

BRD7N45

Rev.A Jul.-2025

TO-252 N MOS

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

$V_{DS}=450V$ $I_D=7A$

$R_{DS(ON)}@10V \leq 1.2\Omega$ (Typ. 1.0Ω)

HF Product.

DC/DC

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

PIN1 G

PIN 2 D

PIN 3 S

PIN 4 D

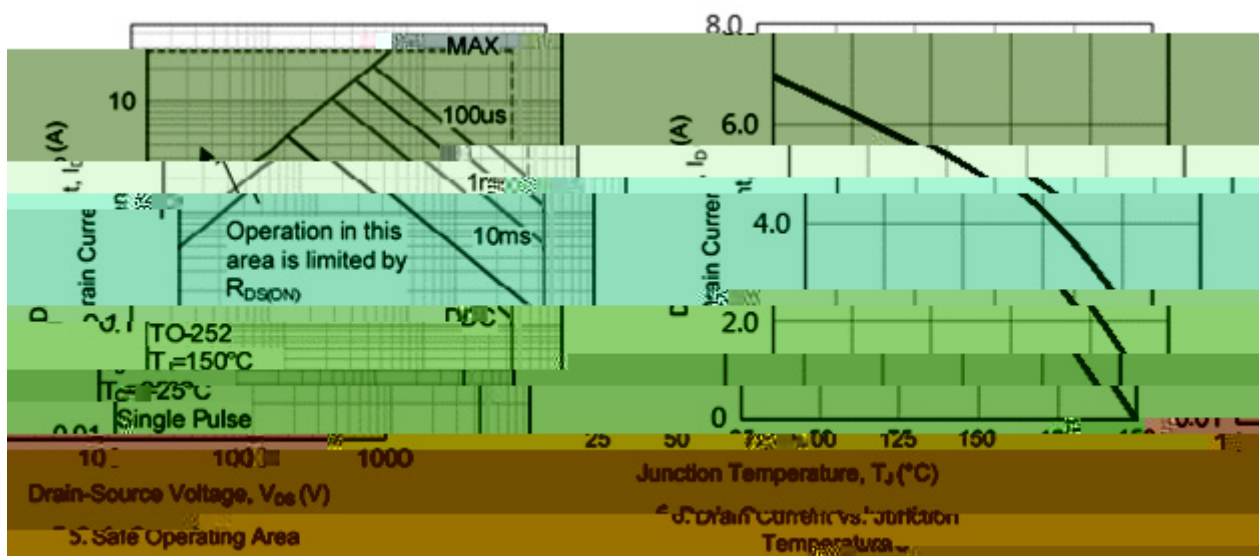
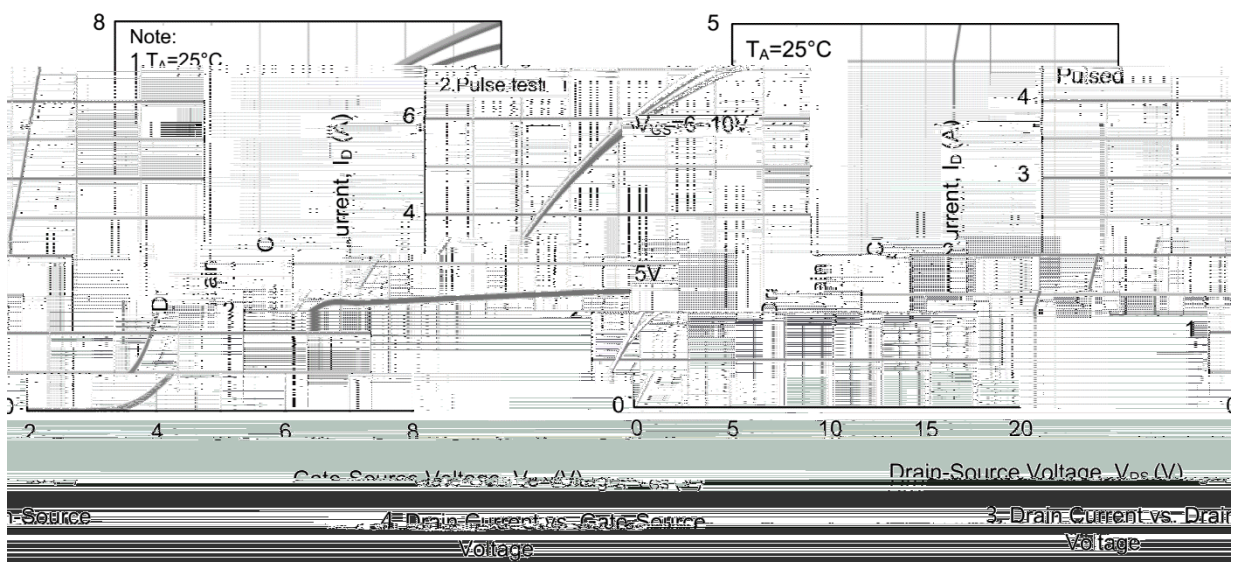
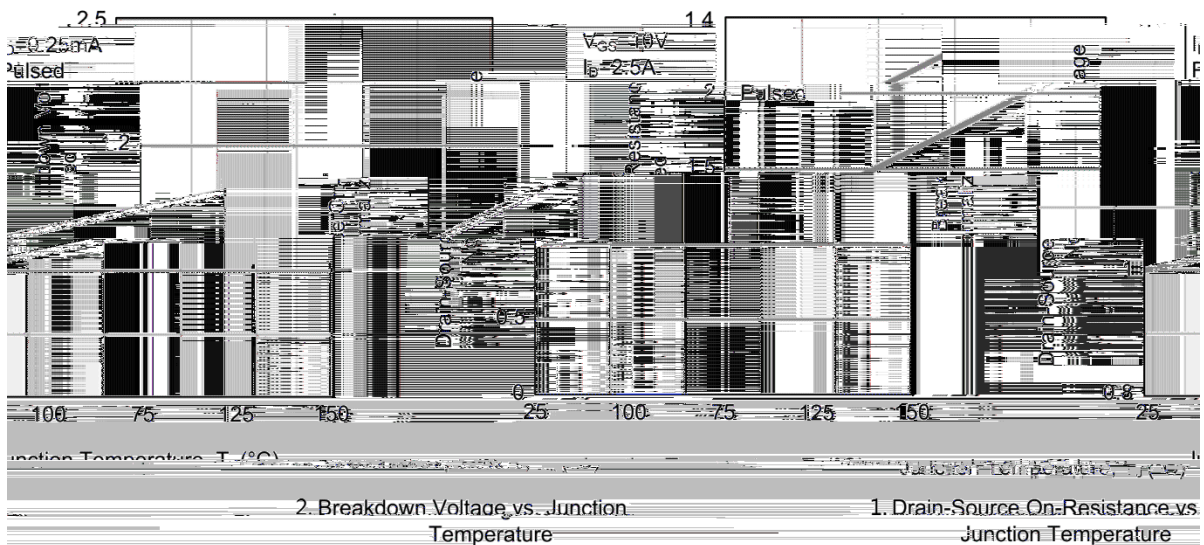
/ Marking

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	450	V
Drain Current	$I_D(T_c=25^\circ\text{C})$	7	A
Drain Current - Pulsed	I_{DM}	28	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	308	mJ
Avalanche Current	I_{AS}	7.4	A
Power Dissipation	$P_D(T_c=25^\circ\text{C})$	50	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to 150	
Junction to Ambient	$R_{\theta JA}$	110	$^\circ\text{C/W}$
Junction to Case	$R_{\theta JC}$	2.5	$^\circ\text{C/W}$

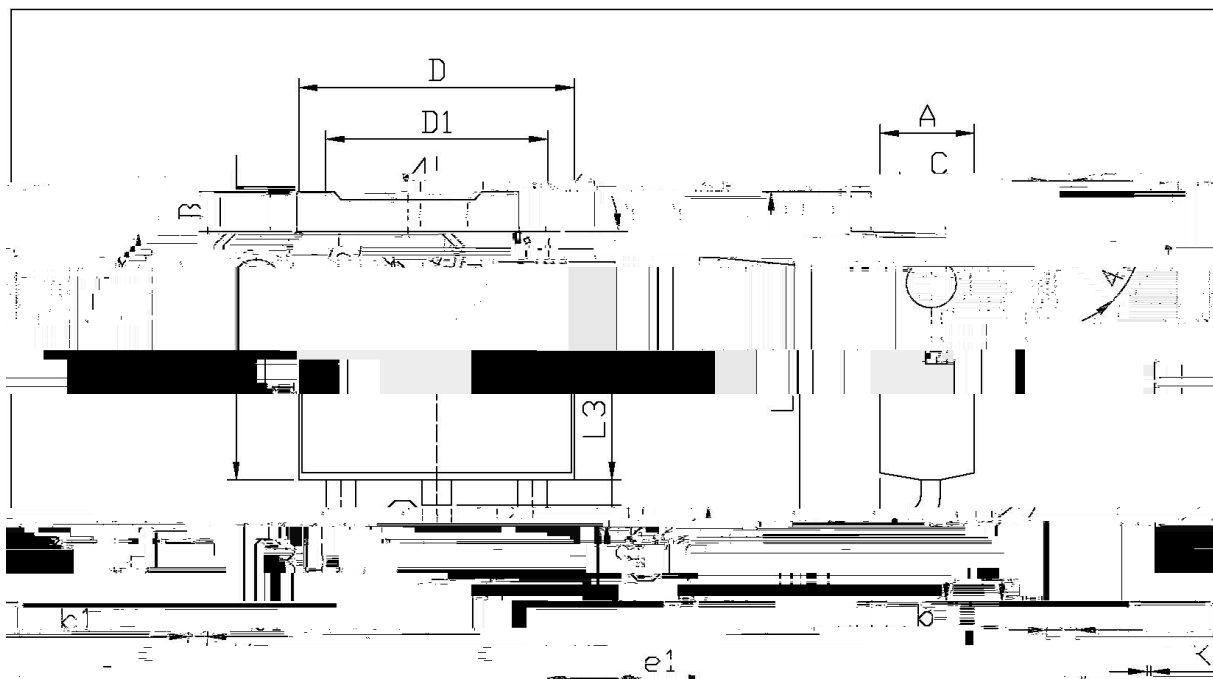
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
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Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=250V$ $I_D=7.0A$ $V_{GS}=10V$ $R_G=25\Omega$		42.4		ns
Turn-On Rise Time	t_r			16.9		
Turn-Off Delay Time	$t_{d(off)}$			31.8		
Turn-Off Fall Time	t_f			16.5		
Maximum Continuous Drain-Source Diode Forward Current	I_S				7	A
Maximum Pulsed Drain-Source Diode Forward Current	I_{SM}					

/ Electrical Characteristic Curve



/ Package Dimensions

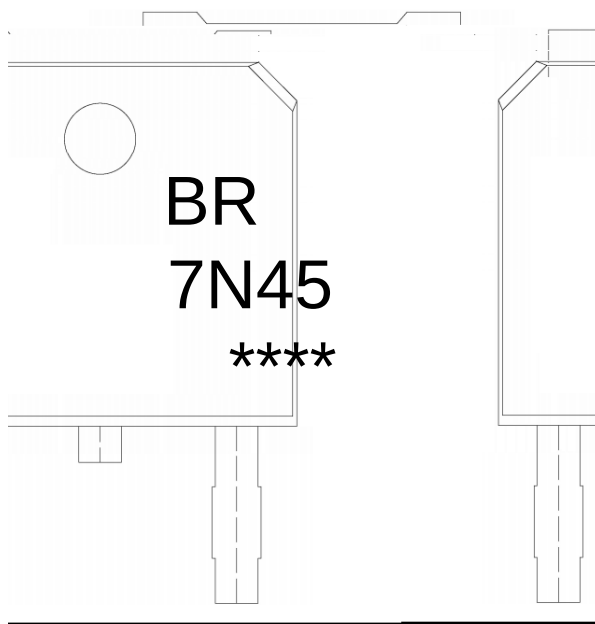


单位: mm

Figure 1 displays 12 histograms showing the distribution of dimensions for various parts of a machine. The histograms are arranged in a 3x4 grid. The top row shows 'Dimensions of Milling Machine' and 'Dimensions of Milling Machine'. The middle row shows 'Dimensions of Milling Machine' and 'Dimensions of Milling Machine'. The bottom row shows 'Dimensions of Milling Machine' and 'Dimensions of Milling Machine'. Each histogram has a vertical axis labeled 'Min' and 'Max' and a horizontal axis labeled 'Dimensions of Milling Machine'.

TO-252

/ Marking Instructions



BR

7N45

Note:

BR: Company Code

7N45: Product Type Code

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

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

- 1

150 180

60 90sec;

1.Preheating:150~180 , Time:60~90sec.
- 2

245±5

5±0.5sec;

2.Peak Temp.:245±5 , Duration:5±0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /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)
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