

TO-251 N

N-CHANNEL MOSFET in a TO-251 Plastic Package.

$V_{DS} (V) = 100V$ $I_D = 37A$ ($V_{GS} = \pm 20V$)

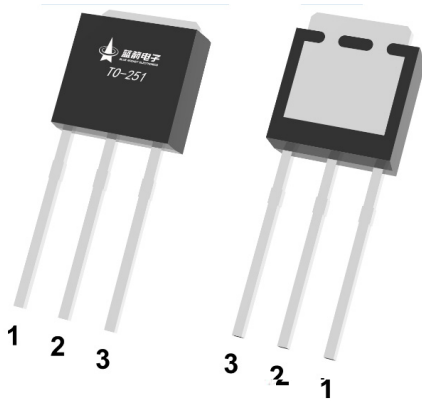
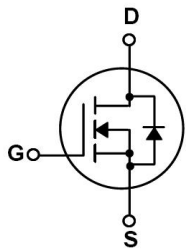
$R_{DS(ON)} @ 10V \leq 25m\Omega$ (Typ. 20m Ω)

$R_{DS(ON)} @ 4.5V \leq 35m\Omega$ (Typ. 25m Ω)

HF Product.

LED

Boost converters and synchronous rectifiers for consumer, telecom, industrial power supplies and LED backlighting.



PIN1 G

PIN 2 D

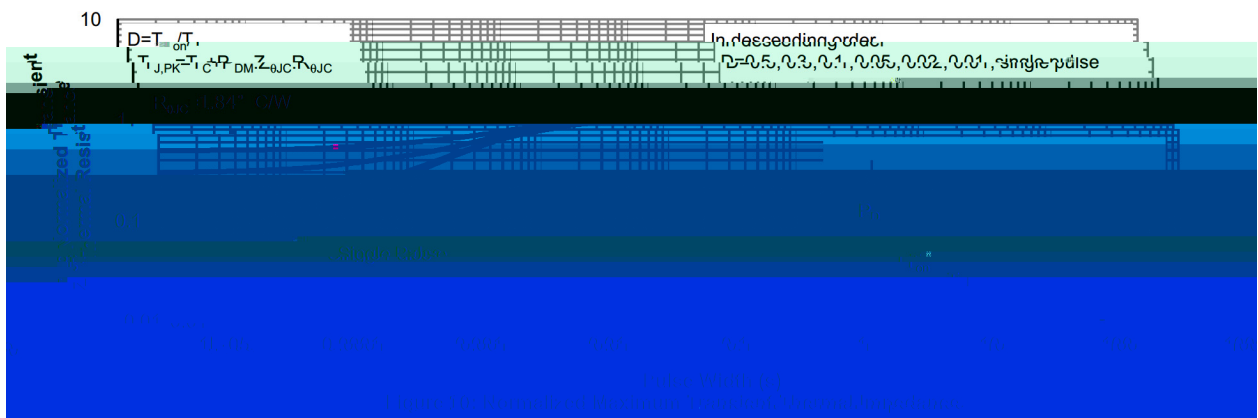
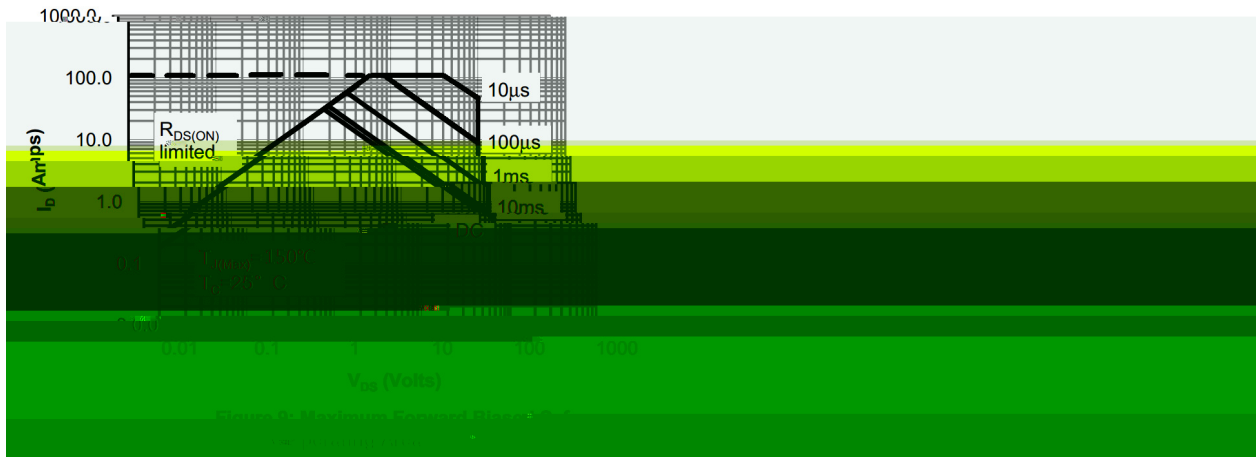
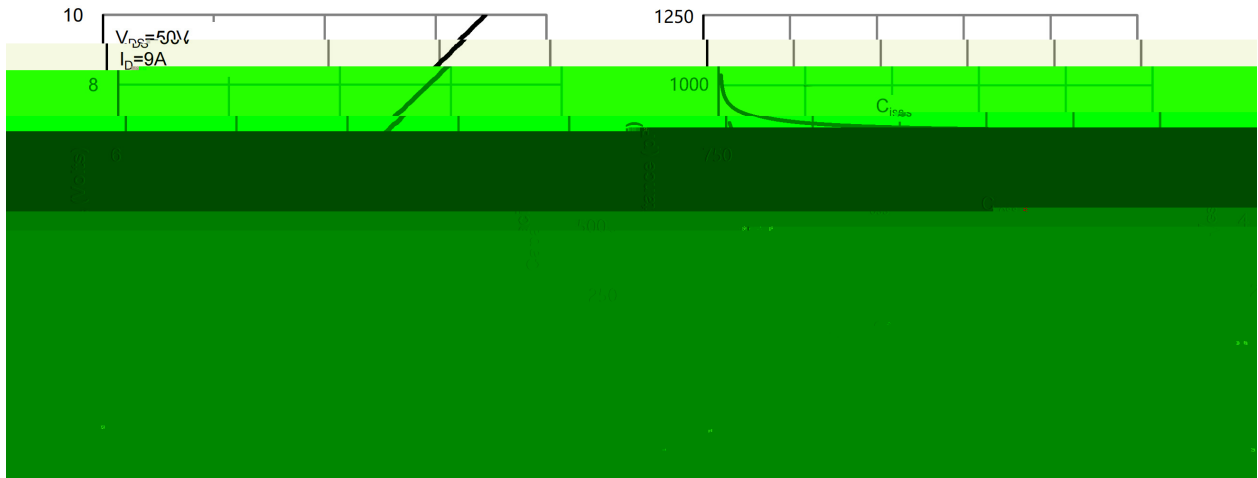
PIN 3 S

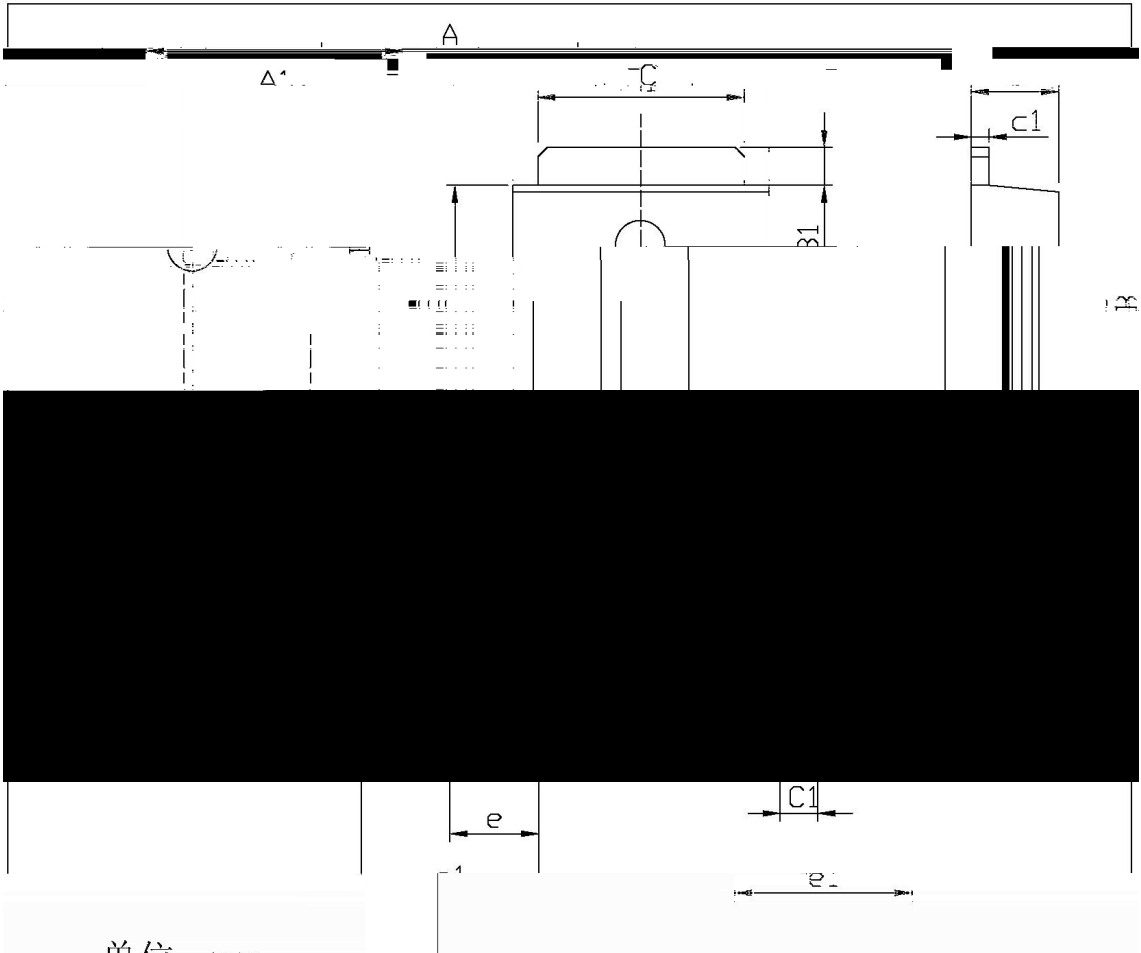
See Marking Instructions.

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	100	V
Drain Current		$I_D(T_c=25^\circ\text{C})$	37	A
Drain Current - Pulsed		I_{DM}	117	A
Gate-Source Voltage		V_{GS}	± 20	V
Avalanche Current		I_{AS}	7	A
Single Pulsed Avalanche Energy		E_{AS}	14.4	mJ
Power Dissipation		$P_D(T_c=25^\circ\text{C})$	68	W
Storage Temperature Range		T_{stg}	-55 ~ 150	
Thermal Resistance-Junction to Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	20	/W
	Steady-State		50	
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	1.84	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	100	109		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100V$ $V_{GS}=0V$			1	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.0	1.6	2.5	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=20A$		20	25	m Ω
		$V_{GS}=4.5V$ $I_D=10A$		25	35	m Ω
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1A$			1.2	V
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		820		pF
Output Capacitance	C_{oss}			475		
Reverse Transfer Capacitance	C_{rss}			35		
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$ $f=1MHz$		1.9		Ω
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$ $V_{DS}=50V$ $I_D=9A$		17		nC
Total Gate Charge	$Q_{g(4.5V)}$			9		
Gate Source Charge	Q_{gs}			3		
Gate Drain Charge	Q_{gd}			3.5		

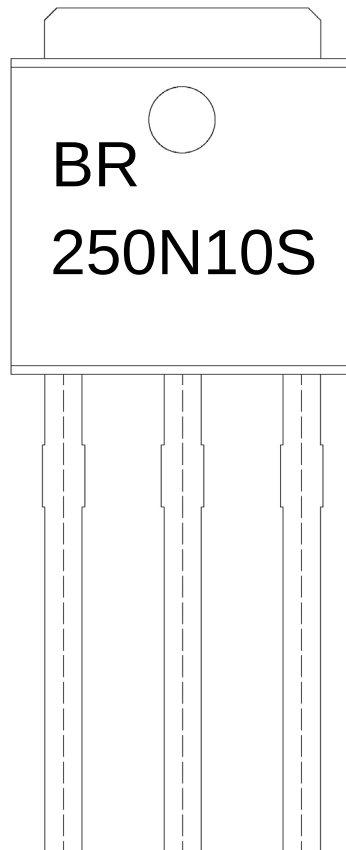
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=50V$ $R_L=5.5\Omega$ $R_{GEN}=3.0\Omega$		5		ns
Turn-On Rise Time	t_r			3.2		
Turn-Off Delay Time	$t_{d(off)}$			21		
Turn-Off Fall Time	t_f			3		





Dimensions		Min.		Max.	
5.90	6.25	9.00	9.40		
5.95	6.25	9.00	9.40		
B1	0.95	1.25	c1	0.45	0.55
C	2.20	2.40		2.24	2.34
C1	0.95	1.15	e1	4.43	4.73

T0-251



BR

250N10S

Note:

BR: Company Code

250N10S: Product Type Code

****: Lot No. Code, code change with Lot No



- 1

25 150

60 90sec;

2

255±5

5±0.5sec;

3

2 10

/sec.
- Note:

1.Preheating:25~150 , Time:60~90sec.

2.Peak Temp.:255±5 , Duration:5±0.5sec.

3. Cooling Speed: 2~10 /sec.

270±5

10±1 sec.

Temp.:270±5

Time:10±1 sec

/ BULK

Package Type	Units					Dimension (unit mm ³)		
TO-251	1,000	10	10,000	5	50,000	135×190	237×172×102	560×245×195

/ TUBE

Package Type	Units					Dimension (unit mm ³)		
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180