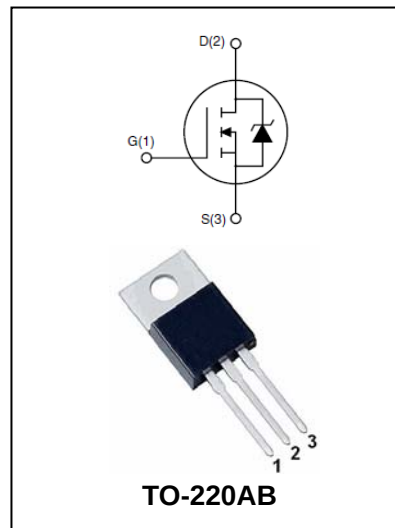


N-Channel Enhancement Mode Field Effect Transistor

BL12N65

FEATURES

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



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 $T_C=25^\circ\text{C}$ $T_C=100^\circ\text{C}$	12 7.3	A
I_{DM}	Drain Current(pulsed)Note1	48	A
P_D	Power Dissipation at $T_C=25^\circ\text{C}$	90	W
I_{AR}	Avalanche Current, Repetitive or Not-repetitive	4	A
E_{AS}	Single Pulse Avalanche Energy (starting $T_j=25^\circ\text{C}$, $I_D=I_{AR}$, $V_{DD}=50\text{V}$)	200	mJ
dv/dt	Peak Diode Recovery Voltage Slope(Note2)	15	V/ns
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	62.5	$^\circ\text{C}/\text{W}$
T_j T_{stg}	Operating Junction and Storage Temperature Range	-55 to +150	$^\circ\text{C}$

Note:1.Pulse width limited by safe operating area

2. $I_{SO} \leq 12\text{A}$, $di/dt \leq 400\text{A}/\mu\text{s}$, $V_{Peak} < V_{(BR)DSS}$

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

OFF Characteristics

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Drain-Source Breakdown Voltage	V_{DSS}	$V_{GS}=0V, I_D=250\mu A$	650	-	-	V
Drain to Source Leakage Current	I_{DSS}	$V_{DS}=650V, V_{GS}=0V$	-	-	1	μA
Gate to Source Forward Leakage	$I_{GSS(F)}$	$V_{GS}=30V$	-	-	0.1	μA
Gate to Source Reverse Leakage	$I_{GSS(R)}$	$V_{GS}=-30V$	-	-	-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	$V_{GS(TH)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2.0	-	4.0	V

Dynamic Characteristics

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Input Capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=25V, f=1.0MHz$	-	1993	-	pF
Output Capacitance	C_{oss}		-	160	-	
Reverse Transfer Capacitance	C_{rss}		-	9.5	-	

Source-Drain Diode Characteristics

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Continuous Source Current(Body Diode)	I_S	Ta=25°C	-	-	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

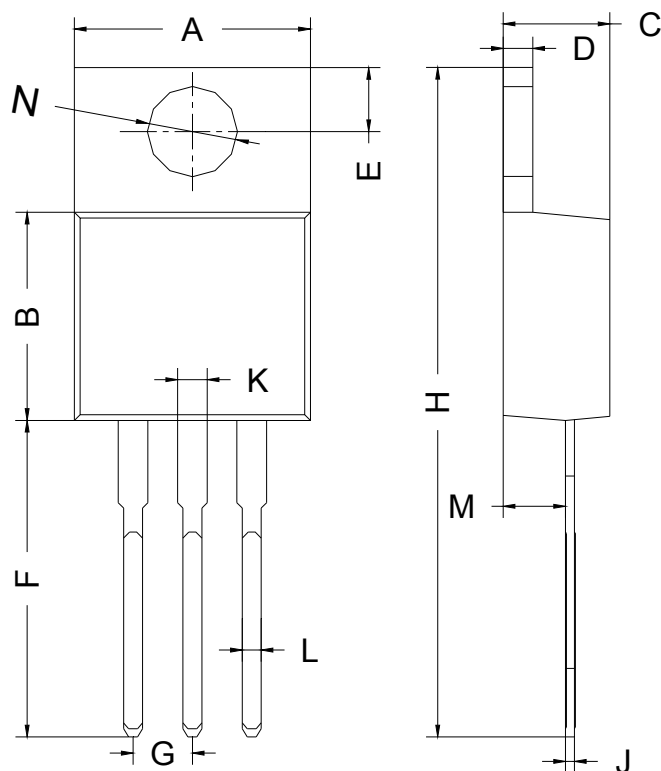
N-Channel Enhancement Mode Field Effect Transistor

BL12N65

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		