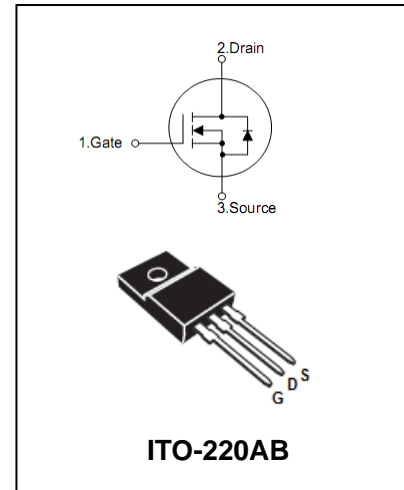


N-Channel Power MOSFET

BL10N30F

FEATURES

- High switching speed.
- $R_{DS(ON)}=0.65\Omega$ @ $V_{GS}=10V$.
- 100% avalanche tested.
- Very Good Manufacturing Reliability.



APPLICATIONS

- N-Channel Power MOSFET.
- Switching Applications.

Ordering Information

Part Number	Package	Shipping	Marking Code
BL10N30F□	ITO-220AB	50/Tube	10N30F

□: none is for Lead Free package;

“G” is for Halogen Free package.

MAXIMUM RATINGS (TC=25°C, unless otherwise specified)

Symbol	Parameter	Value	Unit	
V_{DS}	Drain-Source Voltage	300	V	
V_{GS}	Gate -Source Voltage	± 30	V	
I_D	Drain Current Continuous at $T_C=25^\circ C$	10	A	
I_{DM}	Drain Current(pulsed)Note 1	40	A	
P_D	Power Dissipation at $T_C=25^\circ C$	115	W	
E_{AS}	Avalanche Energy(Single Pulsed (Note 2))	360	mJ	
E_{AR}	Avalanche Energy (Repetitive(Note 3))	13.5	mJ	
P_D	Power Dissipation	TC=25°C	135	W
		Derate above 25°C	1.07	W/°C
$R_{\theta JA}$	Thermal Resistance,Junction-to-Ambient	62.5	°C/W	
$R_{\theta JC}$	Thermal Resistance,Junction-to-Case	0.93	°C/W	
T_j T_{stg}	Junction and StorageTemperature Range	-55 to +150	°C	

Note:1. Repetitive Rating: Pulse width limited by maximum junction temperature.

2. $L=5.7mH$, $I_{AS}=10.5A$, $V_{DD}=50V$, $R_G=25\Omega$, Starting $T_J=25^\circ C$

3. $ISD \leq 10.5A$, $di/dt \leq 200A/\mu s$, $V_{DD} \leq BVDSS$, Starting $T_J=25^\circ C$

N-Channel Power MOSFET

BL10N30F

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	300	-	-	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=300V, V_{GS}=0V$	-	-	1	μA
Gate- Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 30V$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.0	-	4.0	V
Static drain-Source On-State resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=10A$	-	0.5	0.9	Ω
Drain-Source Diode Forward Voltage	V_{SD}	$I_{SD}=10A, V_{GS}=0$	-	-	1.4	V
Input Capacitance	C_{ISS}	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$	-	840	1090	pF
Output Capacitance	C_{OSS}		-	250	325	pF
Reverse Transfer Capacitance	C_{RSS}		-	80	110	pF
Turn-On Delay Time	$t_{D(ON)}$	$V_{DD} = 30V, I_D=4A,$ $R_G=25\Omega, V_{GS}=10V$ (Note 1, 2)	-	14	40	ns
Rise Time	t_R		-	89	190	ns
Turn-Off Delay Time	$t_{D(OFF)}$		-	81	170	ns
Fall Time	t_F		-	81	170	ns
Total Gate Charge	Q_g	$V_{DS}=480V, V_{GS}=10V$ $I_D=8A$	-	50	70	nC
Gate-source Charge	Q_{gs}		-	10	-	nC
Gate-drain Charge	Q_{gd}		-	25	-	nC
Maximum Body-Diode Continuous Current	I_S		-	-	10	A
Maximum Body-Diode Pulsed Current	I_{SM}		-	-	40	A

Notes: 1. Pulse Test: Pulse width $\leq 300\mu s$, Duty cycle $\leq 2\%$.

2. Essentially independent of operating temperature.

N-Channel Power MOSFET

BL10N30F

PACKAGE OUTLINE

Plastic surface mounted package

ITO-220AB

