



**/ Revised record**

E	2016-5				
F	2020-4-27	1			
A	2022-3-29	all	BR Q 4R Q AEC-Q101 , Q 245±5 5±0.5sec 255±5 5± 0.5sec		

**/ Descriptions**

TO-252          NPN                          Silicon NPN transistor in a TO-252 Plastic Package.

**/ Features**

$V_{CE(sat)}$  ,  $h_{FE}$                           AEC-Q101

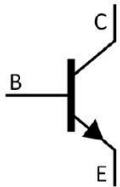
Low saturation voltage, excellent  $h_{FE}$  linearity and high  $h_{FE}$ , Qualified to AEC-Q101 Standards for High Reliability, HF Product.

**/ Applications**

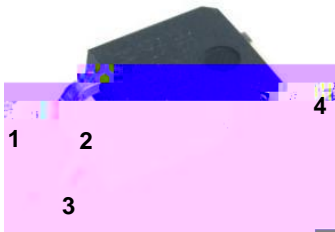
3

Output stage of 3 watts audio amplifier, voltage regulator, DC-DC converter and relay driver, Meet the stringent requirements of automotive applications.

**/ Equivalent Circuit**



**/ Pinning**



PIN1 Base          PIN 2,4 Collector          PIN 3 Emitter

**/  $h_{FE}$  Classifications & Marking**

$h_{FE}$ Classifications Symbol	R	Q	P	E
$h_{FE}$ Range	60~120	100~200	160~320	200~400

# BR2SD882DQ

Rev.A Mar.-2022

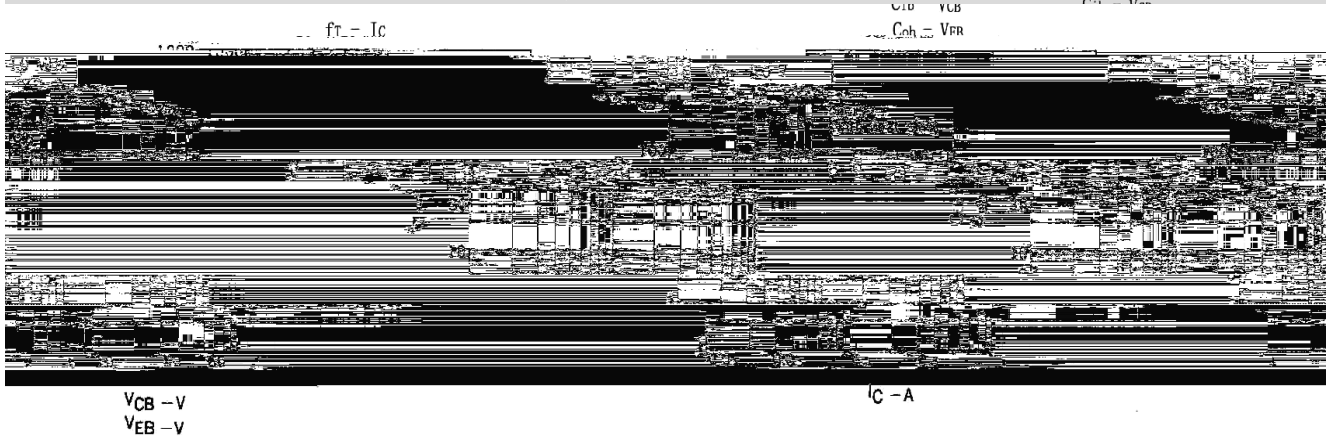
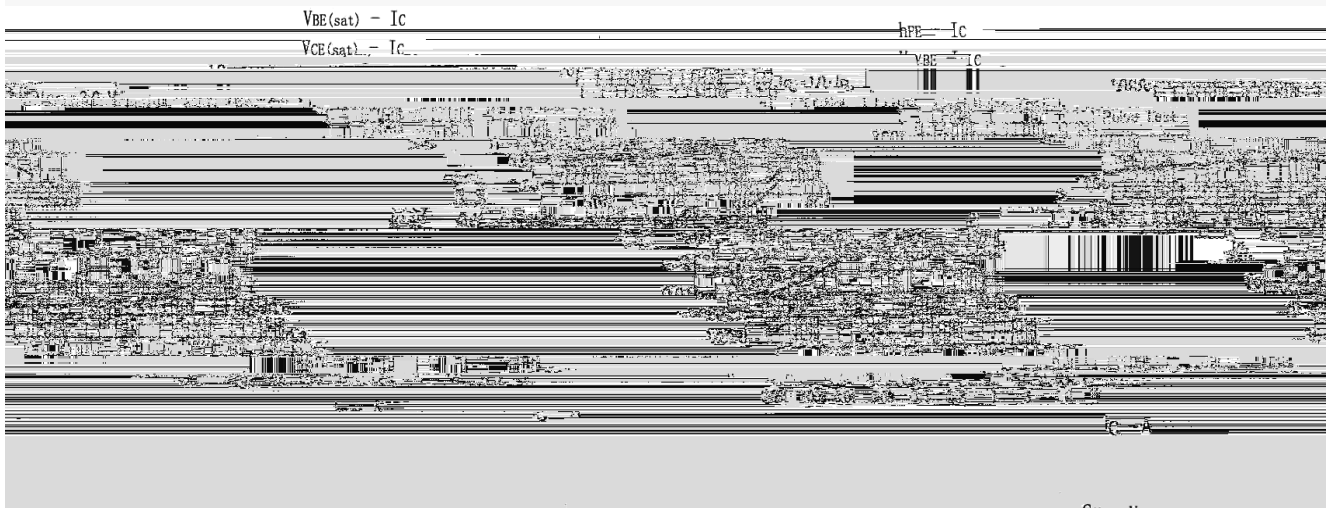
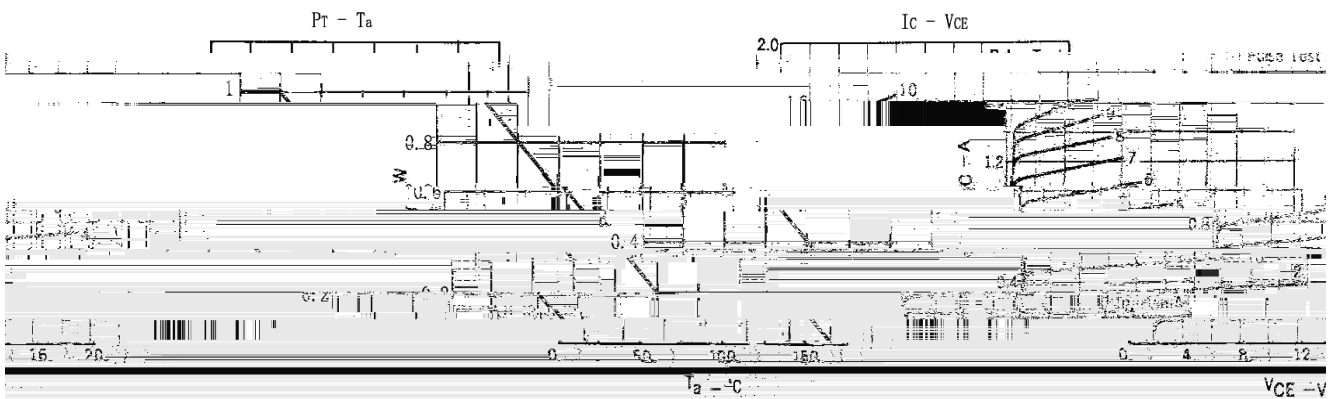


DATA SHEET

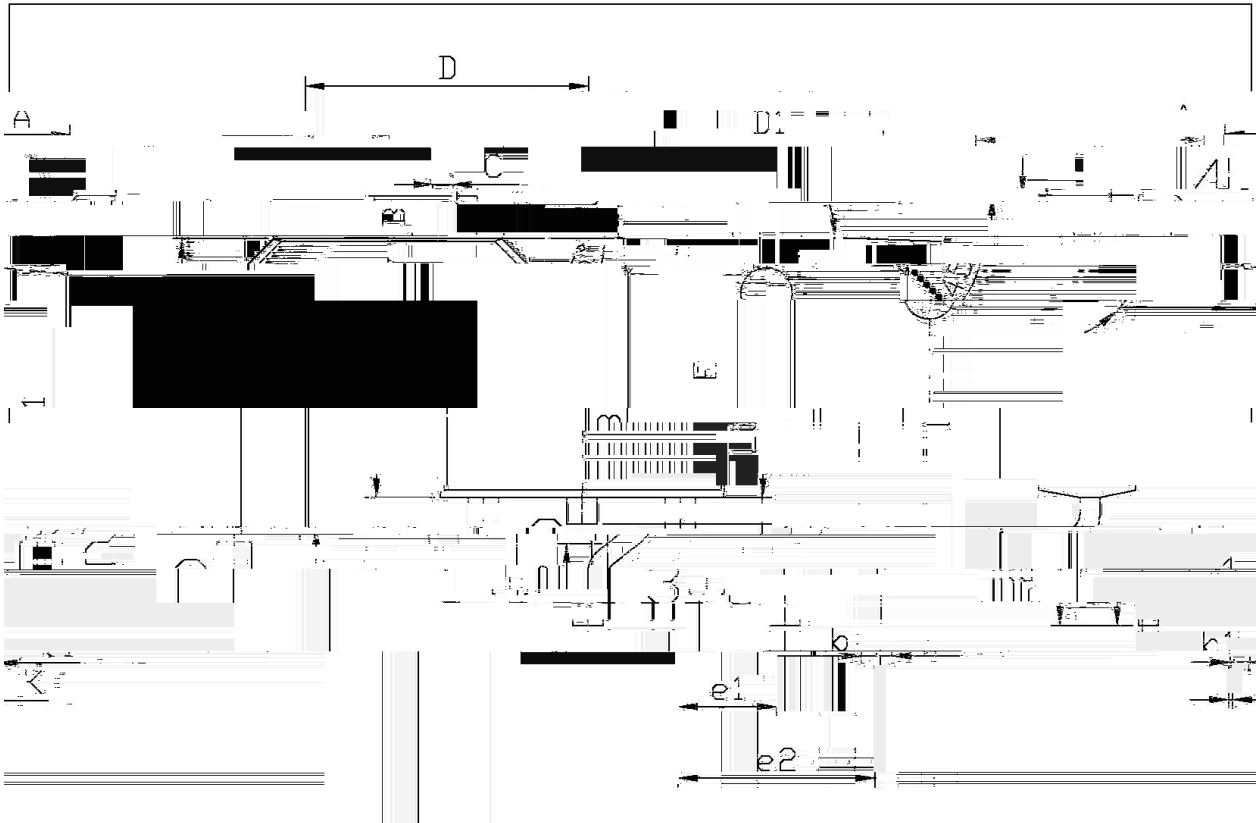
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	$V_{CBO}$	40	V
Collector to Emitter Voltage	$V_{CEO}$	30	V
Emitter to Base Voltage	$V_{EBO}$	5.0	V
Collector Current - Continuous	$I_C$	3.0	A
Collector Power Dissipation	$P_C$	1.0	W
	$P_{C(TC=25^{\circ}C)}$	10	W
Junction Temperature	$T_j$	150	$^{\circ}C$
Storage Temperature Range	$T_{stg}$	-55~150	$^{\circ}C$

Parameter	Symbol	Test Conditions	Min	Typ		Unit
Collector Cut-Off Current	$I_{CBO}$	$V_{CB}=30V$ $I_E=0$			1.0	$\mu A$
Emitter Cut-Off Current	$I_{EBO}$	$V_{EB}=3.0V$ $I_C=0$			1.0	$\mu A$
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2.0V$ $I_C=1.0A$	60	160	400	
	$h_{FE(2)}$	$V_{CE}=2.0V$ $I_C=20mA$	30	150		
Collector to Emitter Saturation Voltage						V

**/ Electrical Characteristic Curve**



/ Package Dimensions

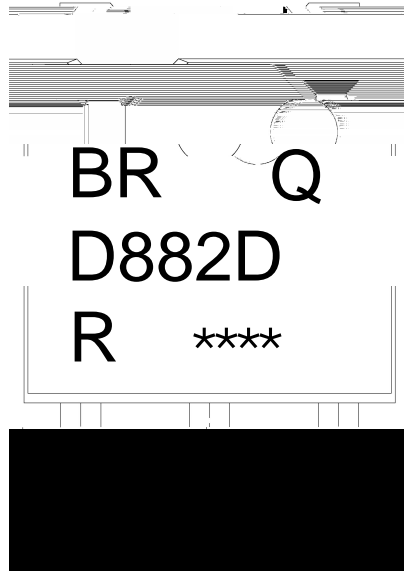


单位: mm

Dimensions in millimeters		Symbol	Dimensions in millimeters		Symbol
Min	Max		Min	Max	
4.73	6.05	b	0.70	0.90	e2
10.76	12.09	e1	0.45	0.55	L2
		C	0.45	0.55	L3
		D	6.45	6.75	K
		D1	5.10	5.50	

TQ-252

**/ Marking Instructions**



BR

Q

D882D

R: h

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Note:

BR: Company Code

Q: Automobile halogen-free product Code

D882D: Product Type

R:  $h_{FE}$  Classifications Symbol

\*\*\*\*: 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 , Time:60~120sec.
- 2            255±5                    5±0.5sec;    2.Peak Temp.:255±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-252	2,500	2	5,000	6	30,000	13" x16	360×360×50	380×335×366

**/ TUBE**

Package Type	Units					Dimension (unit mm <sup>3</sup> )		
	Units/Tube /	Tubes/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Tube	Inner Box	Outer Box