

N-Channel Power MOSFET

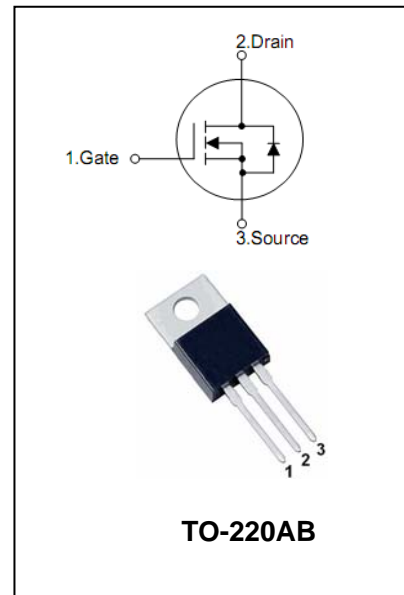
BL36N10

FEATURES

- $V_{DS}=100V$
- $I_D = 36A @V_{GS} = 10V$
- $R_{DS(ON)}$
 $< 22m\Omega @V_{GS} = 10V$
 $< 25m\Omega @V_{GS} = 6.0V .$

APPLICATIONS

- N-Channel Power MOSFET.
- Switching Applications.



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

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	100	V
V_{GS}	Gate -Source Voltage	± 20	V
I_D	Drain Current Continuous at $T_C=25^\circ C$ $T_C=100^\circ C$	36 24	A
I_{DM}	Drain Current(pulsed)	144	A
P_D	Power Dissipation at $T_C=25^\circ C$ $T_C=100^\circ C$	34 14	W
E_{AS}	Avalanche Energy(Single Pulsed)	200	mJ
$R_{\theta JA}$	Thermal Resistance,Junction-to-Ambient	40	$^\circ C/W$
$R_{\theta JC}$	Thermal Resistance,Junction-to-Case	2.3	$^\circ C/W$
T_j	Junction Temperature	+150	$^\circ C$
$T_j T_{stg}$	Junction and StorageTemperature Range	-55 to +150	$^\circ C$

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	100	-	-	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=80V, V_{GS}=0V$	-	-	1	μA
Gate- Source Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$	-	-	± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.0	2.8	4.0	V
Static drain-Source On-State resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=35A$	-	17	22	m Ω
Forward Transconductance	Gfs	$V_{DS}=5V, I_D=35A$	-	35	-	S
Input Capacitance	C_{ISS}	$V_{DS}=30V, V_{GS}=0V, f=1.0MHz$	-	3045	-	pF
Output Capacitance	C_{OSS}		-	160	-	pF
Reverse Transfer Capacitance	C_{RSS}		-	234	-	pF
Turn-On Delay Time	$t_{D(ON)}$	$V_{DS} = 50V, V_{GS} = 10V, R_L=30\Omega, R_G=6\Omega$	-	25	40	ns
Rise Time	t_R		-	12	30	ns
Turn-Off Delay Time	$t_{D(OFF)}$		-	70	120	ns
Fall Time	t_F		-	20	35	ns
Total Gate Charge	Q_g		$V_{DS}=50V, V_{GS}=10V, I_D=20A$	-	75	110
Gate-source Charge	Q_{gs}	-		20	-	nC
Gate-drain Charge	Q_{gd}	-		18	-	nC

SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS

Drain-Source diode forward voltage	V_{SD}	$V_{GS}=0V, I_s=4.4A$			1.4	V
Body Diode Reverse Recovery Time	trr	$V_{GS}=0V, I_s=4.4A, di/dt=100A/\mu s$		250		nS
Body Diode Reverse Recovery Charge	Qrr			1.5		μC

Notes:

1. Surface mounted RF4 board with 2oz. Copper.
- . Starting $T_J=25^\circ C, L=1mH, I_{AS}=20A, V_{DD}=50V, V_{GS}=10V$

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PACKAGE OUTLINE

Plastic surface mounted package

TO-220AB

