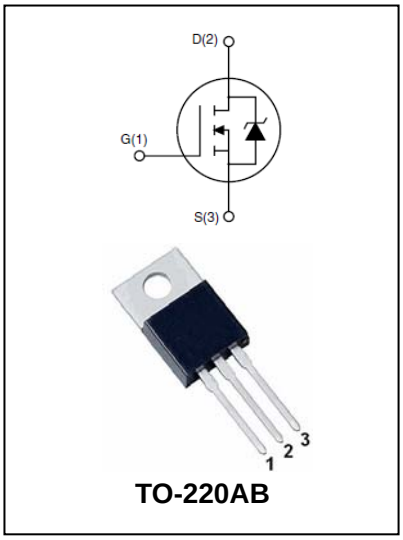
N-Channel Enhancement Mode Field Effect Transistor

BL12N65

FEATURES

- DPAK Worldwide Best $R_{DS(on)}$.
- High dv/dt Capability.
- Excellent Switching Performace.
- Easy to Drive.
- 100% Avalanche Tested.

Lead-free



TO-220AB

APPLICATIONS

- N-channel Enhancement mode Effect Transistor.
- Switching Applications.

MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Unit
V_{DS}	Drain-Source Voltage	650	V
V_{GS}	Gate -Source Voltage	25	V
I_D	Maximum Drain Current(continuous) at T_C=25℃ T_C=100℃	12 7.3	A
I_{DM}	Drain Current(pulsed)Note1	48	A
P_D	Power Dissipation at T_C=25℃	90	W
I_{AR}	Avalavche Current,Repetitive or Not-repetitive	4	A
E_{AS}	Single Pulse Avalanche Energy (starting T_j=25℃,I_D=I_{AR},V_{DD}=50V)	200	mJ
dv/dt	Peak Diode Recovery Voltage Slope(Note2)	15	V/ns
$R_{\theta JA}$	Thermal Resistance,Junction-to-Ambient	62.5	℃/W
T_j T_{stg}	Operating Junction and StorageTem-perature Range	-55 to +150	

Note:1.Pulse width limited by safe operating area

2.I_{SO}≤12A,di/dt≤400A/us,V_{Peak}<$V_{(BR)DSS}$

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ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

OFF Characteristics						
Parameter	**Symbol**	**Test conditions**	**MIN**	**TYP**	**MAX**	**UNIT**
Drain-Source Breakdown Voltage	V_{DSS}	V_{GS}=0V,I_D=250μA	650	-	-	V
Drain to Source Leakage Current	I_{DSS}	V_{DS}=650V, V_{GS}=0V	-	-	1	uA
Gate to Sourse Forward Leakage	$I_{GSS(F)}$	V_{GS}=30V	-	-	0.1	uA
Gate to Sourse ReverseLeakage	$I_{GSS\ (R)}$	V_{GS}=-30V	-	-	-0.1	μA

ON Characteristics						
Parameter	**Symbol**	**Test conditions**	**MIN**	**TYP**	**MAX**	**UNIT**
Drain-to-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=6A	-	0.66	0.8	Ω
Gate Threshold Voltage	$V_{GS\ (TH)}$	V_{DS} = V_{GS}, I_D = 250μA	2.0	-	4.0	V

Dynamic Characteristics						
Parameter	**Symbol**	**Test conditions**	**MIN**	**TYP**	**MAX**	**UNIT**
Input Capacitance	Ciss	V_{GS}=0V, V_{DS}=25V,f=1.0MHz	-	1993	-	pF
Output Capacitance	Coss		-	160	-	
Reserse Transfer Capacitance	Crss		-	9.5	-	

Source-Drain Diode Characteristics						
Parameter	**Symbol**	**Test conditions**	**MIN**	**TYP**	**MAX**	**UNIT**
Continuous Source Current(Body Diode)	I_S	Ta=25	-	-	10	A
Maximum Pulsed Current(Body Diode))	I_{SM}		-	-	40	A
Diode Forward Voltage	V_{SD}	I_S=12.0A, V_{GS}=0V	-		1.5	V

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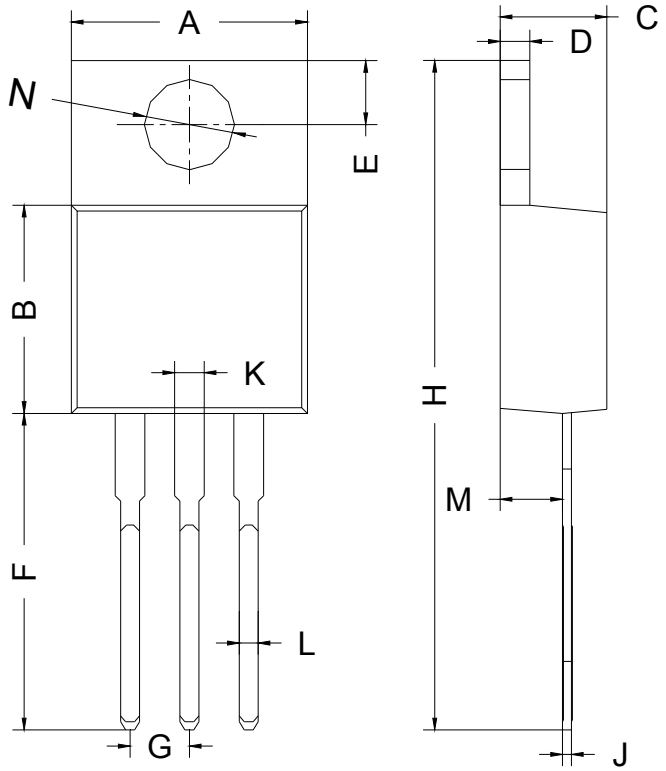
PACKAGE OUTLINE

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		