



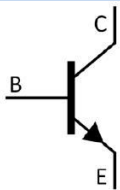
| E | 2016-5    |     |                                                                                       |  |  |
|---|-----------|-----|---------------------------------------------------------------------------------------|--|--|
| F | 2021-4-20 | 1   |                                                                                       |  |  |
| A | 2022-4-23 | all | BR Q TO-252<br>TO-252#,<br>AEC-Q101<br>Q<br>245±5°C 5<br>±0.5sec 255<br>±5°C 5±0.5sec |  |  |
|   |           |     |                                                                                       |  |  |
|   |           |     |                                                                                       |  |  |
|   |           |     |                                                                                       |  |  |
|   |           |     |                                                                                       |  |  |
|   |           |     |                                                                                       |  |  |
|   |           |     |                                                                                       |  |  |
|   |           |     |                                                                                       |  |  |



TO-252                    NPN   ! " # \$ % & ' Silicon NPN transistor in a TO-252 Plastic Package.

( BR2SB649ADQ ) \* + , - AEC-Q101 . / 0 1 2 3 4 5 + 6 7 8 9 '   
Complementary pair with BR2SB649ADQ, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

: ; < = > ? @ A + B C D E F : G H I 4 5 '   
Low frequency power amplifier, Meet the stringent requirements of automotive applications.



PIN1 J Base                    PIN 2,4 J Collector                    PIN 3 J Emitter

|                                           |        |         |         |
|-------------------------------------------|--------|---------|---------|
| h <sub>FE</sub> Classifications<br>Symbol | B      | C       | D       |
| h <sub>FE</sub> Range                     | 60~120 | 100~200 | 160~320 |

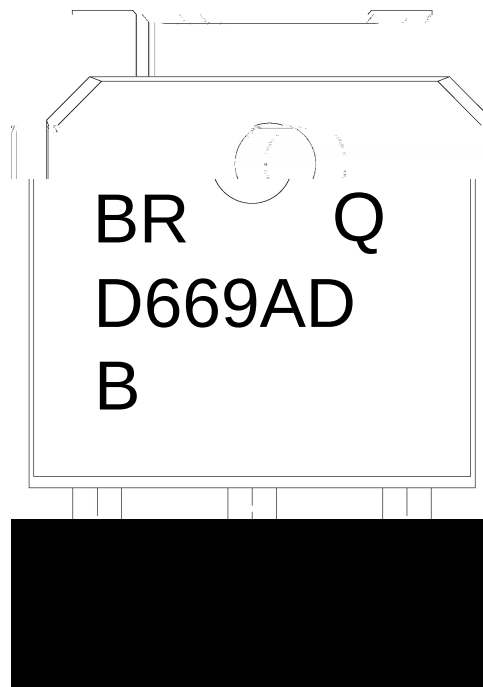


| Parameter                             | Symbol                        | Rating  | Unit               |
|---------------------------------------|-------------------------------|---------|--------------------|
| Collector to Base Voltage             | $V_{CBO}$                     | 180     | V                  |
| Collector to Emitter Voltage          | $V_{CEO}$                     | 160     | V                  |
| Emitter to Base Voltage               | $V_{EBO}$                     | 5.0     | V                  |
| Collector Current - Continuous        | $I_C$                         | 1.5     | A                  |
| Collector Current – Continuous(Pulse) | $I_{CP}$                      | 3.0     | A                  |
| Collector Power Dissipation           | $P_C$                         | 1.0     | W                  |
| Collector Power Dissipation           | $P_C(T_c=25^{\circ}\text{C})$ | 10      | W                  |
| Junction Temperature                  | $T_j$                         | 150     | $^{\circ}\text{C}$ |
| Storage Temperature Range             | $T_{stg}$                     | -55~150 | $^{\circ}\text{C}$ |

| Parameter                              | Symbol      | Test Conditions                         | Min | Typ | Max | Unit          |
|----------------------------------------|-------------|-----------------------------------------|-----|-----|-----|---------------|
| Collector to Base Breakdown Voltage    | $V_{CBO}$   | $I_C=1.0\text{mA}$ $I_E=0$              | 180 |     |     | V             |
| Collector to Emitter Breakdown Voltage | $V_{CEO}$   | $I_C=10\text{mA}$ $R_{BE}=\infty$       | 160 |     |     | V             |
| Emitter to Base Breakdown Voltage      | $V_{EBO}$   | $I_E=1.0\text{mA}$ $I_C=0$              | 5.0 |     |     | V             |
| Collector Cut-Off Current              | $I_{CBO}$   | $V_{CB}=160\text{V}$ $I_E=0$            |     |     | 10  | $\mu\text{A}$ |
| DC Current Gain                        | $h_{FE(1)}$ | $V_{CE}=5.0\text{V}$ $I_C=150\text{mA}$ | 60  |     | 320 |               |







BR

Q

D669AD

B:  $h_{FE}$

\*\*\*\*

Note:

BR: Company Code

Q: Automobile halogen-free product Code

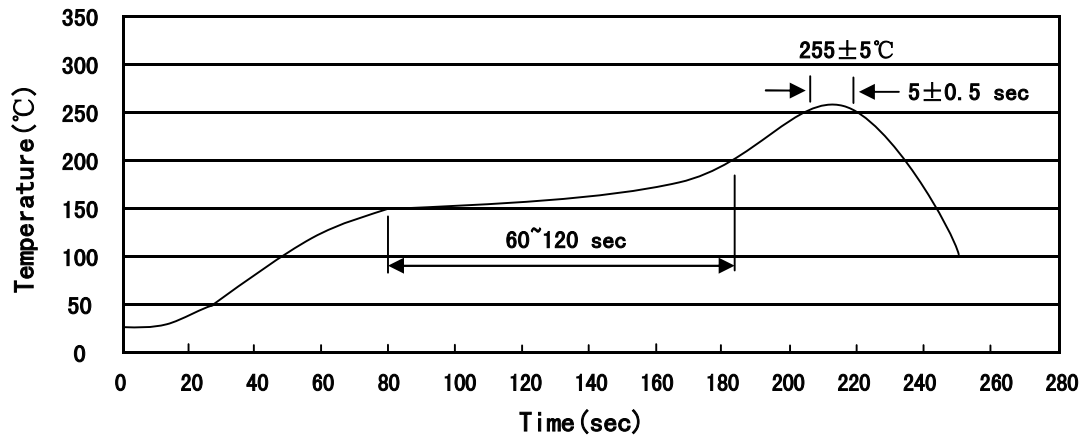
D669AD: Product Type

B:  $h_{FE}$  Classifications Symbol

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



Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

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

260±5°C      10±1 sec.      Temp.: 260±5°C      Time: 10±1 sec

/ REEL

| Package Type<br>封装形式 | Units 包装数量 |  |  |  |  | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |   |   |
|----------------------|------------|--|--|--|--|-----------------------------------------|---|---|
|                      |            |  |  |  |  |                                         | 盒 | 箱 |
|                      |            |  |  |  |  | "                                       |   |   |

/ TUBE

| Package Type<br>封装形式 | Units 包装数量 |  |  |  |  | Dimension 包装尺寸 (unit: mm <sup>3</sup> ) |   |   |
|----------------------|------------|--|--|--|--|-----------------------------------------|---|---|
|                      |            |  |  |  |  | 套管                                      | 盒 | 箱 |
|                      |            |  |  |  |  |                                         |   |   |