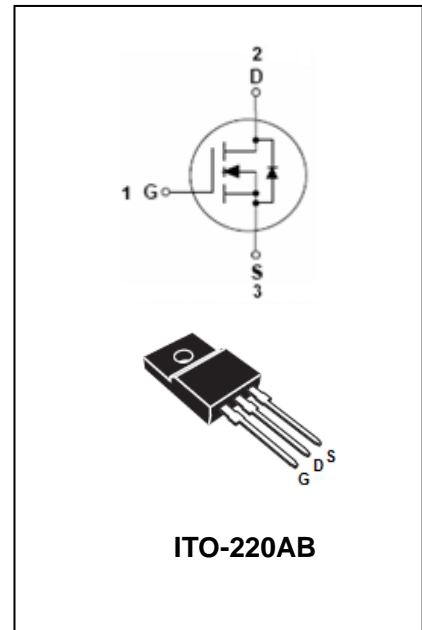


10A,800V N-Channel Power Mosfet

BL10N80F

FEATURES

- $R_{DS(ON)} = 1.1\Omega @ V_{GS} = 10V$
- Ultra Low Gate Charge (Typical 45 nC) Lead-free
- Low Reverse Transfer Capacitance ($CRSS = \text{Typical } 15 \text{ pF}$)
- Fast Switching Capability
- Avalanche Energy Specified
- Improved dv/dt Capability, High Ruggedness



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	10	A
I_{DM}	Pulsed Drain Current	40	A
E_{AS} E_{AR}	Avalanche Energy	920 24	mJ
	Single Pulsed Repetitive		
dv/dt	Peak Diode Recovery dv/dt	4.0	V/ns
P_D	Power Dissipation	36	W
θ_{JA}	Junction to Ambient	62.5	$^\circ\text{C}/\text{W}$
θ_{JC}	Junction to Case	3.47	$^\circ\text{C}/\text{W}$
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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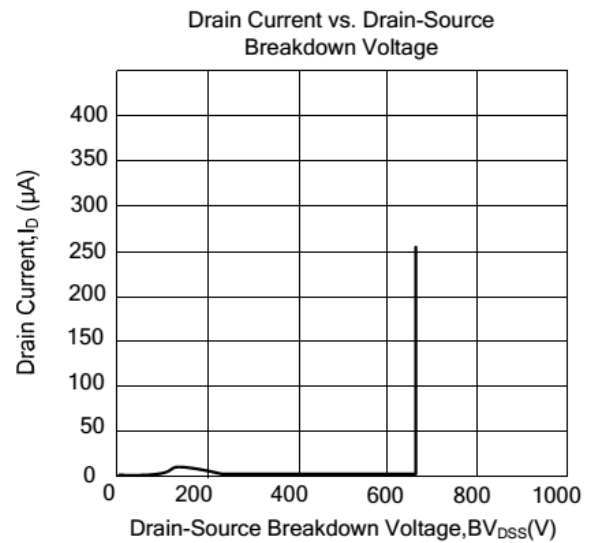
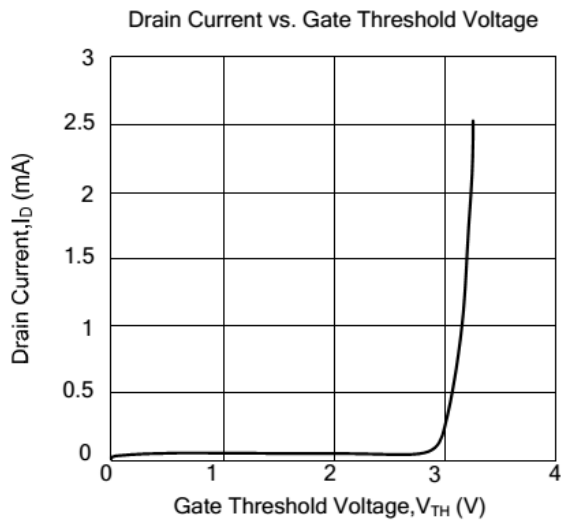
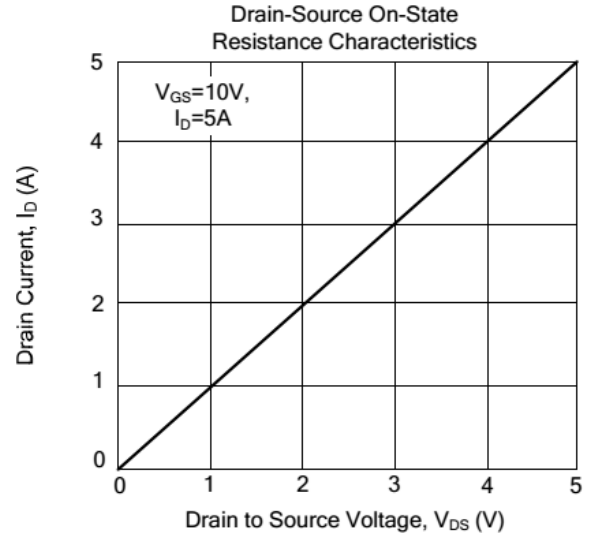
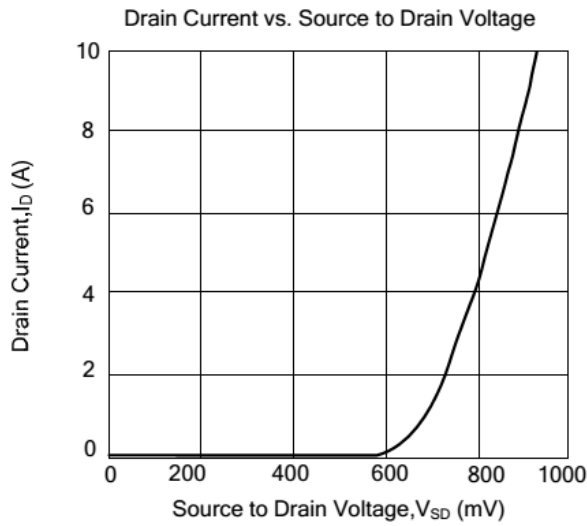
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

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	$R_{DS(ON)}$	$V_{GS}=10V, I_D=5.0A$	-	0.93	1.1	Ω
DYNAMIC CHARACTERISTICS						
Input capacitance	C_{ISS}	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$	-	2150	2800	pF
Output capacitance	C_{OSS}		-	180	230	
Reverse transfer capacitance	C_{RSS}		-	15	20	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	$t_{D(ON)}$	$V_{DD} = 4000V,$ $I_D = 10A,$ $R_G = 25\Omega$	-	50	110	ns
Rise Time	t_r		-	130	270	ns
Turn-Off Delay Time	$t_{D(OFF)}$		-	90	190	ns
Fall Time	t_f		-	80	170	ns
Total Gate Charge	Q_g	$V_{DS} = 640V$ $I_D = 10A$ $V_{GS} = 10V,$	-	45	58	nC
Gate-Source Charge	Q_{gs}		-	13.5	-	nC
Gate-Drain Charge	Q_{gd}		-	17	-	nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source diode forward voltage	V_{SD}	$V_{GS}=0V, I_s=10A$	-	-	1.4	V
Maximum Continuous Drain-Source Diode Forward Current	I_s		-	-	10.0	A
Maximum Pulsed Drain-Source Diode Forward Current	I_{SM}		-	-	40.0	A
Body Diode Reverse Recovery Time	t_{rr}	$V_{GS}=0V, I_s=10.0A,$ $dI/dt=100A/\mu s$	-	730	-	nS
Body Diode Reverse Recovery Charge	Q_{rr}		-	10.9	-	μC

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TYPICAL CHARACTERISTICS



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PACKAGE OUTLINE

Plastic surface mounted package

ITO-220AB

