

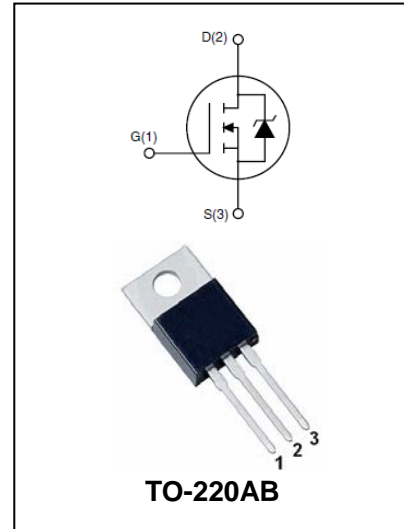
N-Channel Enhancement Mode Field Effect Transistor

BL12N65

FEATURES

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

HF



APPLICATIONS

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

Ordering Information

Part Number	Package	Shipping	Marking Code
BL12N65	TO-220AB	50pcs / Tube	12N65

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

Note: 1. Pulse width limited by safe operating area

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

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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 =250μA	650	-	-	V
Drain to Source Leakage Current	I _{DSS}	V _{DS} =650V, V _{GS} =0V	-	-	1	uA
Gate to Source Forward Leakage	I _{GSS(F)}	V _{GS} =30V	-	-	0.1	uA
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 = 250μA	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

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PACKAGE OUTLINE

Plastic surface mounted package

TO-220AB

