

**/ Descriptions**

TO-263          N      MOS          N-CHANNEL MOSFET in a TO-263 Plastic Package.

**/ Features**

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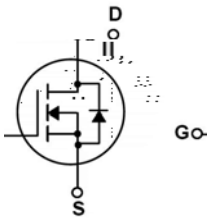
Low gate charge, low crss, fast switching.

**/ Applications**

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

**/ Equivalent Circuit**



**/ Pinning**



PIN1 G          PIN 2,4 D          PIN 3 S

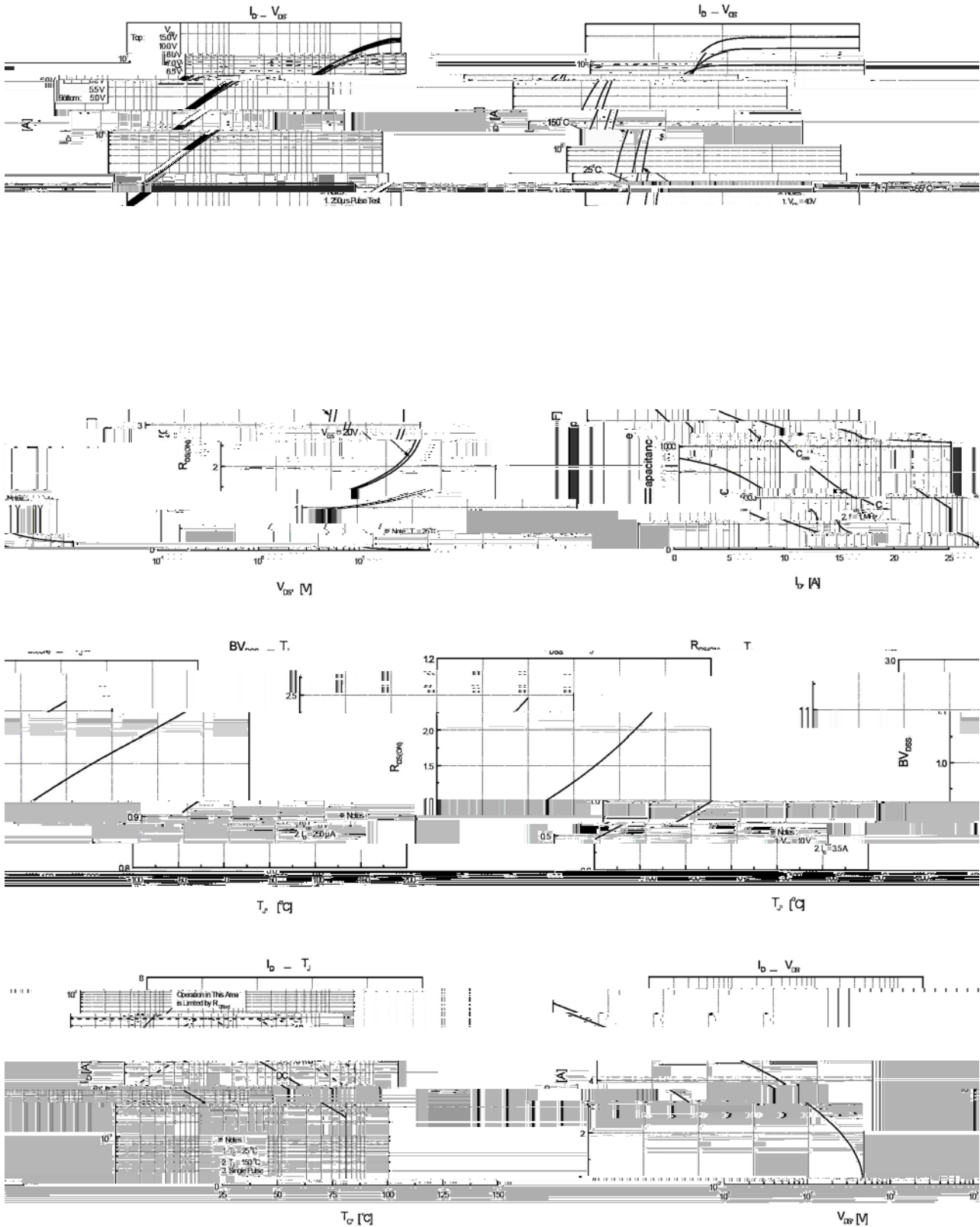
**/ h<sub>FE</sub> Classifications & Marking**

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DSS}$	650	V
Drain Current	$I_D(T_C=25^\circ\text{C})$	7.0	A
Drain Current	$I_D(T_C=100^\circ\text{C})$	4.4	A
Drain Current - Pulsed	$I_{DM}$	28	A
Gate-Source Voltage	$V_{GS}$	$\pm 30$	V
Single Pulsed Avalanche Energy	$E_{AS}$	420	mJ
Repetitive Avalanche Energy	$E_{AR}$	14.7	mJ
Avalanche Current	$I_{AR}$	7.0	A
Power Dissipation	$P_D(T_C=25^\circ\text{C})$	147	W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to 150	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V$ $I_D=250\mu A$	650			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=650V$ $V_{GS}=0V$			1.0	$\mu A$
		$V_{DS}=520V$ $T_C=125^\circ\text{C}$			100	$\mu A$
Gate-Body Leakage Current Forward	$I_{GSS}$	$V_{GS}=\pm 30V$ $V_{DS}=0V$			$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=3.5A$			1.3	
Forward Transconductance	$g_{FS}$	$V_{DS}=40V$ $I_D=3.5A$		8.2		S
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V$ $I_S=7.0A$			1.4	V

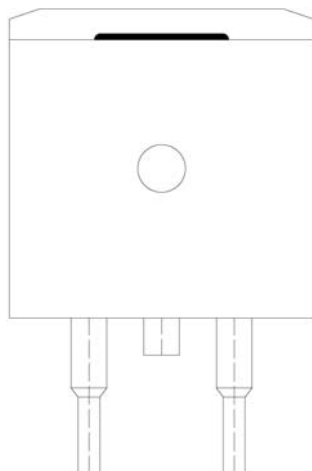
/ Electrical Characteristic Curve



**BRB7N65**  
Rev.E Aug.-2017



**DATA SHEET**



BR

7N65

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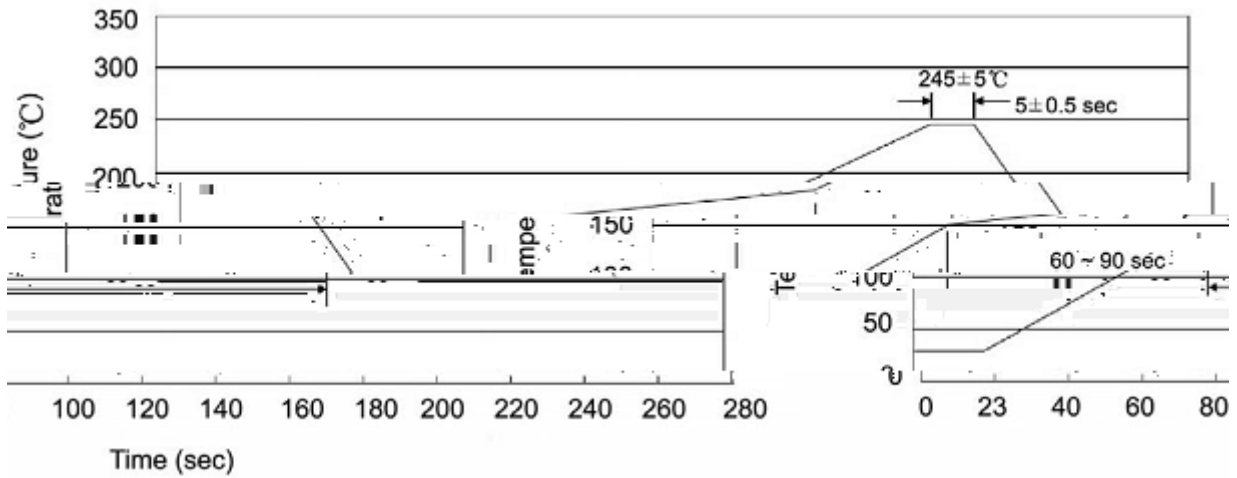
Note:

BR: Company Code

7N65: Product Type.

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

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



Note:

- |   |        |     |            |          |   |
|---|--------|-----|------------|----------|---|
| 1 | 25     | 150 | 60         | 90sec;   | 1.Preheating:25~150 , 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 <sup>3</sup> )		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
TO-263	800	1	800	5	4,000	13 ×24	360×360×50	385×257×392

/ TUBE