

## / Descriptions

TO-263 N

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

## / Features

 $V_{DS}=60V$   $I_D=162A$  $R_{DS(on)}@10V \leq 3.5m\Omega$  (Type.3.3m $\Omega$ )

AEC-Q101

Qualified to AEC-Q101 Standards for High Reliability,

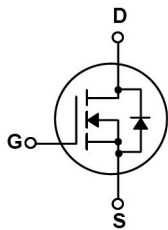
HF Product.

## / Applications

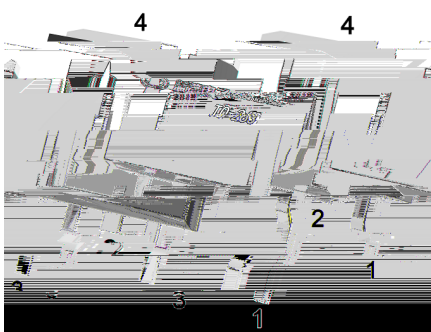
BMS

High frequency switching and synchronous rectification,BMS,Motor, Meet the stringent requirements of automotive applications.

## / Equivalent Circuit



## / Pinning



PIN1 G PIN 2 4 D PIN 3 S

## / Marking

See Marking Instructions.


**/ Absolute Maximum Ratings(Ta=25 )**

| Parameter                               |              | Symbol          | Rating     | Unit |
|-----------------------------------------|--------------|-----------------|------------|------|
| Drain-Source Voltage                    |              | $V_{DS}$        | 60         | V    |
| Drain Current                           |              | $I_D(T_c=25)$   | 162        | A    |
| Pulsed Drain Current                    |              | $I_{DM}$        | 466        | A    |
| Gate-Source Voltage                     |              | $V_{GS}$        | 20         | V    |
| Single Pulsed Avalanche Energy(L=0.5mH) |              | $E_{AS}$        | 820        | mJ   |
| Avalanche Current                       |              | $I_{AS}$        | 40.5       | A    |
| Total Power Dissipation                 |              | $P_D(T_c=25)$   | 170        | W    |
| Junction and Storage Temperature Range  |              | $T_J, T_{STG}$  | -55 to 150 |      |
| Thermal Resistance-Junction to Ambient  | t 10s        | $R_{\theta JA}$ | 23         | /W   |
|                                         | Steady-State |                 | 75         |      |
| Thermal Resistance-Junction to Case     | Steady-State | $R_{\theta JC}$ | 0.74       |      |

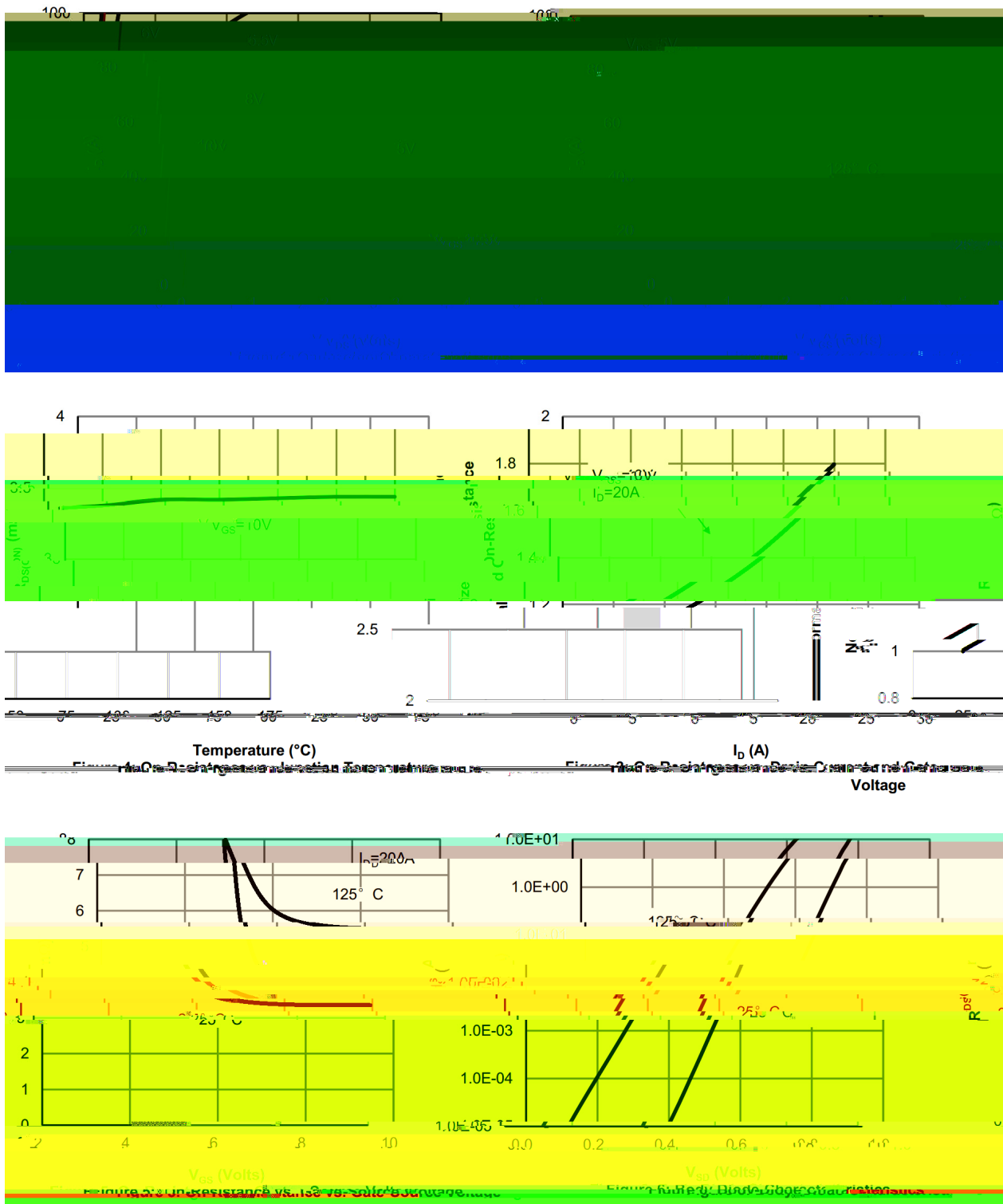
**/ Electrical Characteristics(Ta=25 )**

| Parameter                         | Symbol       | Test Conditions                   | Min | Typ  | Max       | Unit       |
|-----------------------------------|--------------|-----------------------------------|-----|------|-----------|------------|
|                                   | $BV_{DSS}$   | $I_D=250\mu A, V_{GS}=0V$         | 60  | 70   |           | V          |
| Zero Gate Voltage Drain Current   | $I_{DSS}$    | $V_{DS}=60V, V_{GS}=0V$           |     |      | 1.0       | $\mu A$    |
| Gate-Body leakage current         | $I_{GSS}$    | $V_{DS}=0V, V_{GS}=\pm 20V$       |     |      | $\pm 100$ | 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 | $R_{DS(ON)}$ | $V_{GS}=10V, I_D=20A$             |     | 3.3  | 3.5       | m $\Omega$ |
| Diode Forward Voltage             | $V_{SD}$     | $I_S=1A, V_{GS}=0V$               |     |      | 1.2       | V          |
| Input Capacitance                 | $C_{iss}$    | $V_{DS}=25V, V_{GS}=0V, f=1.0MHz$ |     | 4400 |           | pF         |
| Output Capacitance                | $C_{oss}$    |                                   |     | 1400 |           |            |
| Reverse Transfer Capacitance      | $C_{rss}$    |                                   |     | 73   |           |            |
| Gate resistance                   | $R_g$        | $V_{GS}=0V, V_{DS}=0V, f=1MHz$    |     | 1.1  |           | $\Omega$   |
| Total Gate Charge                 | $Q_g$        | $V_{GS}=10V, V_{DS}=30V, I_D=20A$ |     | 42   |           | nC         |
| Gate Source Charge                | $Q_{gs}$     |                                   |     | 14   |           |            |
| Gate Drain Charge                 | $Q_{gd}$     |                                   |     | 11   |           |            |

**BRCS035N06SHBDQ**

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/ Electrical Characteristic Curve



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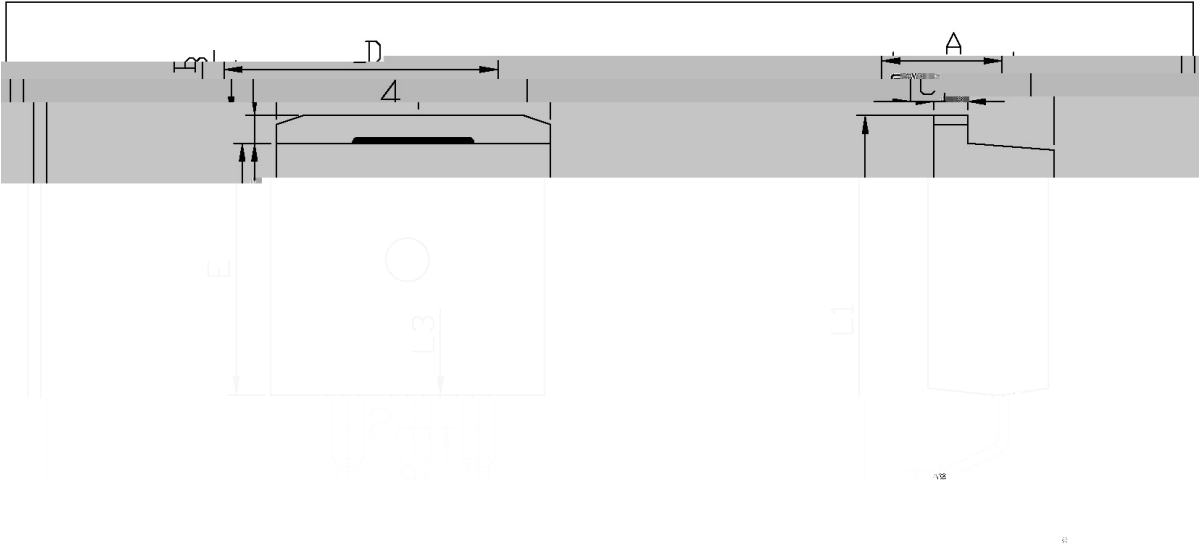
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**蓝箭电子**  
BLUE ROCKET ELECTRONICS

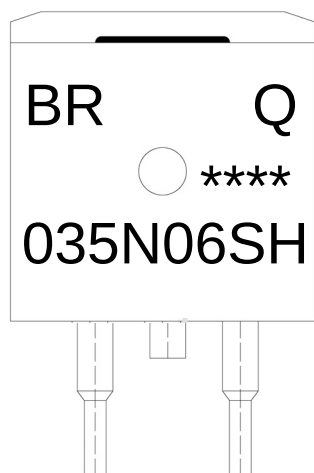
DATA SHEET

/ Package Dimensions



| Max   | Min   | Max   | Min   |
|-------|-------|-------|-------|
| 9.44  | 4.30  | 4.70  | 9.00  |
| 2.74  | 1.38  | 1.40  | 2.34  |
| 42.88 | 30.26 | 30.26 | 42.88 |
| 15.00 | 16.00 | b1    | 1.15  |
|       |       |       | 1.35  |
|       |       |       | 1.1   |

## / Marking Instructions



BR

Q

035N06SH

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Note:

BR: Company Code

Q: Automobile halogen-free product Code

035N06SH: Product Type Code

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

**BRCS035N06SHBDQ**

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**蓝箭电子**  
BLUE ROCKET ELECTRONICS

**DATA SHEET**

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