/ 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

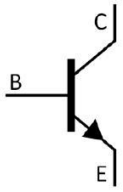
Low saturation voltage,excellent h_{FE} linearity and high h_{FE}, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

/ Applications

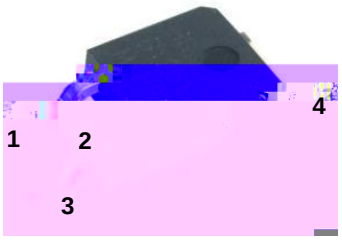
3 , ,

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

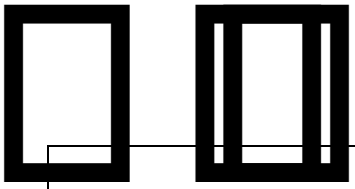


PIN1 Base PIN 2,4 Collector PIN 3 Emitter

/ h_{FE} Classifications & Marking

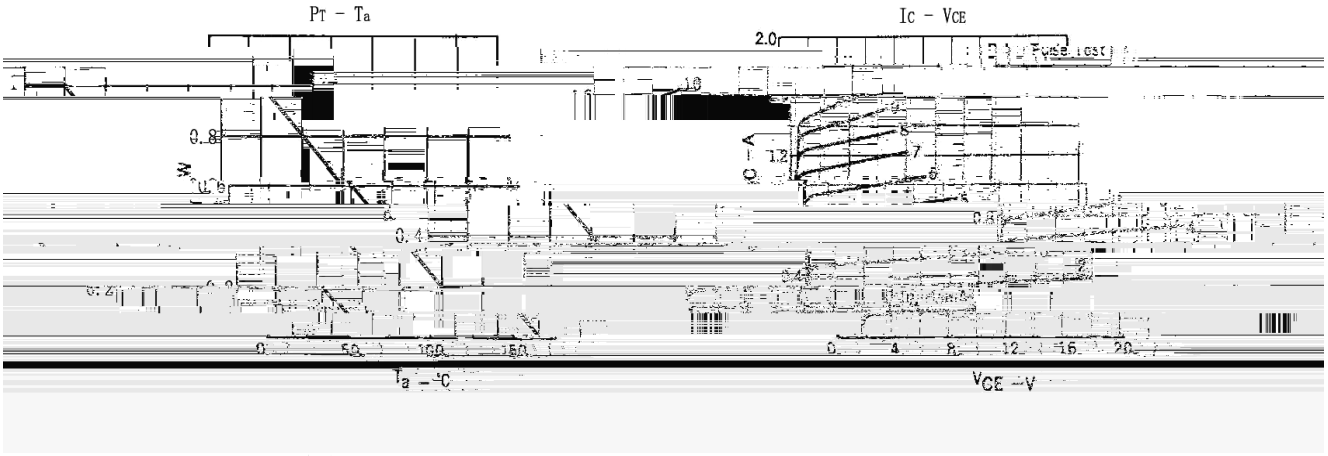
h_{FE} Classifications Symbol	R	Q	P	E
h_{FE} Range	60～120	100～200	160～320	200～400

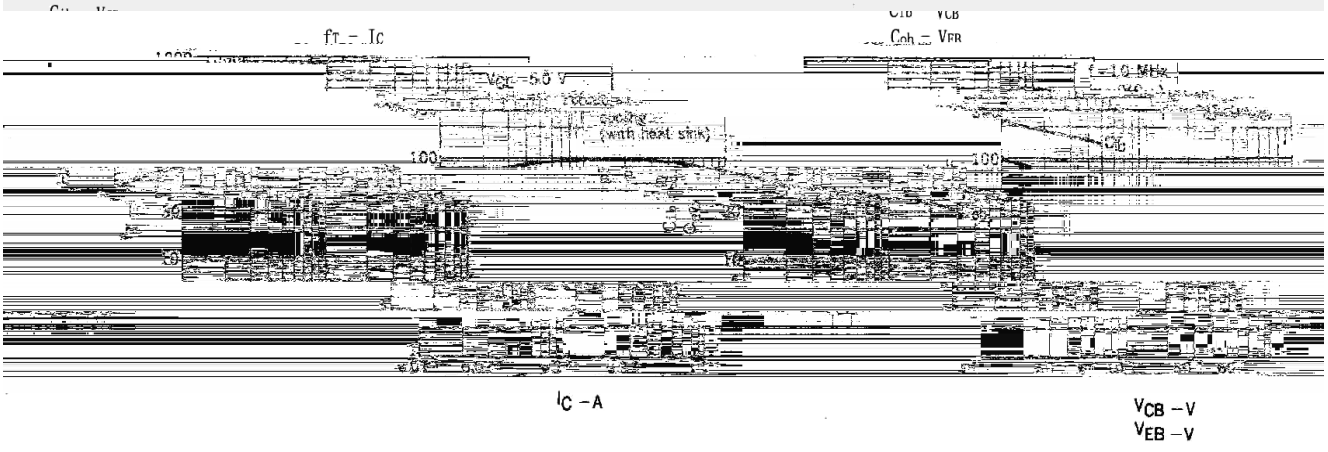
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	3.0	A
Collector Power Dissipation	P_C	1.0	W
	$P_{C(Tc=25℃)}$	10	W
Junction Temperature	T_j	150	℃
Storage Temperature Range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



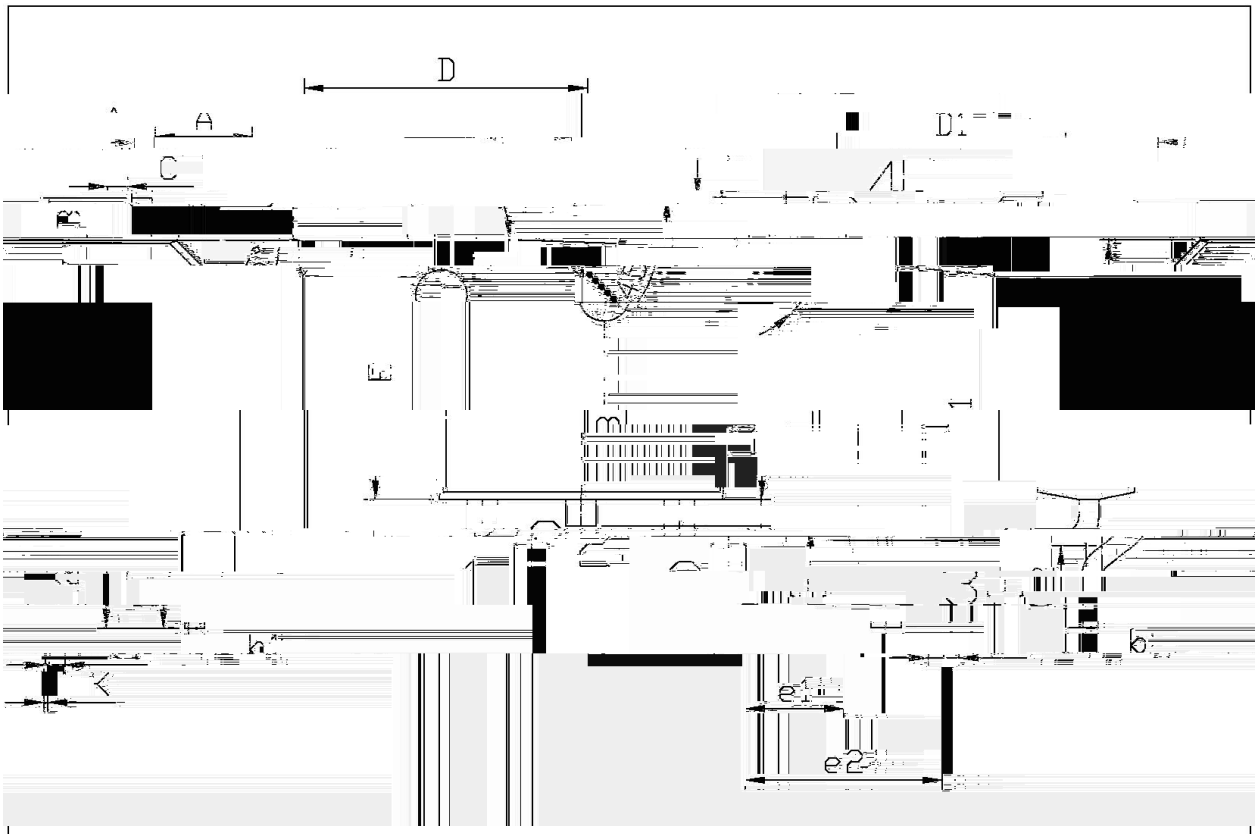
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	V_{CB}=30V I_E=0			1.0	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=3.0V I_C=0			1.0	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=2.0V I_C=1.0A	60	160	400	
	$h_{FE(2)}$	V_{CE}=2.0V I_C=20mA	30	150		
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=2.0A I_B=0.2A		0.3	0.5	V

/ Electrical Characteristic Curve





/ Package Dimensions

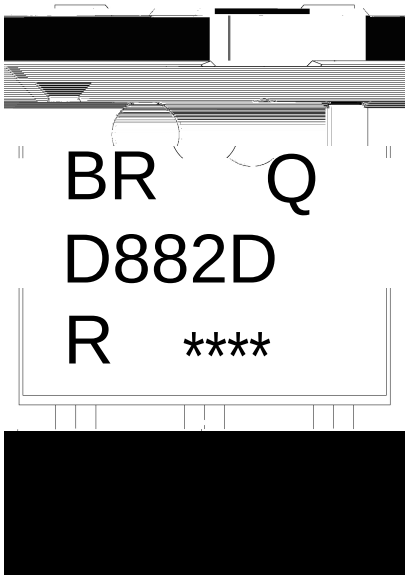


单位：mm

Symbol	Dimensions in Millimeters		Symbol	Dimensions in Millimeters		
	Min	Max		Min	Max	
[illegible]	3.20	3.40	[illegible]	5.05	6.25	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.70	0.90	e2	4.43	4.73		b
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2.50	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
0.90	D	6.45	6.75	L3	0.60	
0.10	D1	5.10	5.50	K	0.00	

TO-252

/ Marking Instructions



BR

Q

D882D

R: h

****

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^3)
	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″ ×16	360×360×50	380×335×366

/ TUBE

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