

BRD3N50

Rev.A Feb.-2024

/ Descriptions

TO-252 N MOS

N-CHANNEL MOSFET in a TO-252 Plastic Package.

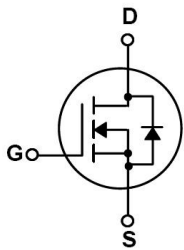
/ Features

Low gate charge, low crss, fast switching, HF Product. Have good Electromagnetic Interference performance, HF Product.

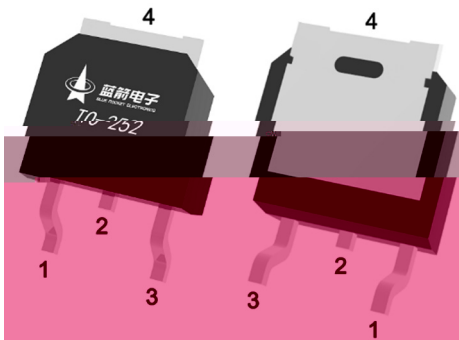
/ Applications

These devices are well suited for power switch circuit of adaptor and charger.

/ Equivalent Circuit



/ Pinning



PIN1 G

PIN 2 D

PIN 3 S

PIN 4 D

/ Marking

See Marking Instructions.

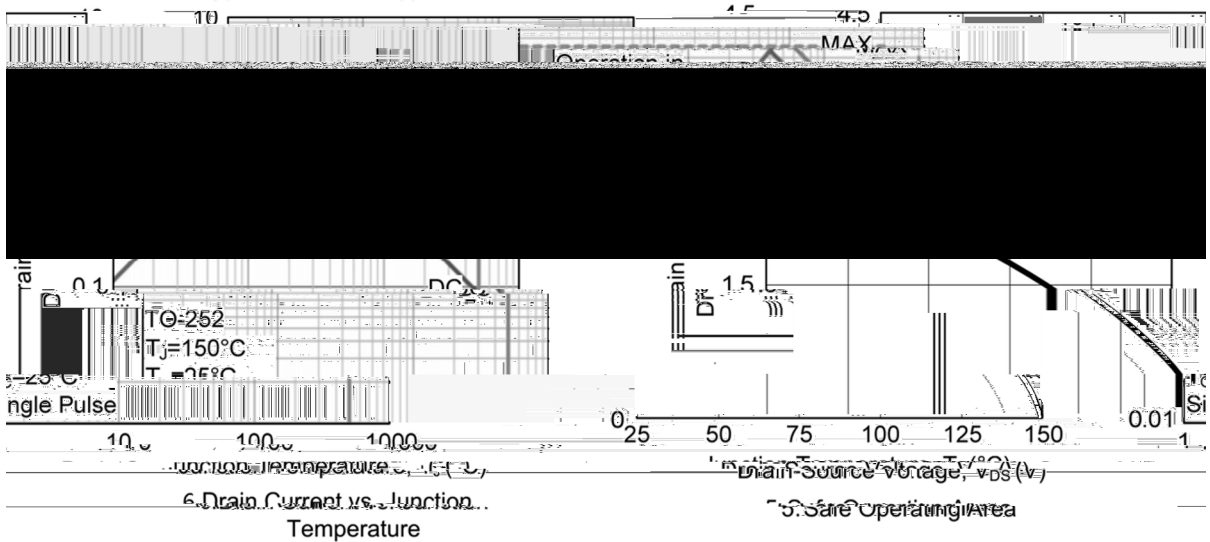
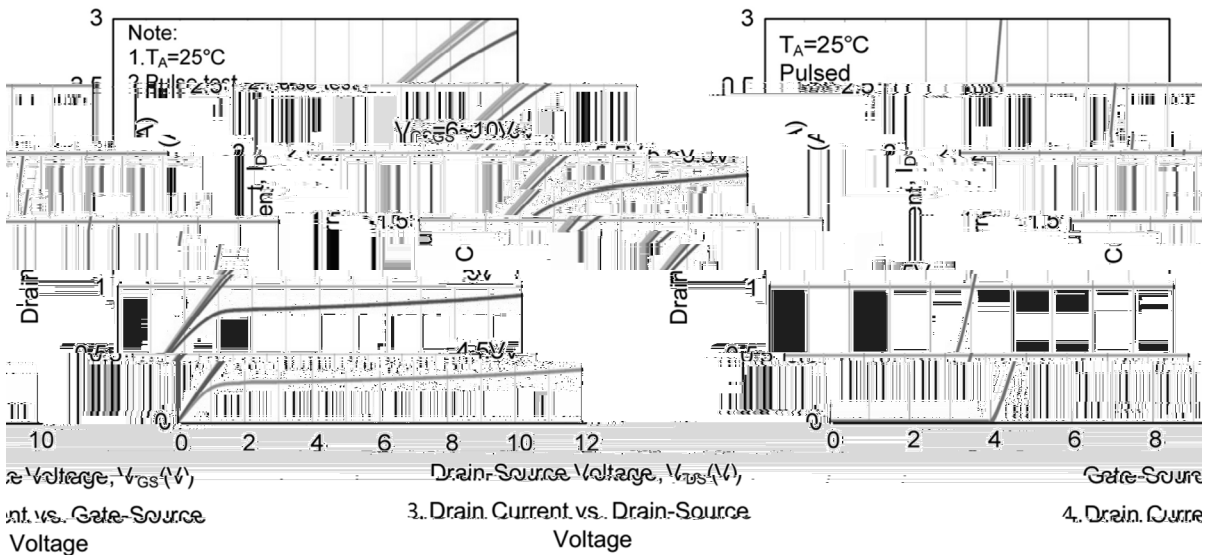
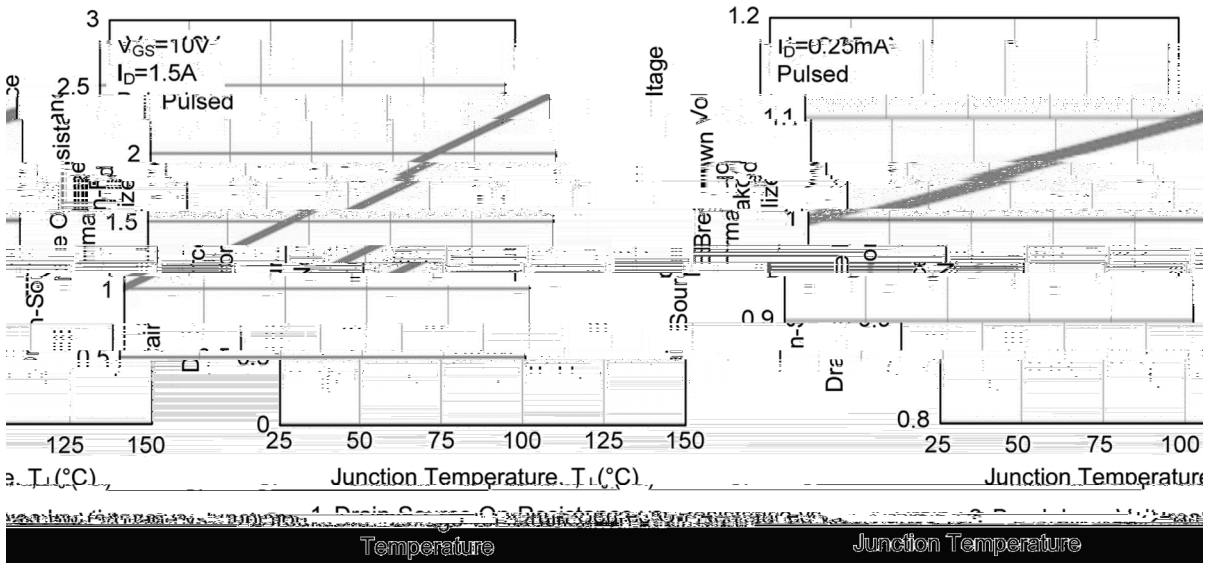
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	500	V
Drain Current	$I_D(T_c=25^{\circ}C)$	3	A
Drain Current - Pulsed	I_{DM}	6	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	97	mJ
Avalanche Current	I_{AS}	4.4	A
Power Dissipation	$P_D(T_c=25^{\circ}C)$	45	W

Operating and Storage Temperature Range: -55°C to +125°C (T_{STG})

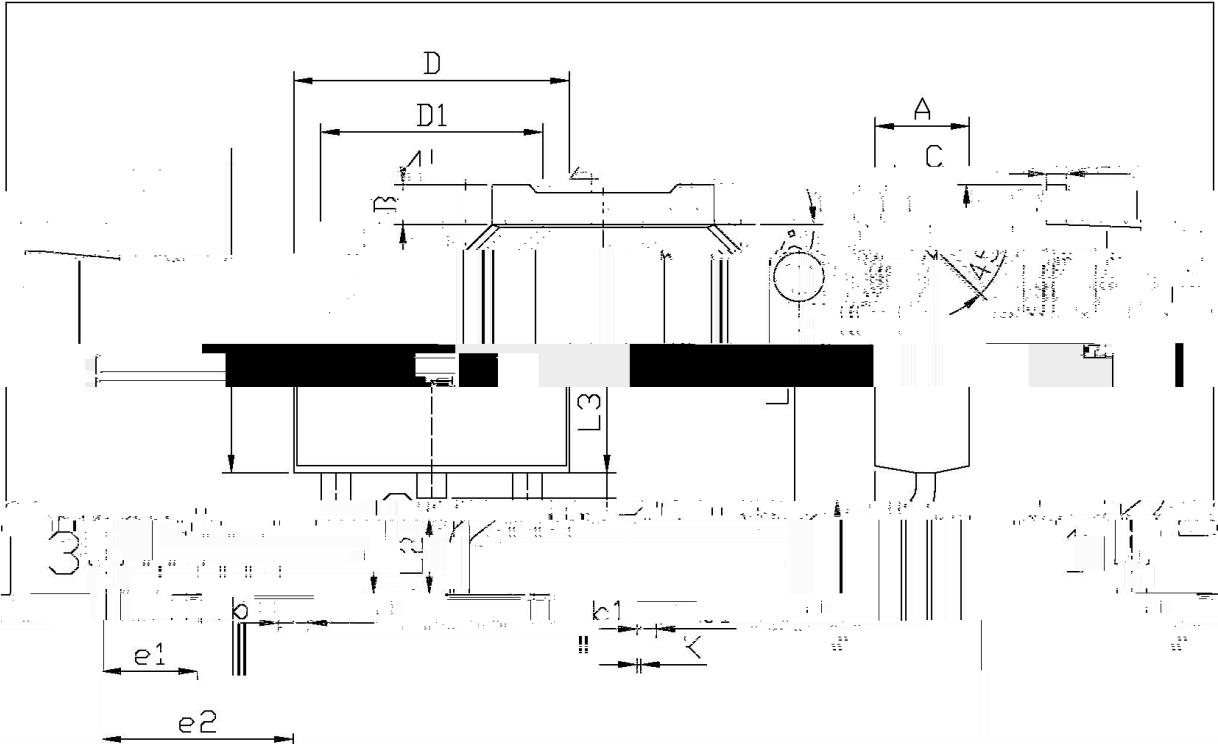
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	td(on)	V _{DD} =100V I _D =3.0A V _{GS} =10V R _G =25		4		ns
Turn-On Rise Time	tr			15.5		
Turn-Off Delay Time	td(off)			19.3		
Turn-Off Fall Time	tf			22		
Maximum Continuous Drain-Source Diode Forward Current	I _S				3	A
Maximum Pulsed Drain-Source Diode Forward Current	I _{SM}				6	A
Reverse Recovery Time	trr	V _{GS} =0V I _S =3.0A dI _F /dt=100 A/ s		260		ns
Reverse Recovery Charge	Q _{rr}			1		μC

/ Electrical Characteristic Curve



/ Package Dimensions



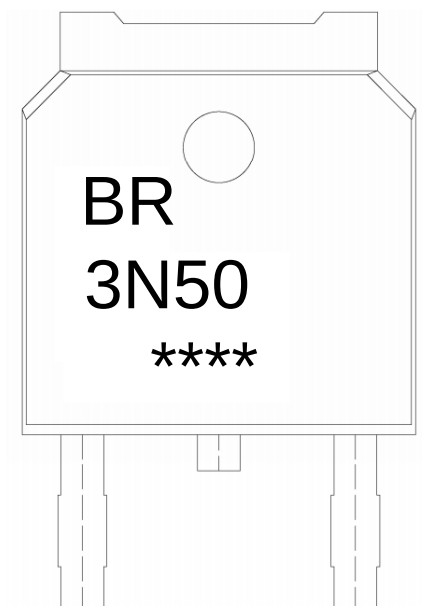
单位: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	2.25	2.70	E	5.95	6.35
B	0.95	1.25	e1	2.27	2.54
C	0.70	0.90	e2	6.60	7.11
D	9.85	10.35	L1	0.45	0.55
D1	4.00	4.50	L2	1.70	2.00
E	0.60	0.90	L3	1.30	1.50
K	0.00	0.10	D1	5.10	5.50

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/ Marking Instructions



BR

3N50

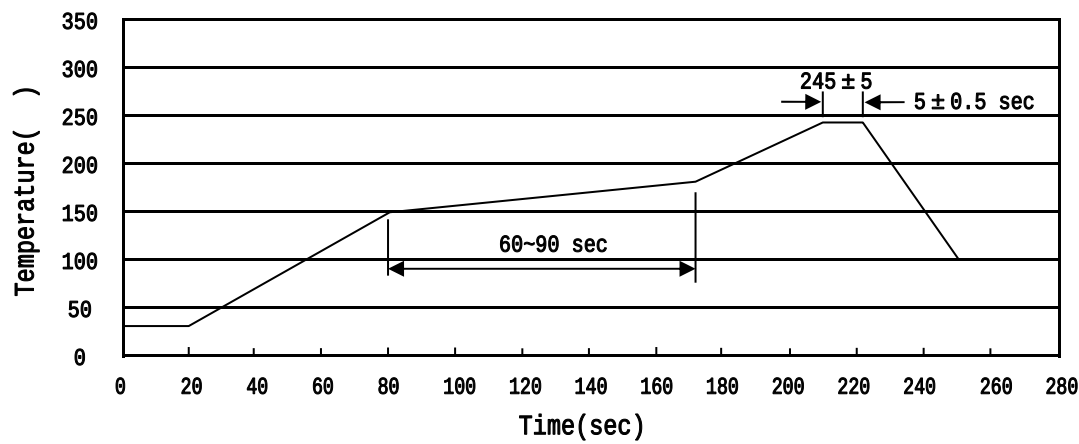
Note:

BR: Company Code

3N50: Product Type Code

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

() / Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- | | | | | | |
|---|-------|-----|----|-----------|---|
| 1 | 150 | 180 | 60 | 90sec; | 1.Preheating:150~180 °C, Time:60~90sec. |
| 2 | 245±5 | | | 5±0.5sec; | 2.Peak Temp.:245±5 °C, Duration:5±0.5sec. |
| 3 | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 °C/sec. |

/ Resistance to Soldering Heat Test Conditions

260±5 10±1 sec. Temp.:260±5 Time:10±1 sec

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
TO-252	2,500	2	5,000	6	30,000	13 ×16	360×360×50	380×335×366

/ TUBE

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

/ Notices