

/ Descriptions

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

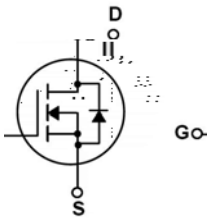
/ Features

Low gate charge, low crss, fast switching.

/ Applications

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_{FE} Classifications & Marking

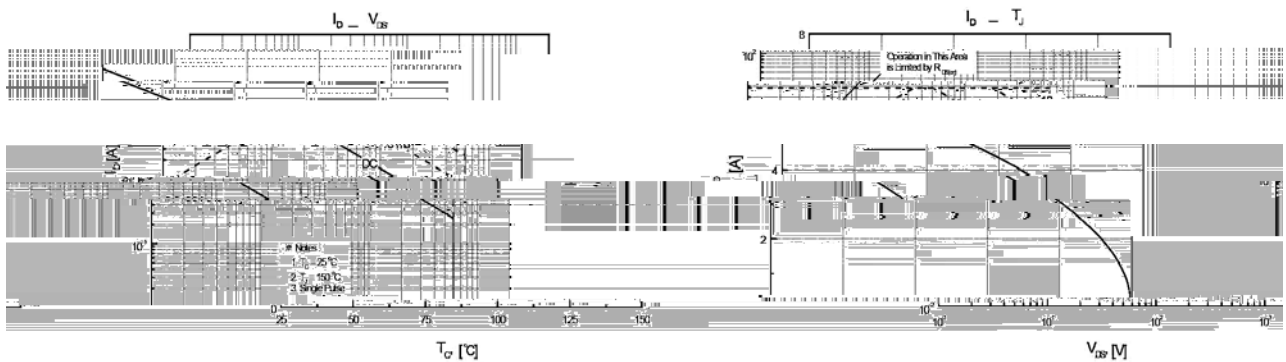
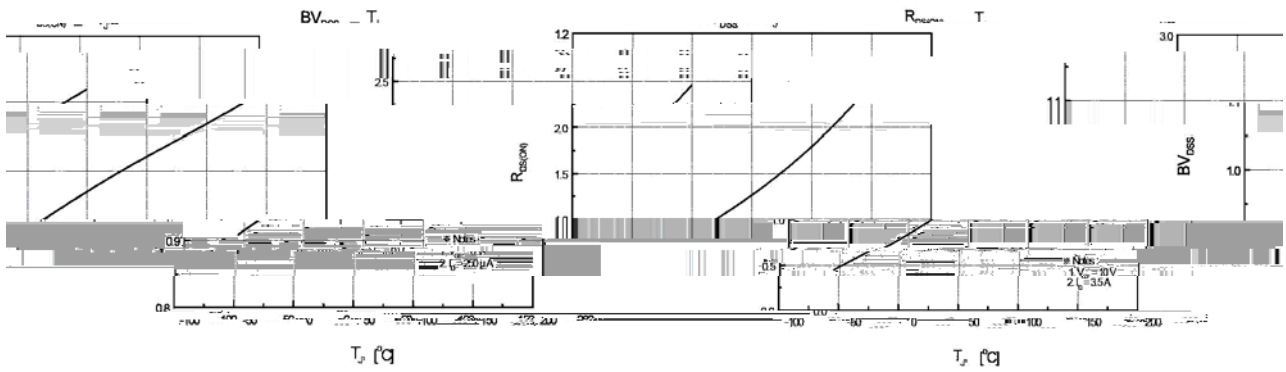
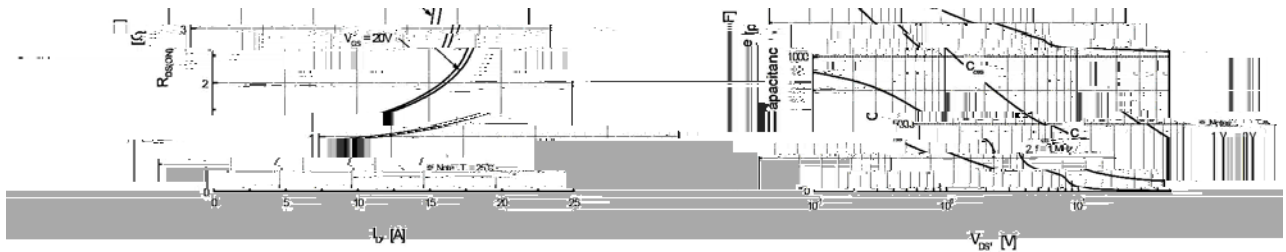
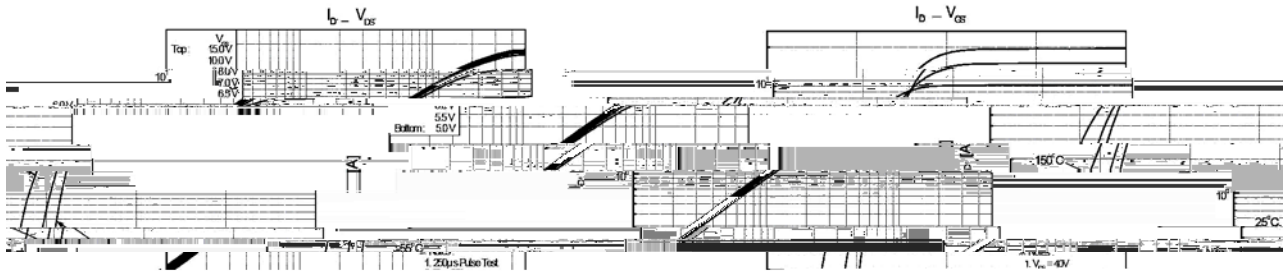
See Marking Instructions.

| 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} | ± 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 | μA |
| | | $V_{DS}=520V$ $T_C=125^\circ\text{C}$ | | | 100 | μA |
| Gate-Body Leakage Current Forward | I_{GSS} | $V_{GS}=\pm 30V$ $V_{DS}=0V$ | | | ± 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 | |
| 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 |

0

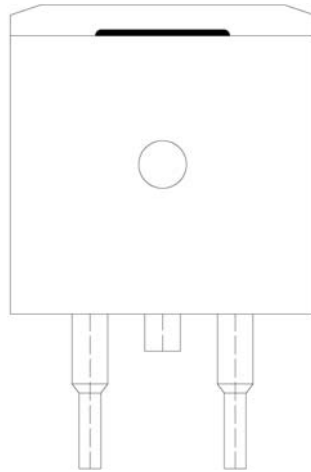
/ Electrical Characteristic Curve



BRB7N65
Rev.E Aug.-2017



DATA SHEET



BR

7N65

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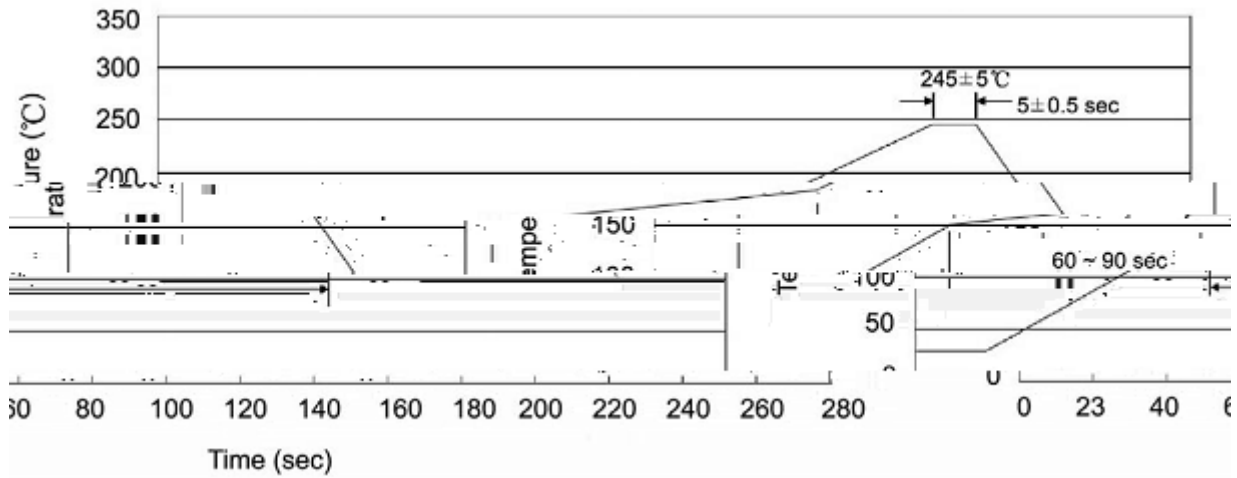
Note:

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 ³) | | |
|--------------|------------|-----------------|-----------------|-----------------------|-----------------|-----------------------------------|------------|-------------|
| | 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