

/ Revised record

|   | ! " #     | \$ ! % & ' | ! ( ) % * +                                                                                                                                                                                                     | , -   | . /   |
|---|-----------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------|
| A | 2022.6.22 | ALL        | 0 1 AOS-AOD32326 2 3 4 -<br>5 6 2 3 4                                                                                                                                                                           | 7 8 9 | : ; < |
| A | 2022-6-23 | all        | = > ? Q,@A ) B C D ? E F G<br>H I J K L M AEC-Q101 N O P<br>Q R S T U V W X E F B C % Y<br>3 T U Z [ D ? \ ] N ^ Q _ ` a<br>b c 245±5 [ d e f g h 5±<br>0.5sec i j h k ` a b c 255±<br>5 [ d e f g h 5±0.5sec l | m n   |       |
|   |           |            |                                                                                                                                                                                                                 |       |       |
|   |           |            |                                                                                                                                                                                                                 |       |       |
|   |           |            |                                                                                                                                                                                                                 |       |       |
|   |           |            |                                                                                                                                                                                                                 |       |       |
|   |           |            |                                                                                                                                                                                                                 |       |       |
|   |           |            |                                                                                                                                                                                                                 |       |       |
|   |           |            |                                                                                                                                                                                                                 |       |       |

/ Descriptions

TO-252 o p p q N r s MOS t u B v l  
N-Channel Enhancement Mode Field Effect Transistor in a TO-252 Plastic Package.

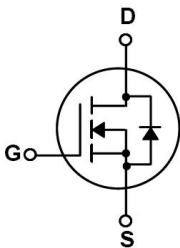
/ Features

VDS (V) = 30V  
ID =67A (VGS = ±20V)  
RDS(ON)@10V≤6mR  
L M AEC-Q101 N O P Q R S T U [ w x G H I  
Qualified to AEC-Q101 Standards for High Reliability, HF Product.

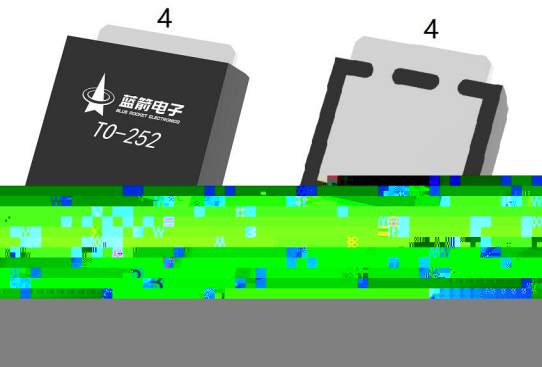
/ Applications

y z { | % DC/DC } ~ ¡ , ¢ C £ ¤ ¥ C ¦ [ W X E F B C % Y 3 T U I  
DC/DC Converters in Computing,Suitable for general purpose, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



PIN1 k G      PIN 2 k D      PIN 3 k S      PIN 4 k D

/ Marking

§ \ ] ¨ © I See Marking Instructions.

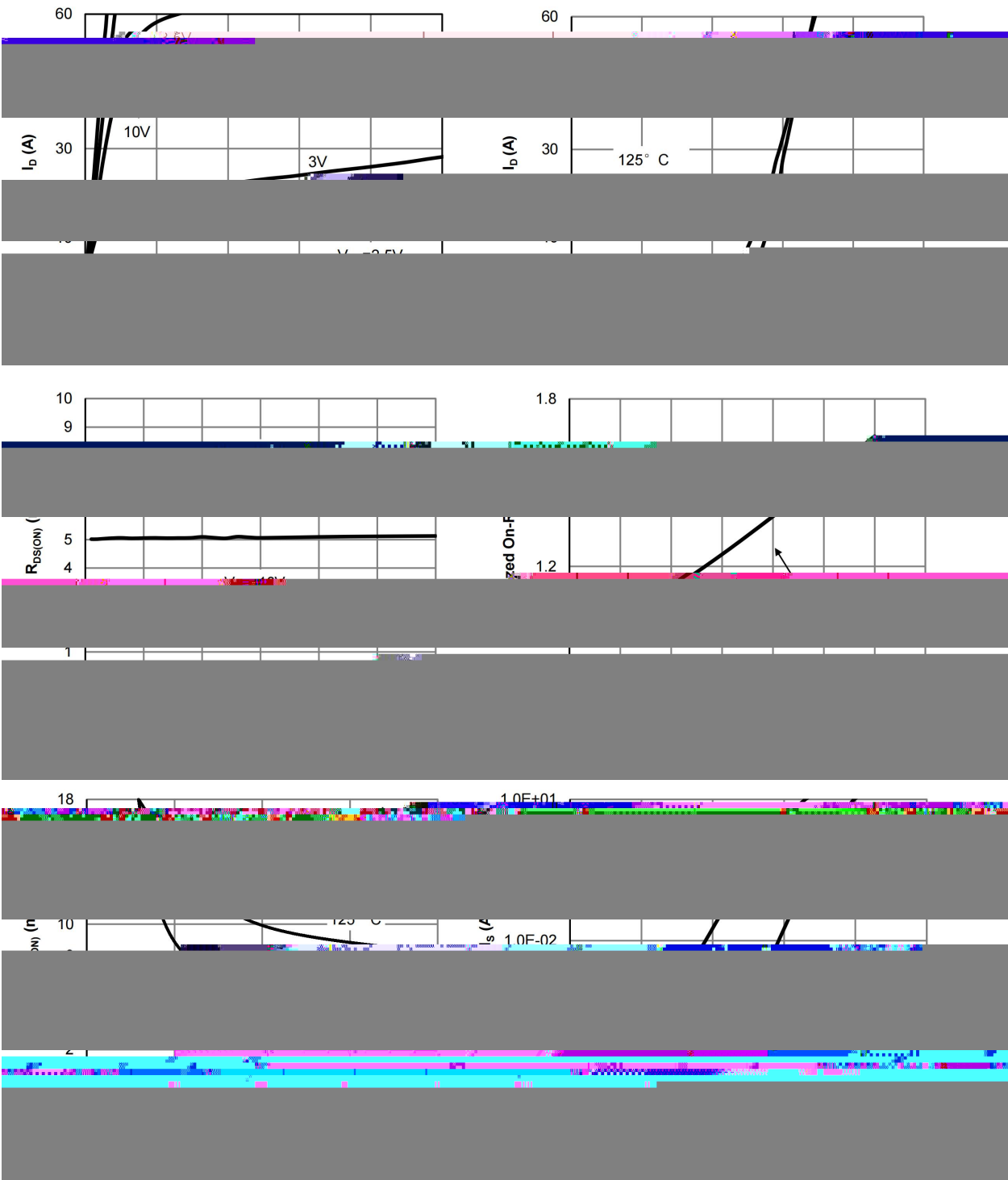


| Parameter                               | Symbol                        | Rating   | Unit |
|-----------------------------------------|-------------------------------|----------|------|
| Drain-Source Voltage                    | $V_{DSS}$                     | 30       | V    |
| Drain Current                           | $I_D(T_c=25^{\circ}\text{C})$ | 67       | A    |
| Drain Current - Pulsed                  | $I_{DM}$                      | 140      | A    |
| Gate-Source Voltage                     | $V_{GSS}$                     | $\pm 20$ | V    |
| Single Pulsed Avalanche Energy(L=0.5mH) | $E_{AS}$                      | 185      | mJ   |
| Avalanche Current                       | $I_{AS}$                      | 21.5     | A    |
| Power Dissipation                       | $P_D(T_c=25^{\circ}\text{C})$ | 29       | W    |

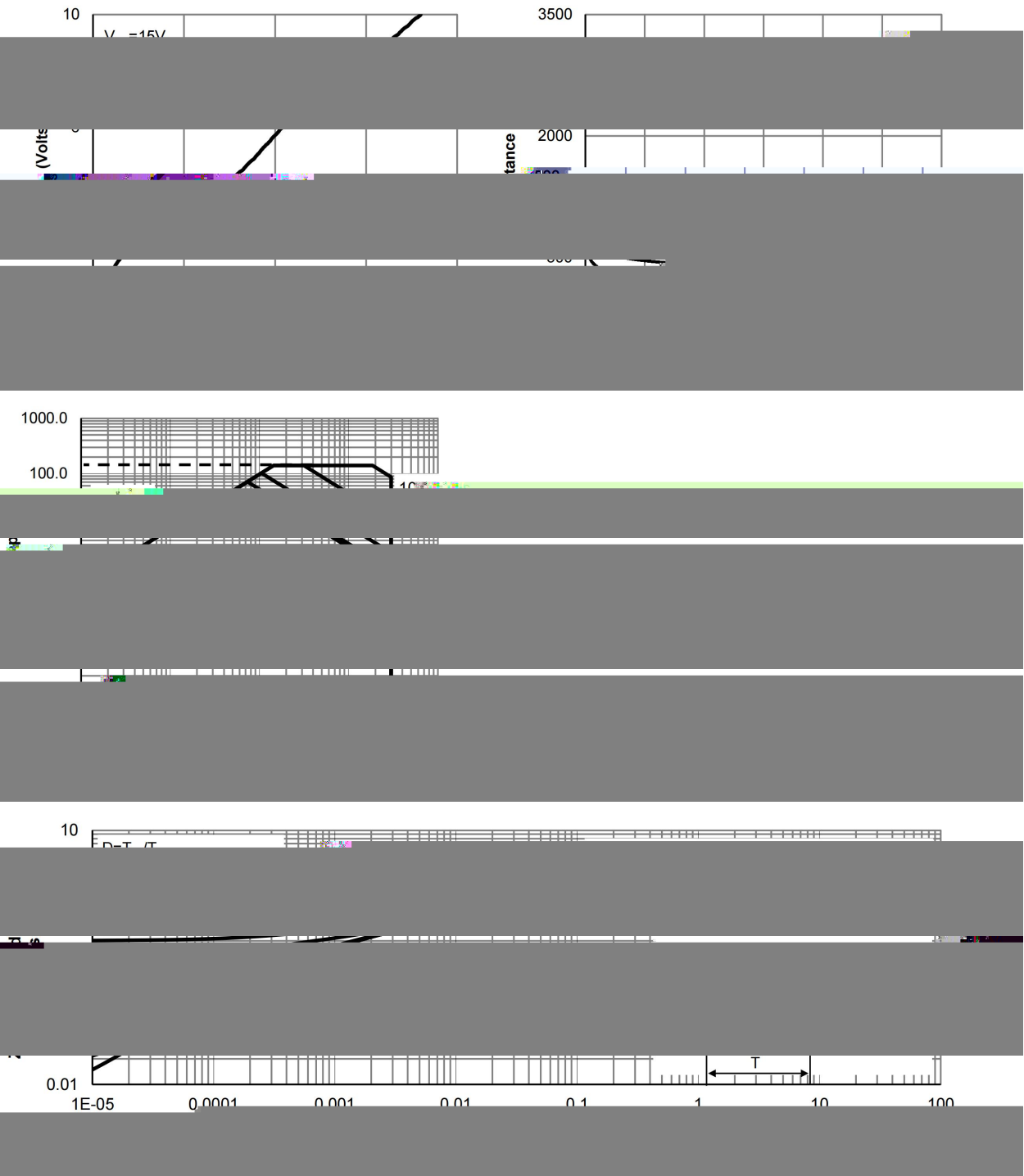


| Parameter         | Symbol       | Test Conditions                    | Min | Typ | Max | Unit |
|-------------------|--------------|------------------------------------|-----|-----|-----|------|
| Total Gate Charge | $Q_{g(10V)}$ | $V_{GS}=10V$ $V_{DS}=15V$<br>$I_L$ |     |     |     |      |

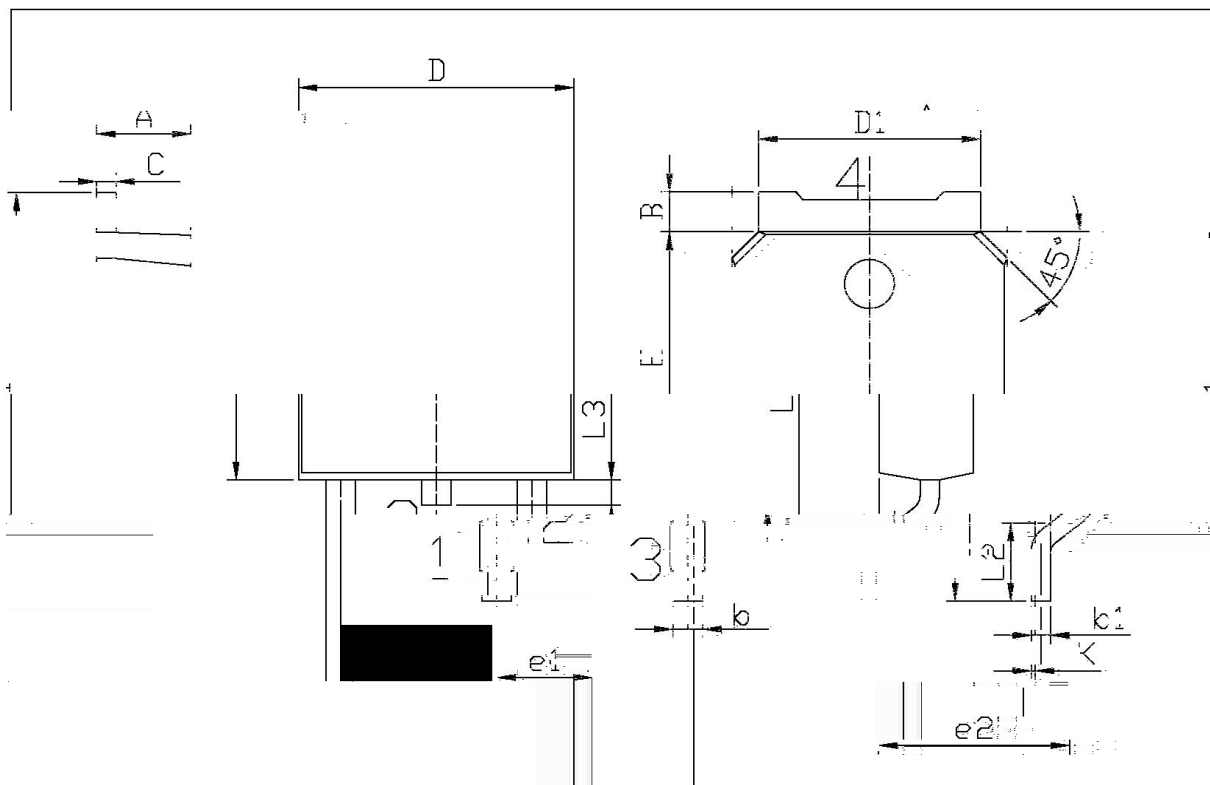
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve



## / Package Dimensions

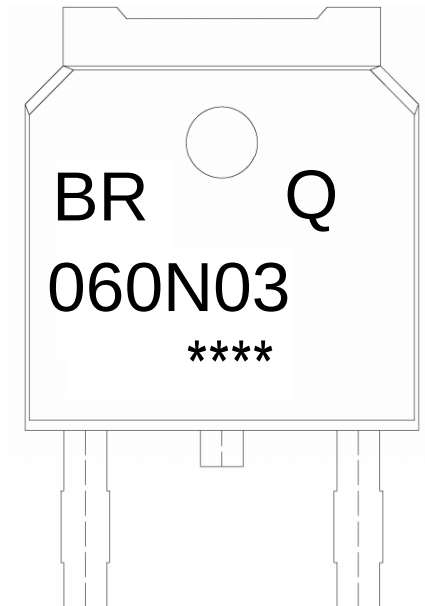


单位: mm

| Dimensions In Millimeters |       | Dimensions In Millimeters |       |
|---------------------------|-------|---------------------------|-------|
| Symbol                    | Value | Symbol                    | Value |
| $\phi$                    | 5.95  | $\phi$                    | 2.20  |
| e1                        | 2.24  | B                         | 0.95  |
| $\phi$                    | 4.34  | $\phi$                    | 0.70  |
| $\phi$                    | 9.85  | $\phi$                    | 0.45  |
| $\phi$                    | 0.75  | $\phi$                    | 1.2   |
| $\phi$                    | 0.55  | $\phi$                    | 1.70  |
| $\phi$                    | 6.75  | $\phi$                    | 6.45  |
| $\phi$                    | 0.60  | $\phi$                    | 0.90  |
| $\phi$                    | 0.80  | $\phi$                    | 0.50  |
| $\phi$                    | 0.80  | $\phi$                    | 0.50  |

TN-252

## / Marking Instructions



BR

Q

060N03

\*\*\*\*

Note:

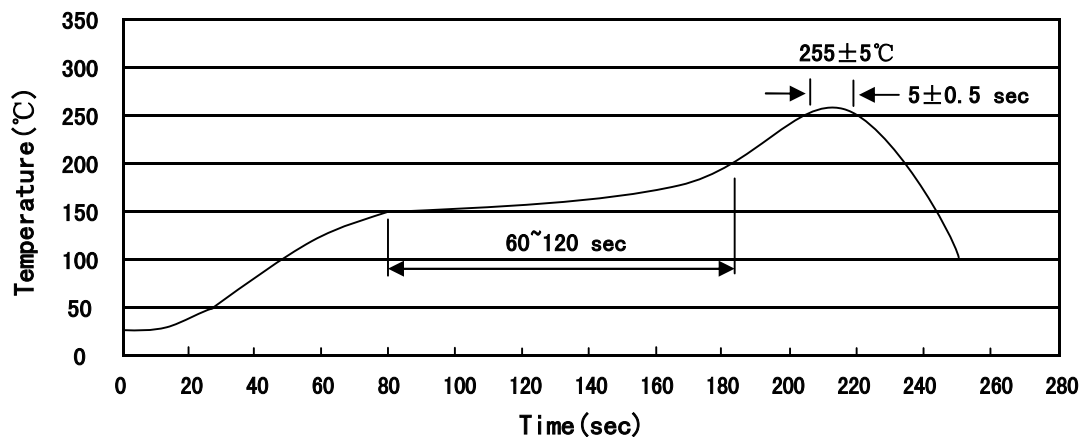
BR: Company Code

Q: Automobile halogen-free product Code

060N03: Product Type Code

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

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



Note:

- |   |       |     |           |         |                                          |
|---|-------|-----|-----------|---------|------------------------------------------|
| 1 | 150   | 200 | 60        | 120sec; | 1.Preheating:150~200°C, Time:60~120sec.  |
| 2 | 255±5 |     | 5±0.5sec; |         | 2.Peak Temp.:255±5°C, Duration:5±0.5sec. |
| 3 |       | 2   | 10°C/sec. |         | 3. Cooling Speed: 2~10°C/sec.            |

## / Resistance to Soldering Heat Test Conditions

260±5°C

10±1 sec.

Temp.:260±5°C

Time:10±1 sec

## / Packaging SPEC.

## / REEL

| Package Type<br>封装形式 | Units 包装数量         |                         |                        |                              |                        | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |             |             |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|-----------------------------------------|-------------|-------------|
|                      | Units/Reel<br>只/卷盘 | Reels/Inner Box<br>卷盘/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Reel                                    | Inner Box 盒 | Outer Box 箱 |
| TO-252               | 2,500              | 2                       | 5,000                  | 6                            | 30,000                 | 13" ×16                                 | 360×360×50  | 380×335×366 |

## / TUBE

| Package Type<br>封装形式 | Units 包装数量         |                         |                        |                              |                        | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |             |             |
|----------------------|--------------------|-------------------------|------------------------|------------------------------|------------------------|-----------------------------------------|-------------|-------------|
|                      | Units/Tube<br>只/套管 | Tubes/Inner Box<br>套管/盒 | Units/Inner Box<br>只/盒 | Inner Boxes/Outer Box<br>盒/箱 | Units/Outer Box<br>只/箱 | Tube 套管                                 | Inner Box 盒 | Outer Box 箱 |
| TO-251/252           | 75                 | 48                      | 3,600                  | 5                            | 18,000                 | 526×20.5×5.25                           | 555×164×50  | 575×290×180 |

## / Notices