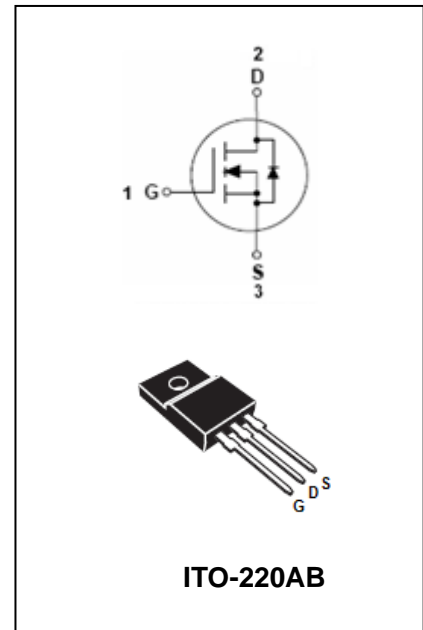


4A,500V N-Channel Power Mosfet

BL4N50F

FEATURES

- $R_{DS(ON)} = 2.0\Omega @ V_{GS} = 10V$
- High Switching Speed
- 100% Avalanche Tested



MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V_{DSS}	Drain-Source voltage	500	V
V_{GSS}	Gate -Source voltage	± 30	V
I_D	Continuous Drain Current	4	A
I_{DM}	Pulsed Drain Current	16	A
E_{AS} E_{AR}	Avalanche Energy Single Pulsed Repetitive	216 8.5	mJ
dv/dt	Peak Diode Recovery dv/dt	4.5	V/ns
P_D	Power Dissipation	28	W
$R_{\theta JA}$	Thermal resistance, Junction-to-Ambient	62.5	°C/W
θ_{JA}	Junction to Ambient	62.5	°C/W
θ_{JC}	Junction to Case	4.5	°C/W
T_J	Junction Temperature	+150	°C
T_{OPR}, T_{stg}	Operating and Storage Temperature	-55 to +150	°C

4A,500V N-Channel Power Mosfet

BL4N50F

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	500	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=500V, V_{GS}=0V$	-	-	1	μA
Gate-body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 30V$	-	-	± 100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.0	-	4.0	V
Static drain-Source on-resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=2A$	-	1.65	2.0	Ω
DYNAMIC CHARACTERISTICS						
Input capacitance	C_{ISS}	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$	-	485	650	pF
Output capacitance	C_{OSS}		-	65	90	
Reverse transfer capacitance	C_{RSS}		-	5	8	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	$t_{D(ON)}$	$V_{DD} = 250V,$ $I_D = 4A,$ $R_G = 25\Omega$	-	14	38	ns
Rise Time	t_r		-	21	52	ns
Turn-Off Delay Time	$t_{D(OFF)}$		-	27	64	ns
Fall Time	t_f		-	20	50	ns
Total Gate Charge	Q_g	$V_{DS} = 400V$ $I_D = 4A$ $V_{GS} = 10V,$	-	11	15	nC
Gate-Source Charge	Q_{gs}		-	3	-	nC
Gate-Drain Charge	Q_{gd}		-	5	-	nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source diode forward voltage	V_{SD}	$V_{GS}=0V, I_s=4A$	-	-	1.6	V
Maximum Continuous Drain-Source Diode Forward Current	I_s		-	-	4	A
Maximum Pulsed Drain-Source Diode Forward Current	I_{SM}		-	-	16	A
Body Diode Reverse Recovery Time	t_{rr}	$V_{GS}=0V, I_s=4A,$ $di/dt=100A/\mu s$	-	36	-	nS
Body Diode Reverse Recovery Charge	Q_{rr}		-	33	-	μC

4A,500V N-Channel Power Mosfet

BL4N50F

PACKAGE OUTLINE

Plastic surface mounted package

ITO-220AB

