

/ Revised record

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

/ Descriptions

TO-252

NPN

Silicon NPN transistor in a TO-252 Plastic Package.

/ Features $V_{CE(sat)}$, h_{FE}

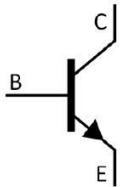
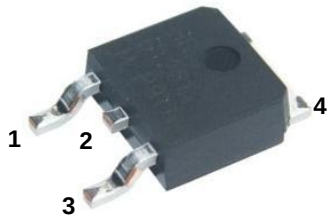
AEC-Q101

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

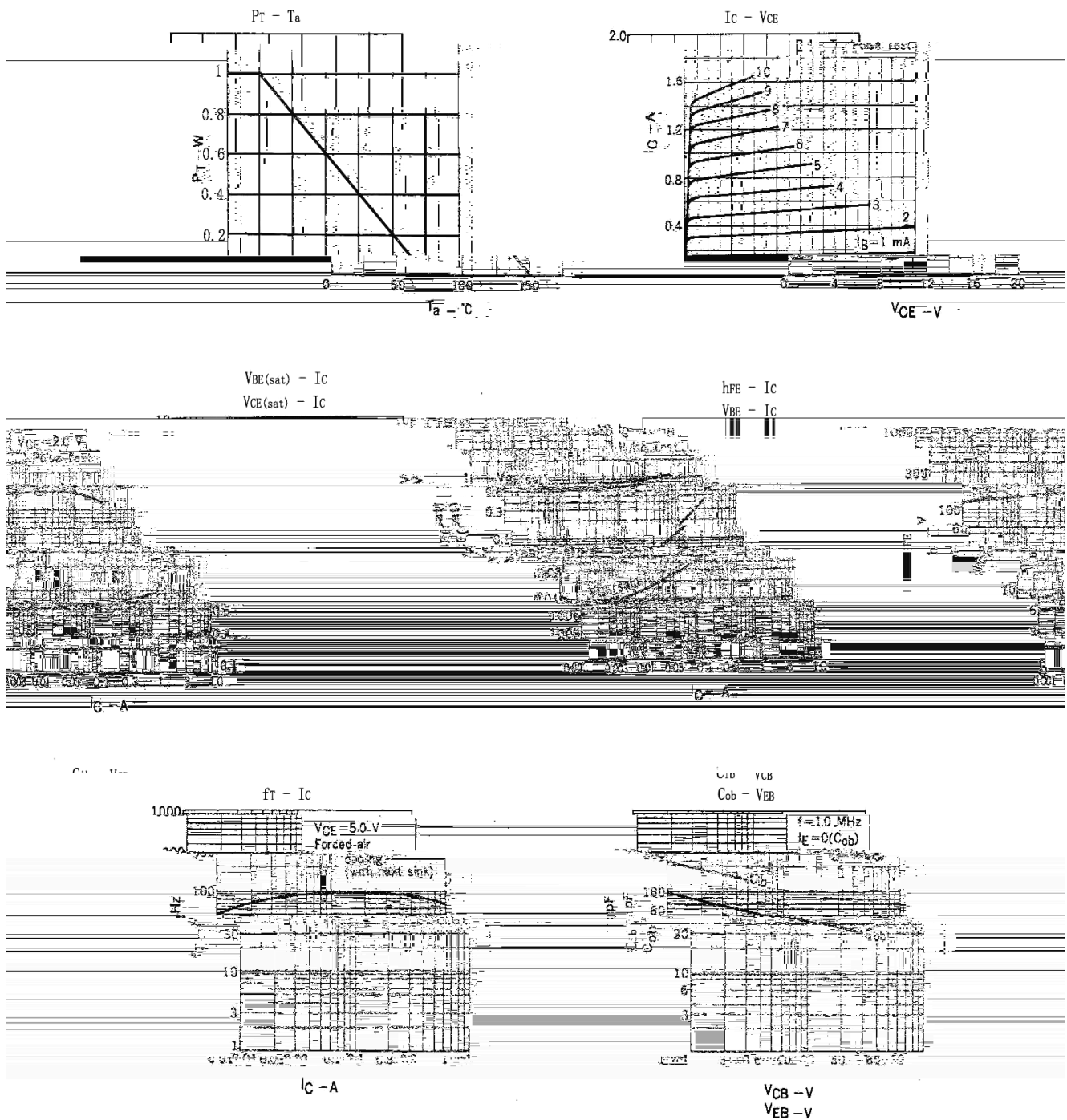
/ h_{FE} Classifications & Marking

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

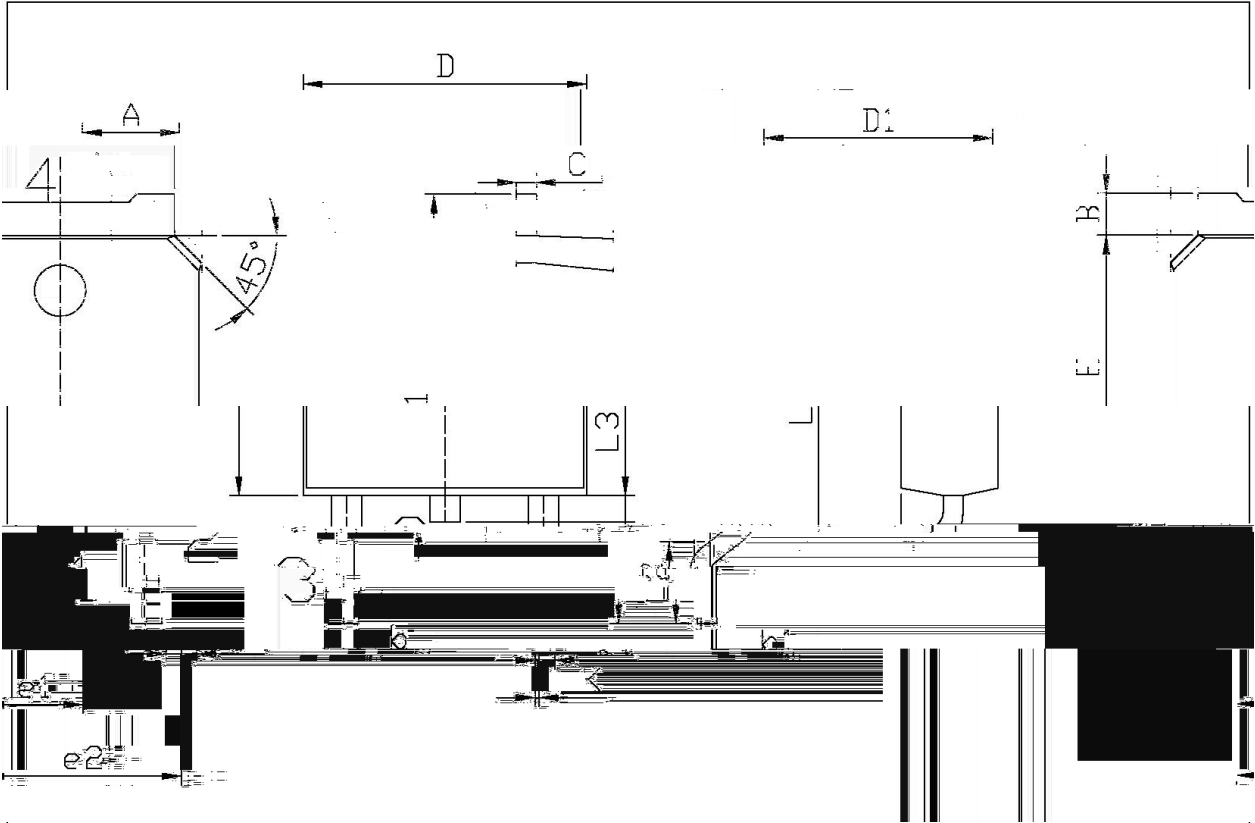
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	3.0	A
Collector Power Dissipation	P_C	1.0	W
	$P_{C(TC=25^{\circ}C)}$	10	W
Junction Temperature	T_J	150	$^{\circ}C$
Storage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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=30V$ $I_E=0$			1.0	μA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=3.0V$ $I_C=0$			1.0	μA
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 Voltage		$I_C=2.0A$				V

/ Electrical Characteristic Curve



/ Package Dimensions



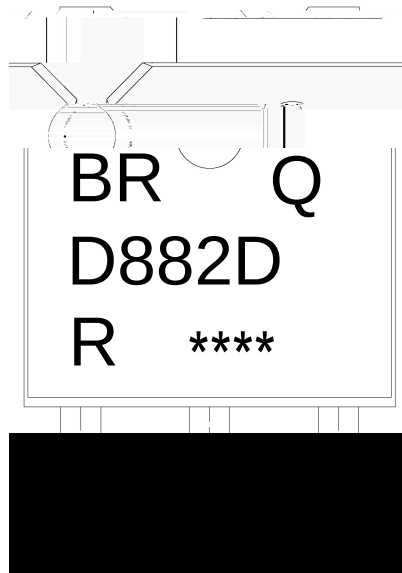
单位: mm

Dimensions in millimeters		Dimensions in millimeters		Dimensions in millimeters	
Max.	Symbol	Min.	Max.	Symbol	Min.
3.40	A	0.85	6.35	A	3.30
2.54	e1	2.24	2.34	B	0.95
0.90	e2	4.43	4.73	b	0.70
0.55	L1	9.85	10.35	b1	0.45
0.2	L3	2.00	1.9	30.40	0.30
0.60	C	0.90	D	6.45	6.75
0.00	K	0.10	D1	5.10	5.50

52

TP-2

/ Marking Instructions



BR

Q

D882D

R:

 h_{FE}

参

Note:

BR:

Company Code

Q:

Automobile halogen-free product Code

D882D:

Product Type

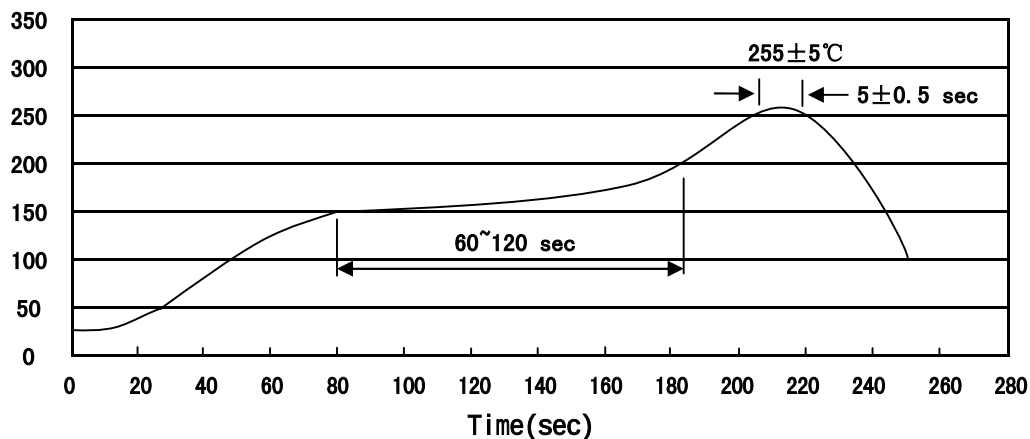
R:

 h_{FE} Classifications Symbol

****:

Lot No. Code, code change with Lot No

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



Note:

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

/ Resistance to Soldering Heat Test Conditions

260±5

10±1 sec.

Temp.: 260±5°C

Time: 10±1 sec

/ Packaging SPEC.

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 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 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 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