

BRD65R650T

Rev.A Apr.-2025

/ Descriptions

TO-252 N 650V

N-CHANNEL 650V Super-Junction Power MOSFET in a TO-252 Plastic Package.

/ Features

$R_{DS(on)}$ C_{rss}

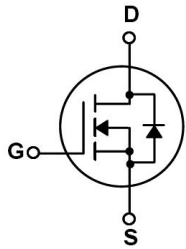
Low $R_{DS(on)}$, low gate charge, low C_{rss} , fast switching, HF Product.

/ Applications

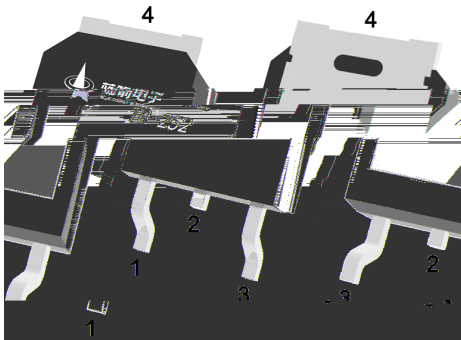
DC/DC

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.

/ Equivalent Circuit



/ Pinning



PIN1 G

PIN 2 D

PIN 3 S

PIN 4 D

/ Marking

See Marking Instructions.

Parameter

Symbol

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Continuous Diode Forward Current	I _s				8.5	A

/ Electrical Characteristic Curve

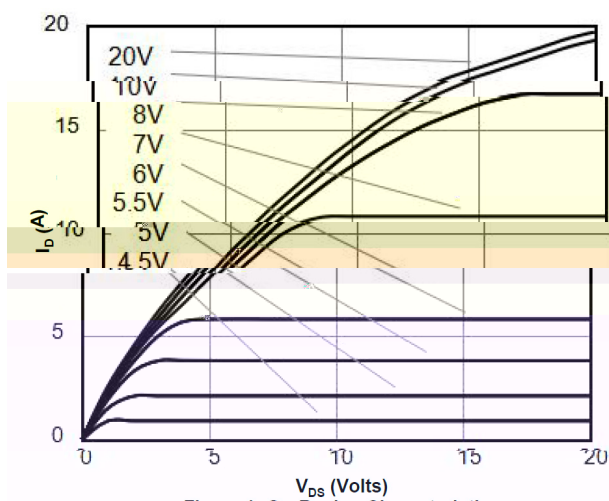


Figure 1: On-Region Characteristics

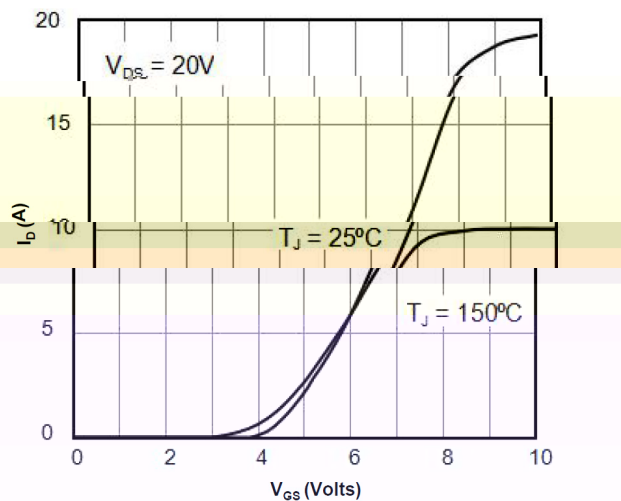
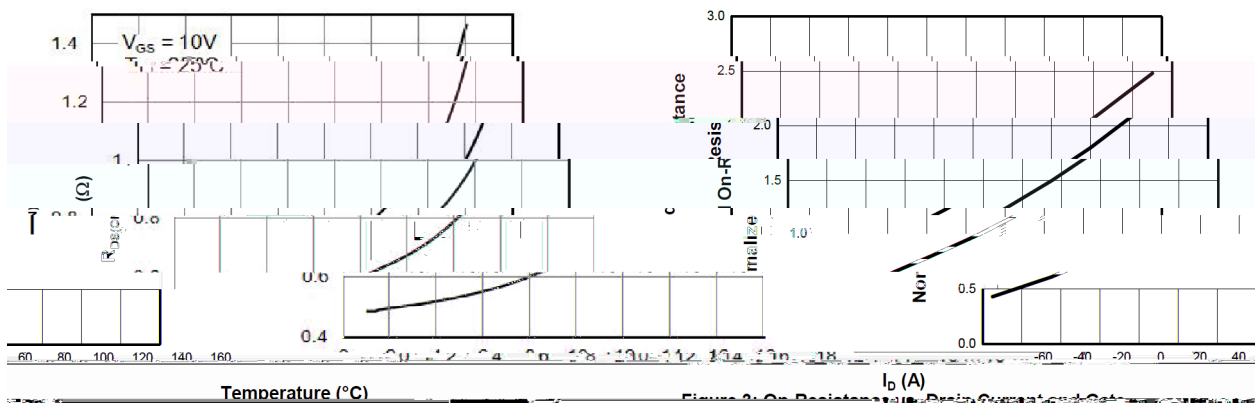


Figure 2: Transfer Characteristics



Temperature (°C)

Figure 3: On-Resistance vs. Drain Current

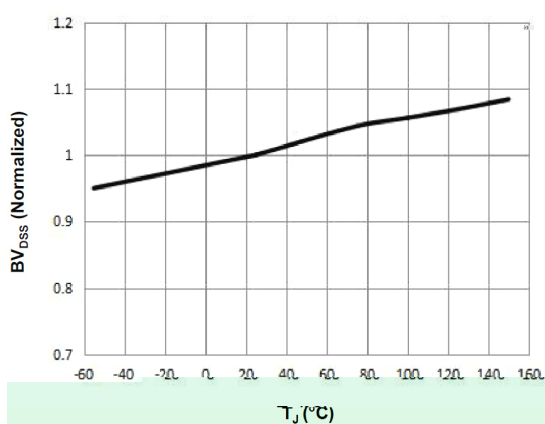


Figure 5: Break Down vs. Junction Temperature

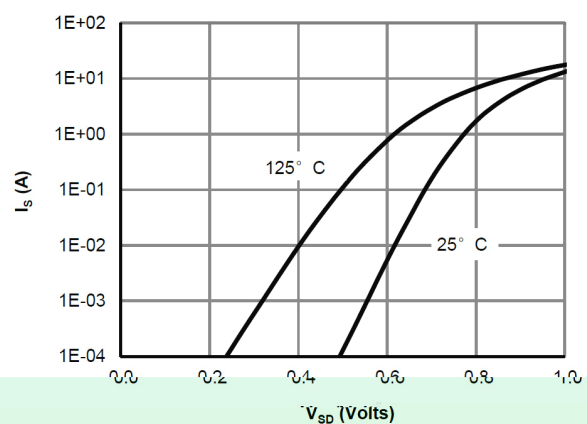


Figure 6: Body-Diode Characteristics

/ Electrical Characteristic Curve

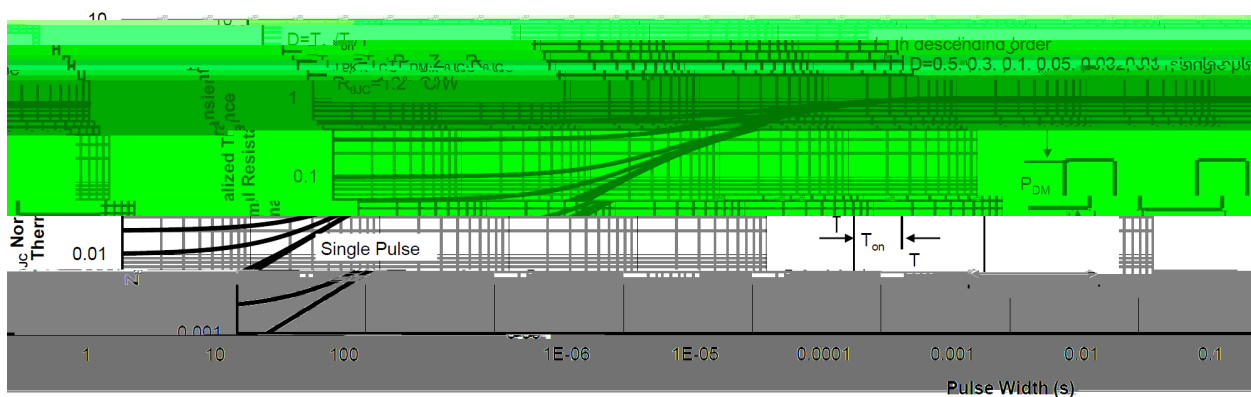
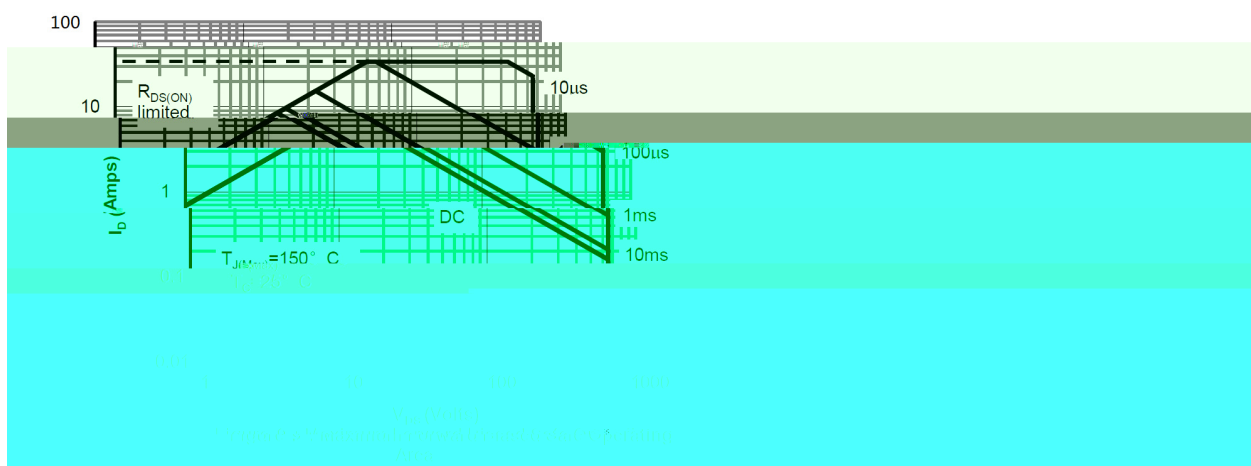
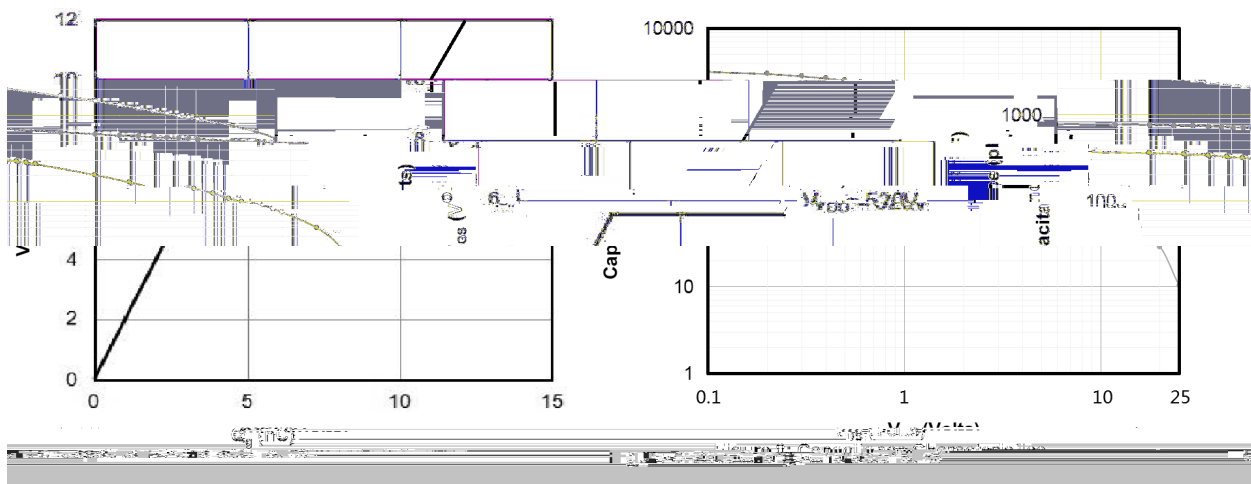
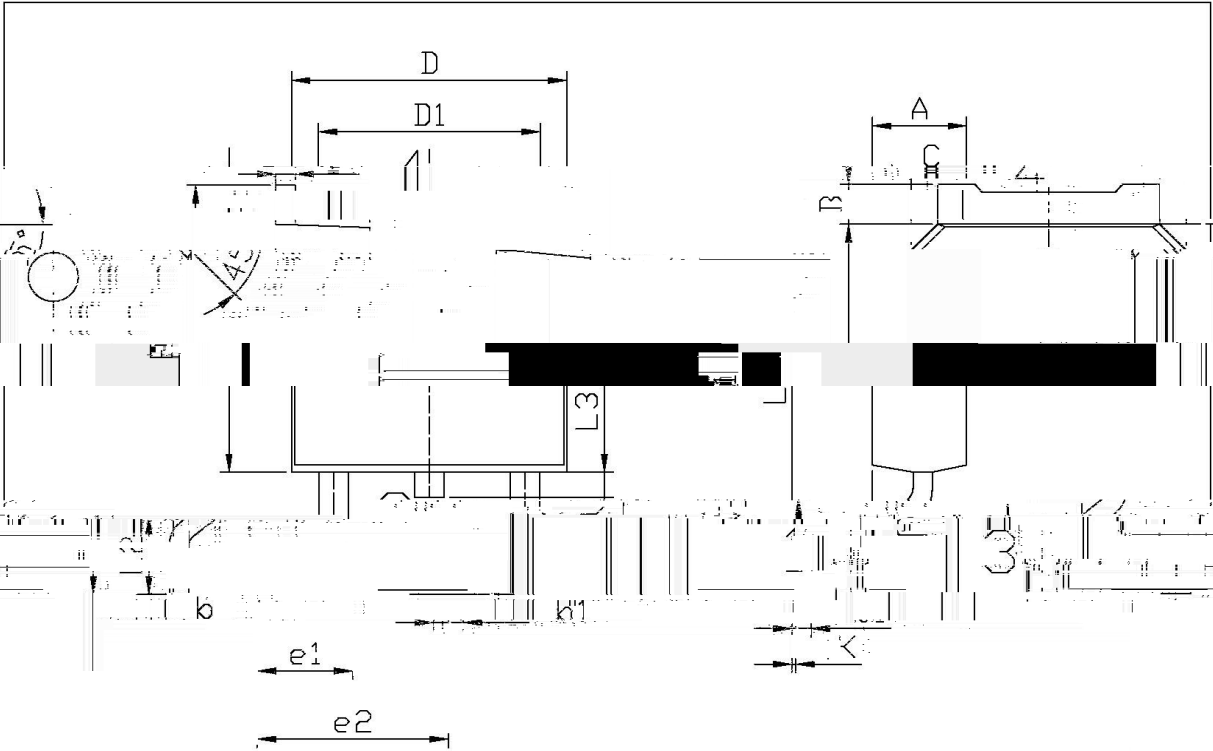


Figure 10: Normalized Maximum Transient Thermal Impedance

I Package Dimensions



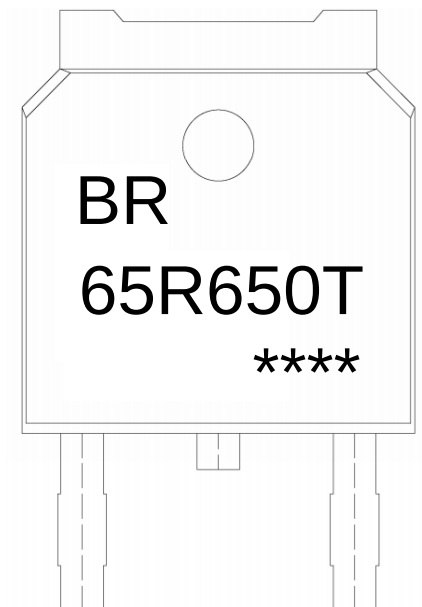
单位: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
D	5.95	6.25	A	2.70	2.70
D1	2.24	2.34	B	0.95	1.25
e1	2.24	2.34	C	0.70	0.90
e2	4.43	4.70	L3	0.45	0.45
K	0.55	0.85	D	1.70	2.00
K1	0.60	0.90	L3	6.45	6.75
b	0.50	0.60			

T0-252



/ Marking Instructions



BR

65R650T

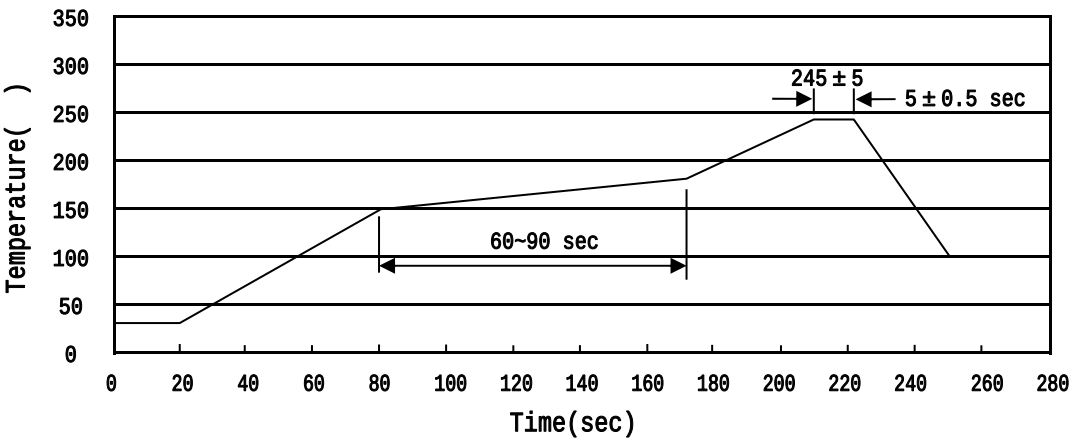
Note:

BR: Company Code

65R650T: 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

/ 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