

N-Channel Power MOSFET

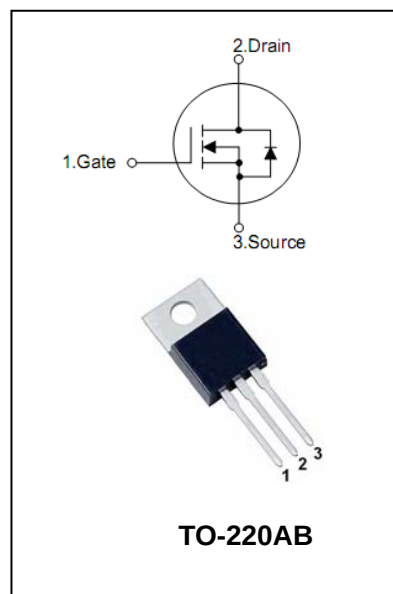
BL36N10

FEATURES

- VDS=100V
- ID = 36A @VGS = 10V
- RDS(ON)
 < 22mΩ @VGS = 10V
 < 25mΩ @VGS = 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	$^{\circ}C$

N-Channel Power MOSFET

BL36N10

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	G_{fs}	$V_{DS}=5V, I_D=35A$	-	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	nC
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	t_{rr}	$V_{GS}=0V, I_s=4.4A, di/dt=100A/\mu s$		250		nS
Body Diode Reverse Recovery Charge	Q_{rr}			1.5		μC

Notes:

1. Surface mounted RF4 board with 2oz. Copper.
- . Starting TJ=25°C, L=1mH, IAS=20A, VDD=50V, VGS=10V

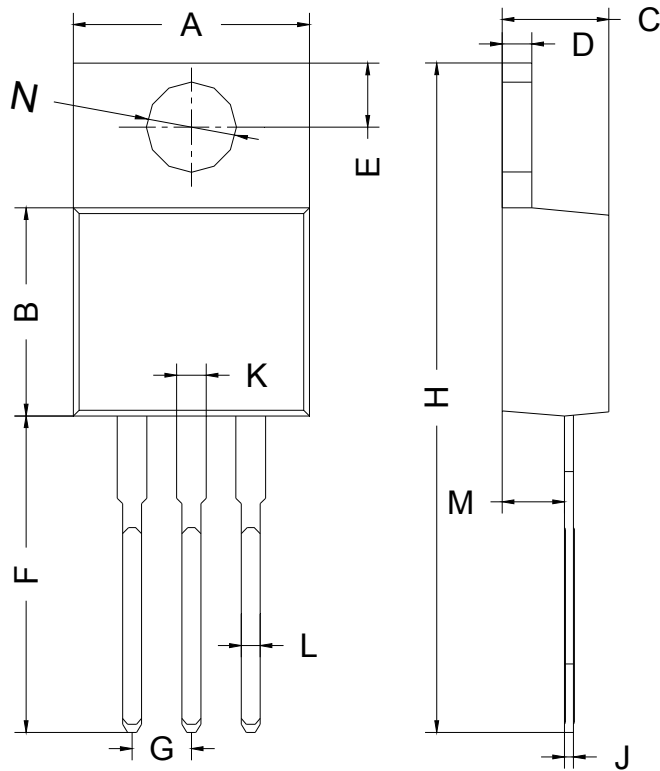
N-Channel Power MOSFET

BL36N10

PACKAGE OUTLINE

Plastic surface mounted package

TO-220AB



TO-220AB		
Dim	Min	Max
A	9.80	10.30
B	8.70	9.10
C	4.57 Typical	
D	1.27 Typical	
E	2.64	2.84
F	13.14	13.74
G	2.44	2.64
H	28.03	28.83
J	0.38 Typical	
K	1.22	1.32
L	0.71	0.91
M	2.50 Typical	
N	3.86 Typical	
All Dimensions in mm		