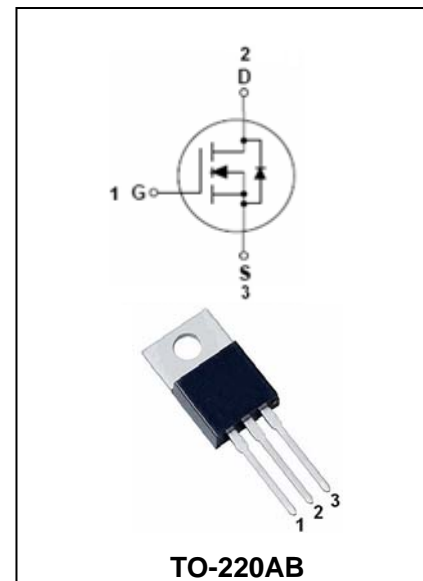


3A,600V N-Channel Power Mosfet

BL3N60

FEATURES

- $V_{DS} = 600V$, $I_D = 3A$
- $R_{DS(ON)} = 3.6\Omega @ V_{GS} = 10V$
- Ultra low gate charge (typical 10 nC)
- Ultra low gate charge (typical 10 nC)
- Fast switching capability
- Avalanche energy specified
- Improved dv/dt capability, high ruggedness



MAXIMUM RATING @ Ta=25°C unless otherwise specified

Symbol	Parameter	Value	Units
V_{DSS}	Drain-Source voltage	600	V
V_{GSS}	Gate -Source voltage	± 30	V
I_D	Continuous Drain Current	3.0	A
I_{DM}	Pulsed Drain Current	12	A
E_{AS} E_{AR}	Avalanche Energy	200	mJ
	Single Pulsed Repetitive	7.5	
dv/dt	Peak Diode Recovery dv/dt	4.5	V/ns
P_D	Power Dissipation	75	W
$R_{\theta JA}$	Thermal resistance, Junction-to-Ambient	70	$^{\circ}C/W$
T_J	Junction Temperature	+150	$^{\circ}C$
T_{OPR}, T_{stg}	Operating and Storage Temperature	-55 to +150	$^{\circ}C$

3A,600V N-Channel Power Mosfet

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ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

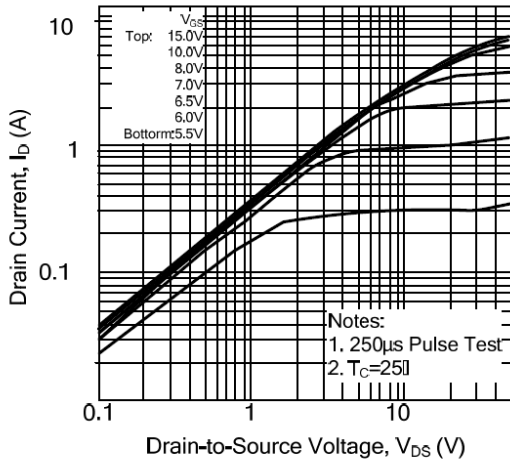
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	600	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=600V, V_{GS}=0V$	-	-	10	μA
Gate-body Leakage	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 30V$	-	-	± 100	nA
ON CHARACTERISTICS						
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	$R_{DS(ON)}$	$V_{GS}=10V, I_D=1.5A$	-	2.8	3.6	Ω
DYNAMIC CHARACTERISTICS						
Input capacitance	C_{ISS}	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$	-	350	450	pF
Output capacitance	C_{OSS}		-	50	65	
Reverse transfer capacitance	C_{RSS}		-	5.5	7.5	
SWITCHING CHARACTERISTICS						
Turn-On Delay Time	$t_{D(ON)}$	$V_{DD} = 300V,$ $I_D = 3.0A,$ $R_G = 25\Omega$	-	10	30	ns
Rise Time	tr		-	30	70	ns
Turn-Off Delay Time	$t_{D(OFF)}$		-	20	50	ns
Fall Time	tf		-	30	70	ns
Total Gate Charge	Qg	$V_{DS} = 480V$ $I_D = 3.0A$ $V_{GS} = 10V,$	-	10	13	nC
Gate-Source Charge	Qgs		-	2.7	-	nC
Gate-Drain Charge	Qgd		-	4.9	-	nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS						
Drain-Source diode forward voltage	V_{SD}	$V_{GS}=0V, I_s=3.0A$	-	-	1.4	V
Maximum Continuous Drain-Source Diode Forward Current	I_S		-	-	3.0	A
Maximum Pulsed Drain-Source Diode Forward Current	I_{SM}		-	-	12	A
Body Diode Reverse Recovery Time	trr	$V_{GS}=0V, I_s=3A,$ $di/dt=100A/\mu s$	-	210	-	nS
Body Diode Reverse Recovery Charge	Qrr		-	1.2	-	μC

3A,600V N-Channel Power Mosfet

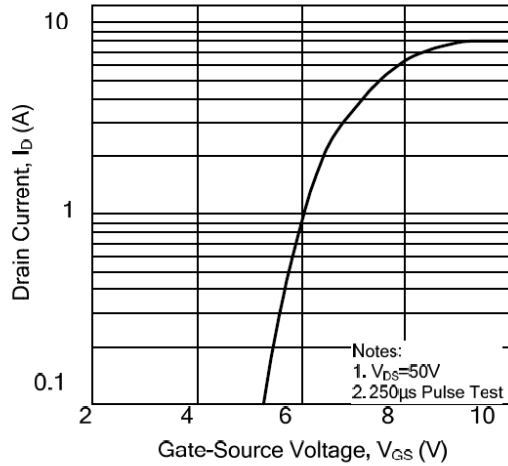
BL3N60

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

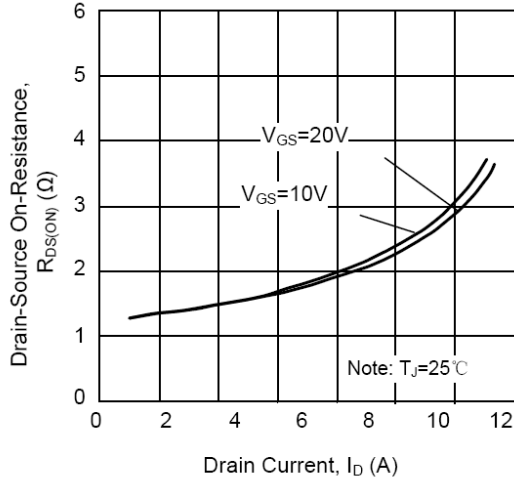
On-State Characteristics



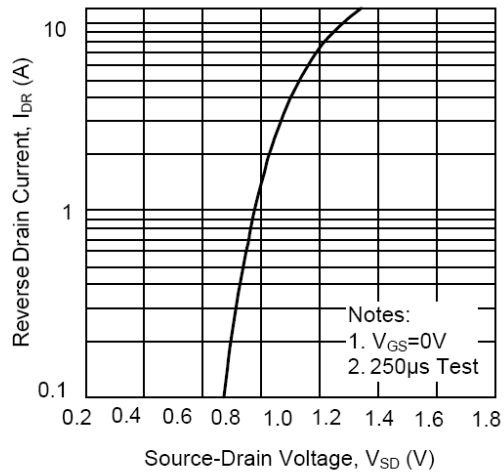
Transfer Characteristics



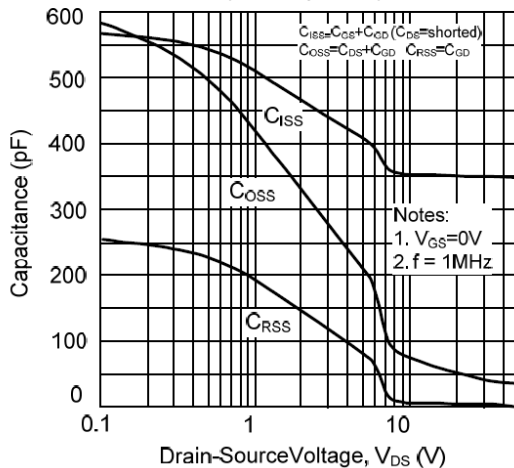
On-Resistance Variation vs. Drain Current and Gate Voltage



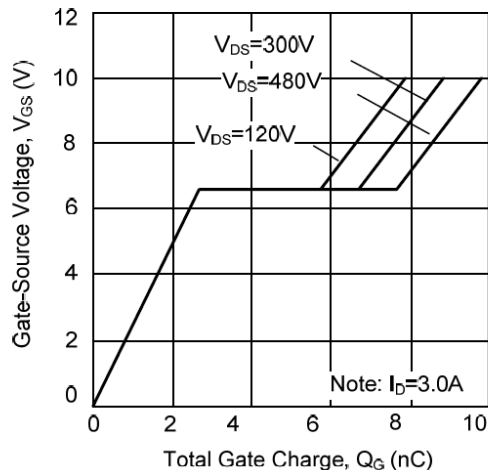
On State Current vs. Allowable Case Temperature



Capacitance Characteristics (Non-Repetitive)

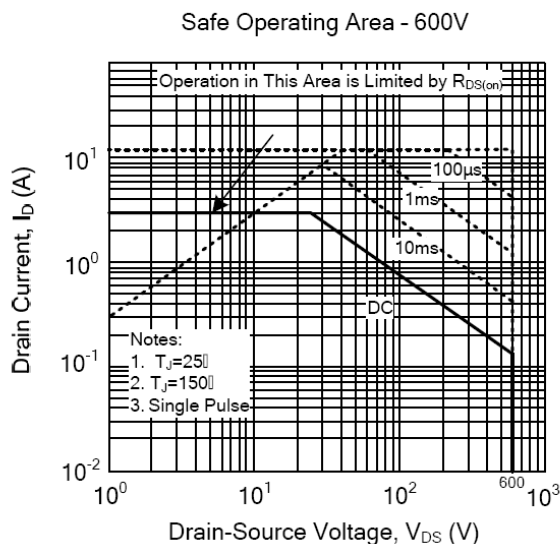
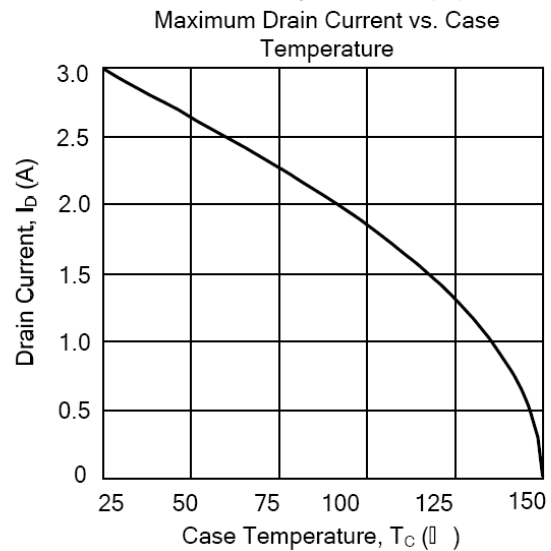
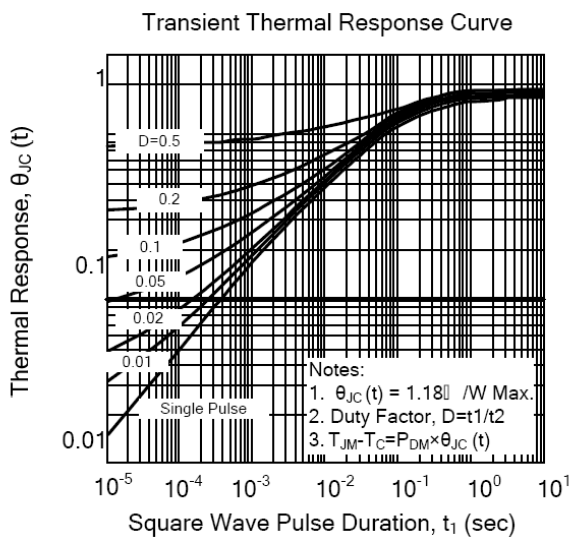
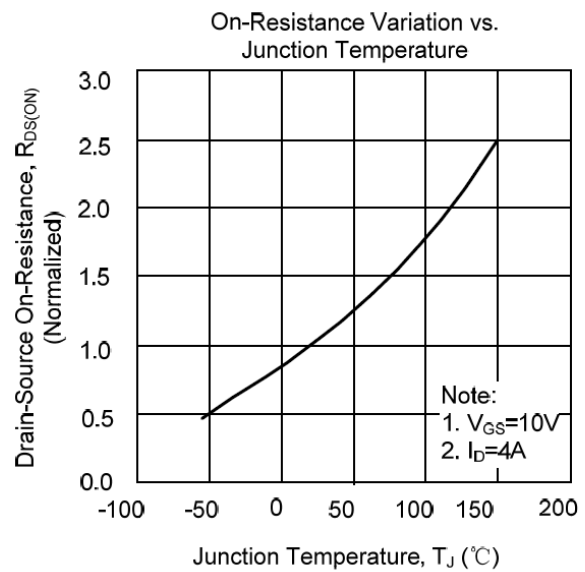
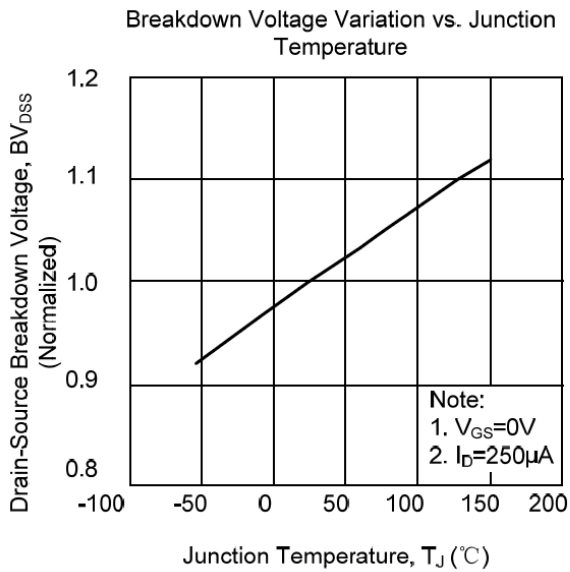


Gate Charge Characteristics



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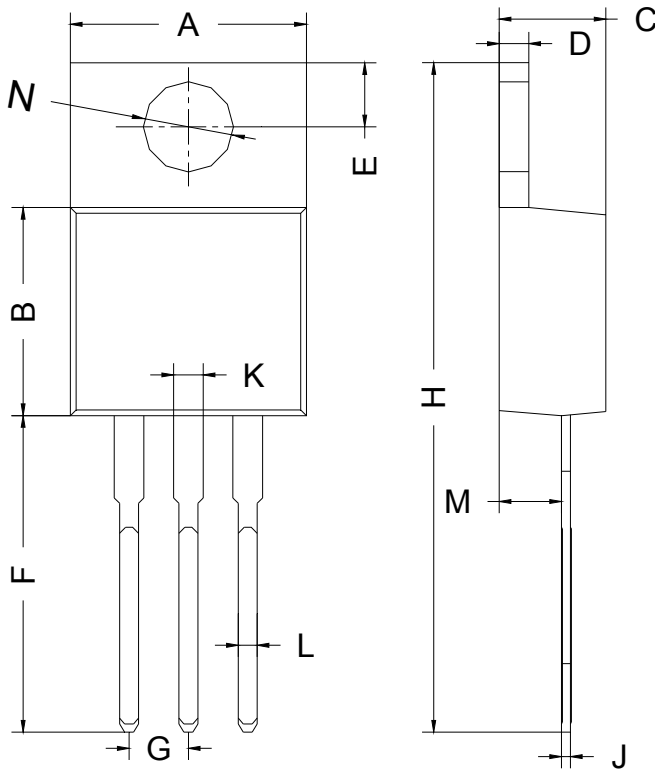
3A,600V N-Channel Power Mosfet

BL3N60

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		