

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

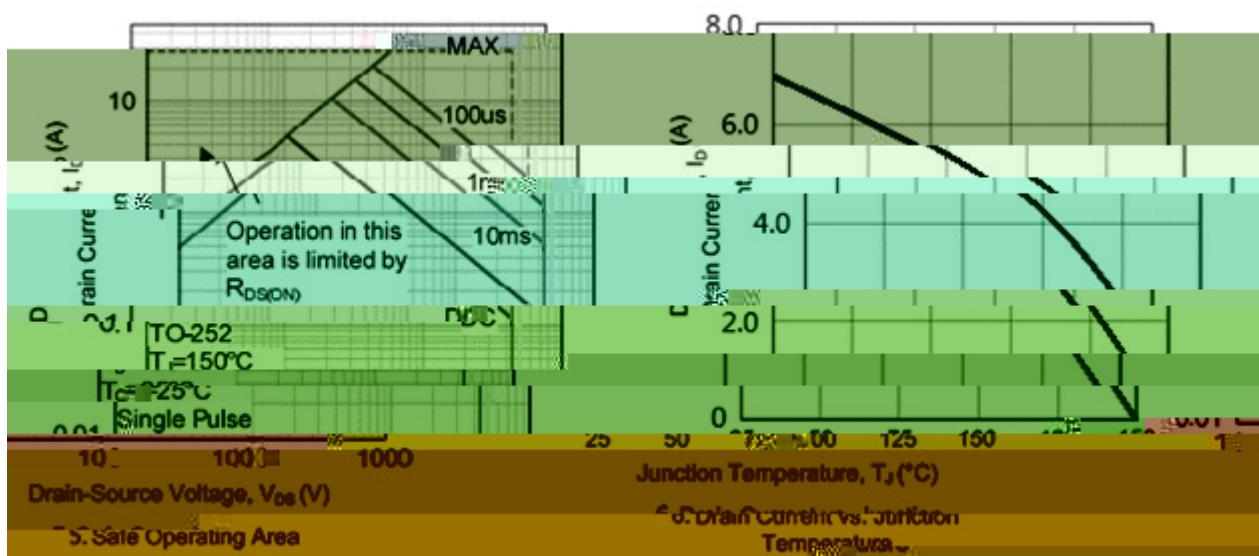
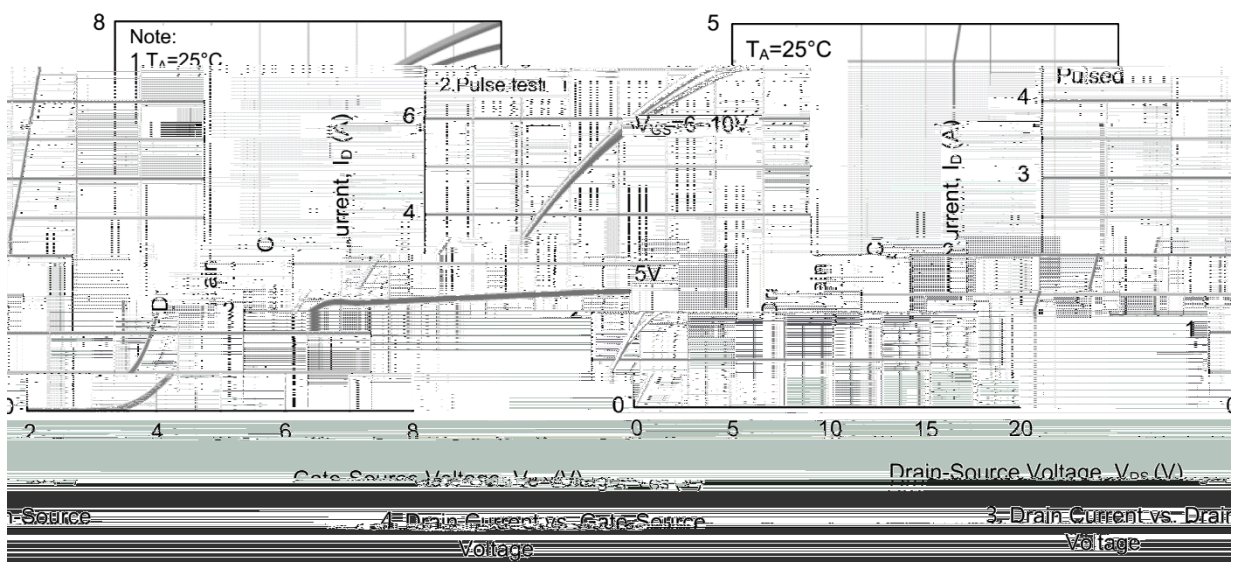
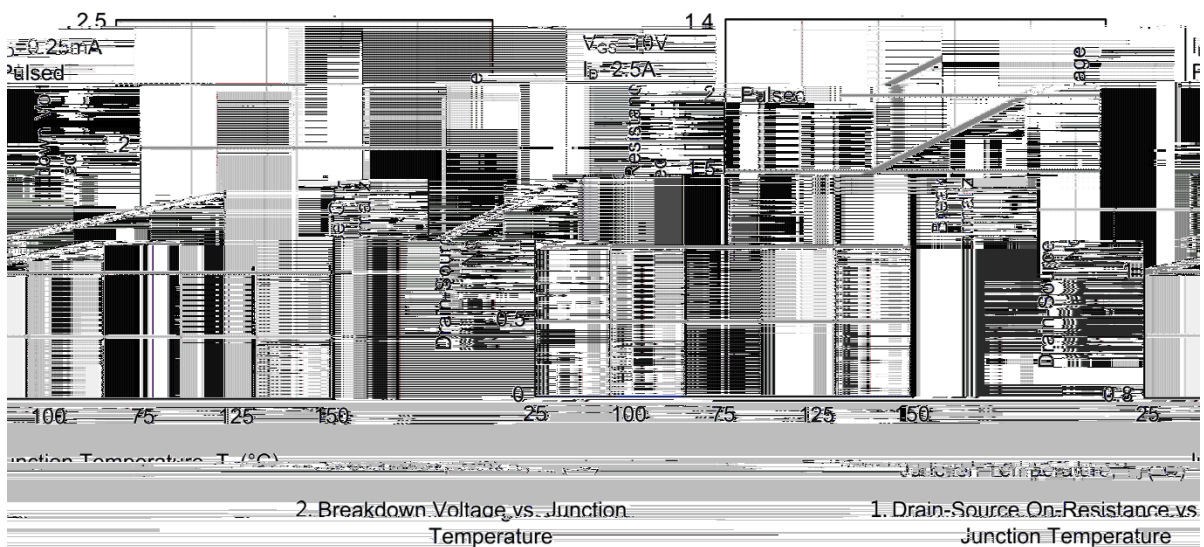
/ Marking

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	$^\circ\text{C}/\text{W}$
Junction to Case	$R_{\theta JC}$	2.5	$^\circ\text{C}/\text{W}$

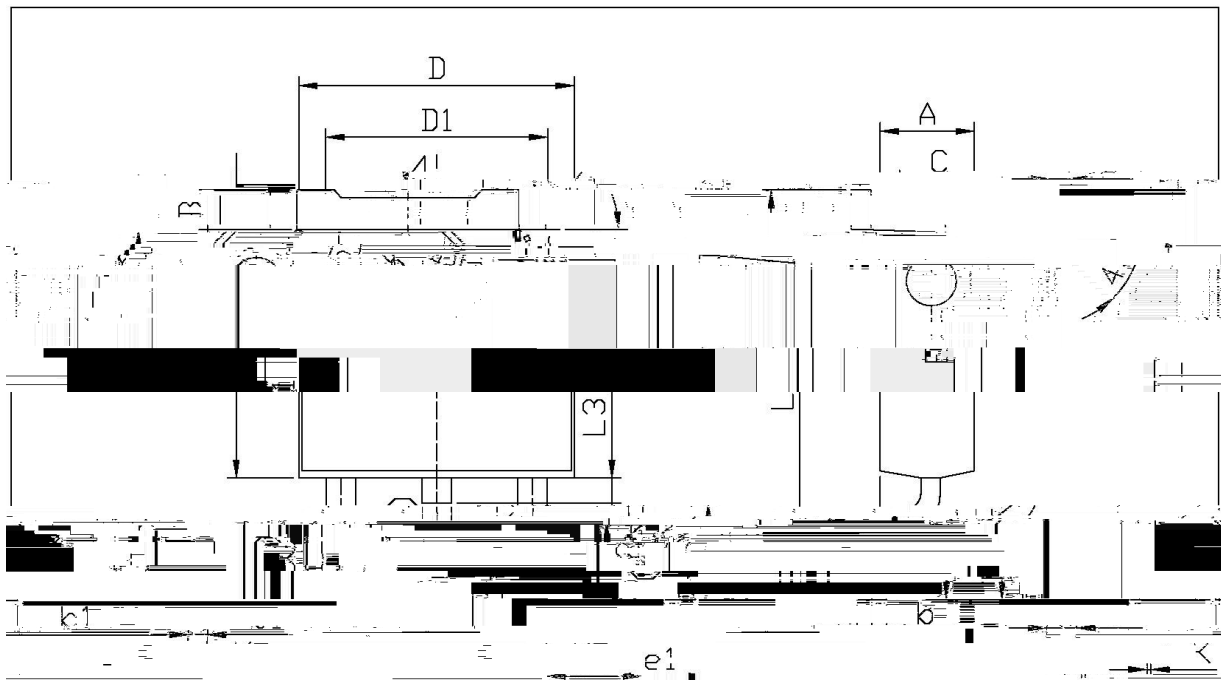
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
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Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=250V$ $I_D=7.0A$ $V_{GS}=10V$ $R_G=25\Omega$		42.4		ns
Turn-On Rise Time	t_r			16.9		
Turn-Off Delay Time	$t_{d(off)}$			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

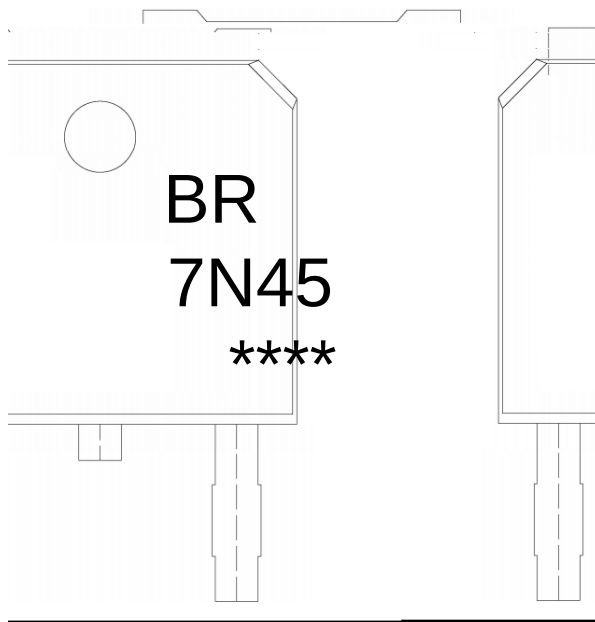


单位: mm

[illegible]

T0-252

/ 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)

Note:

- | | | | |
|---|---------|-----------|---|
| 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
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/ Packaging SPEC.

/ REEL

Package Type	Units	Dimension	(unit mm ³)
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