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		

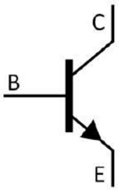
TO-252 NPN Silicon NPN transistor in a TO-252 Plastic Package.

$V_{CE(sat)}$,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.

3 , ,

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

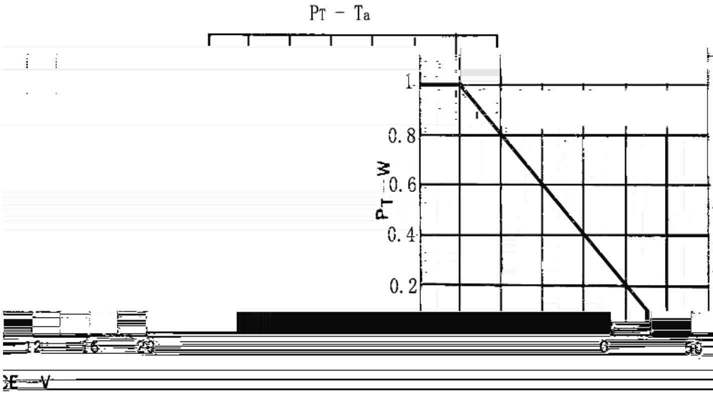


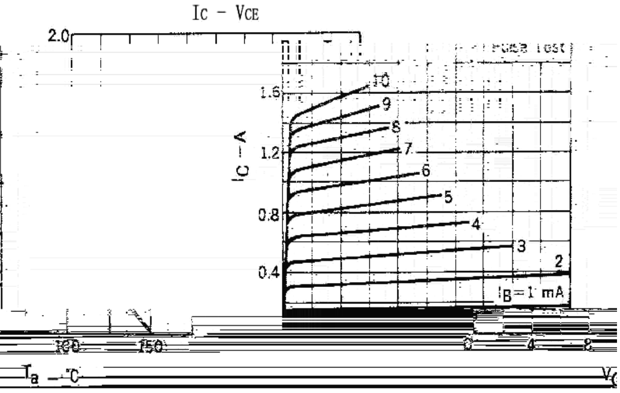
PIN1 Base PIN 2,4 Collector PIN 3 Emitter

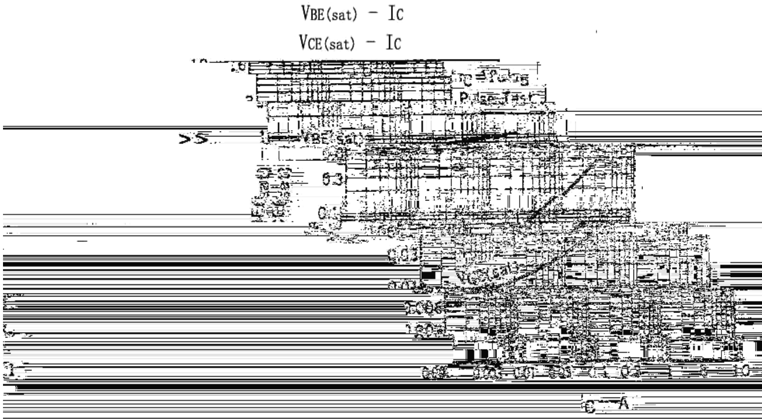
h_{FE} Classifications Symbol	R	Q	P	E
h_{FE} Range	60～120	100～200	160～320	200～400

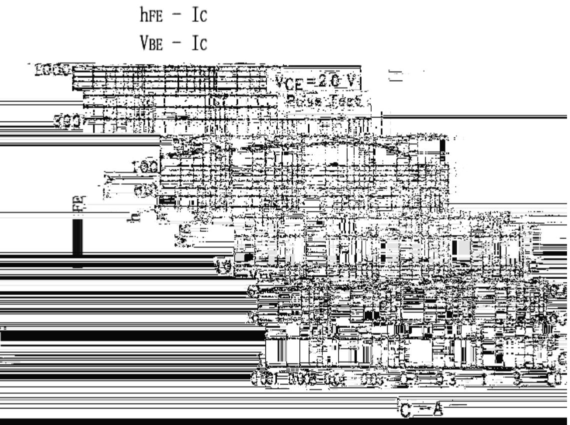
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	40	V
Collector to Emitter Voltage	V_{CEO}	30	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	3.0	A
Collector Power Dissipation	P_C	1.0	W
	$P_{C(Tc=25℃)}$	10	W
Junction Temperature	T_j	150	℃
Storage Temperature Range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

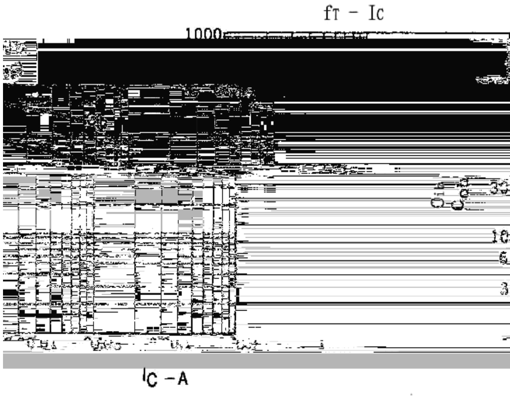
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	V_{CB}=30V　I_E=0			1.0	μA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=3.0V　I_C=0			1.0	μA
DC Current Gain	$h_{FE(1)}$	V_{CE}=2.0V　I_C=1.0A	60	160	400	
	$h_{FE(2)}$	V_{CE}=2.0V　I_C=20mA	30	150		
Collector to Emitter Saturation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

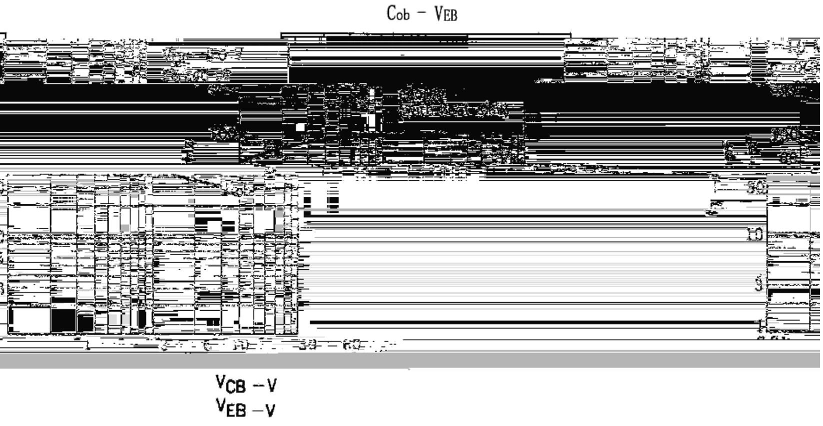

PT - Ta
PT - W
1
0.8
0.6
0.4
0.2
0
50
100
150
Ta - °C

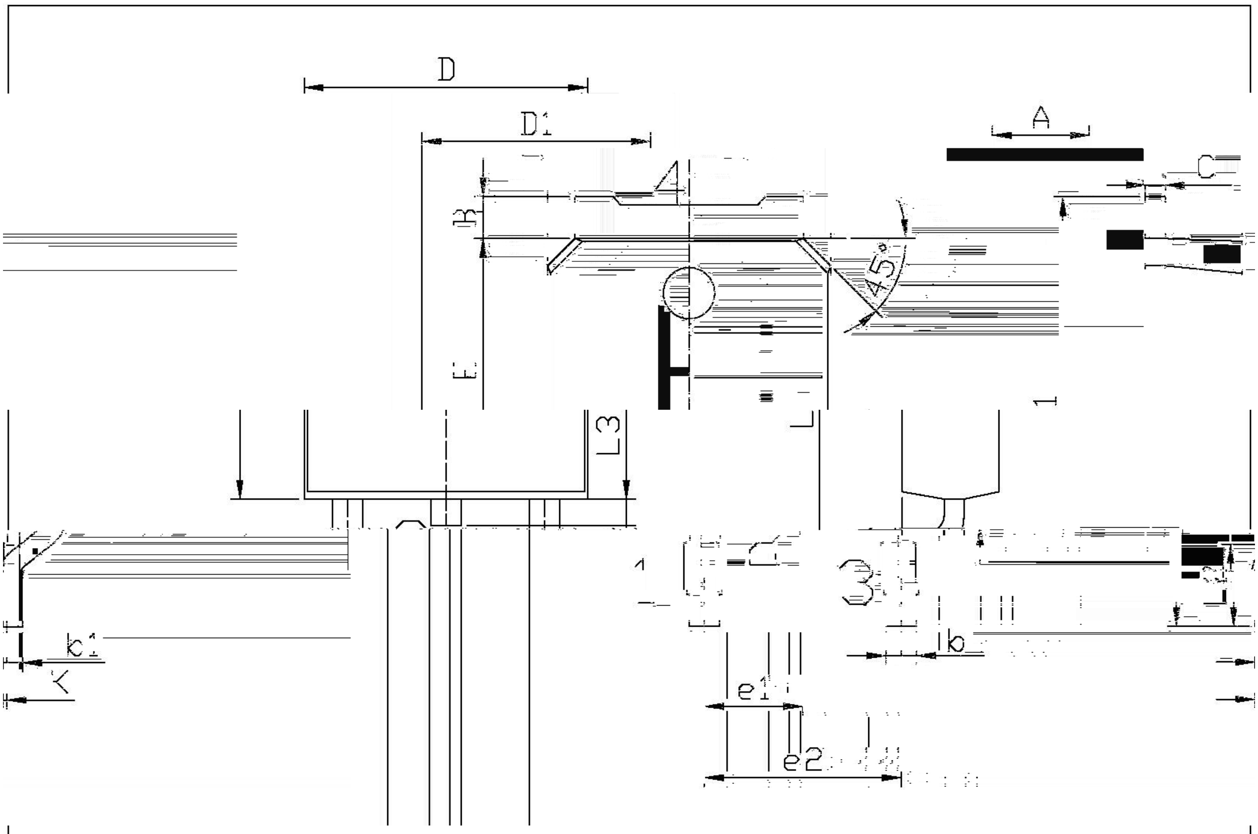

Ic - VCE
2.0
Pulse Test
1.6
1.2
0.8
0.4
IC - A
10
9
8
7
6
5
4
3
2
IB=1 mA
0
4
8


VBE(sat) - Ic
VCE(sat) - Ic
IC=10·IB
Pulse Test
VBE(sat)
VCE(sat)
0.3
0.1
0.03
0.01
0.003
0.001
IC - A


hFE - Ic
VBE - Ic
1000
VCE=2.0 V
Pulse Test
300
100
hFE
IC - A


fT - Ic
1000
IC - A

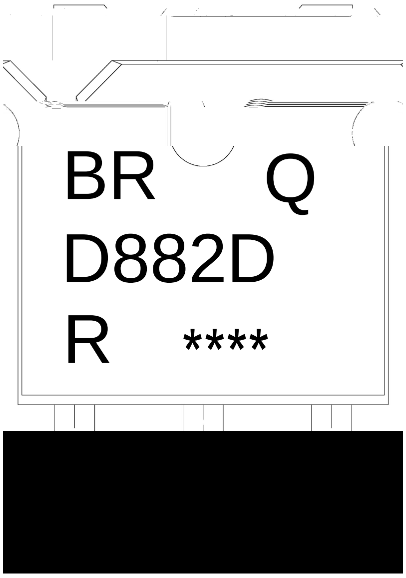

Cib - VCB
Cob - VEB
30
10
6
3
VCB - V
VEB - V



单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	2.20	2.40	E	5.95	6.35
B	0.95	1.25	e1	2.24	2.34
b	0.70	0.90	e2	4.43	4.73
b1	0.45	0.55	L1	9.85	10.35
C	0.45	0.55	L2	1.70	2.00
D	6.45	6.75	L3	0.60	0.90
D1	5.10	5.50	K	0.00	0.10

TO-252



BR

Q

D882D

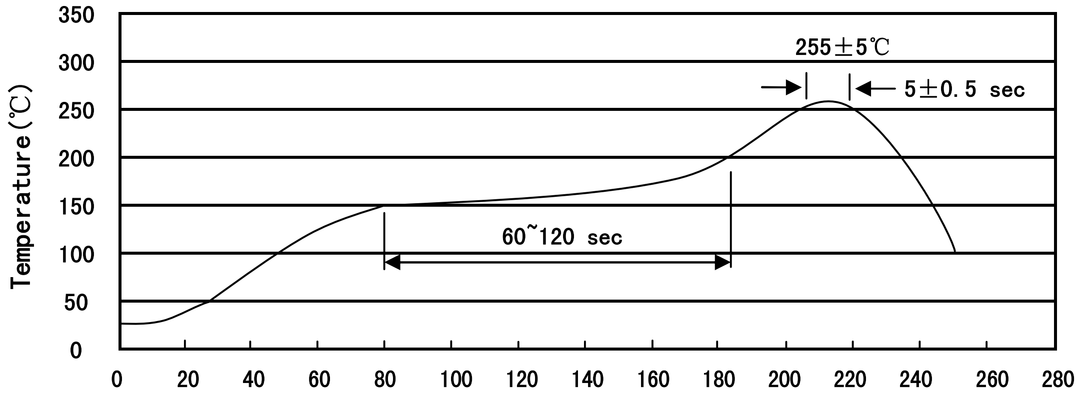
R: h_{FE}

****

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)



说明：

1、预热温度 150～200℃，时间 60～120sec;

2、峰值温度 255±5℃，时间持续为 5±0.5sec;

3、焊接制程冷却速度为 2～10 /sec.

Note:

1.Preheating:150~200 , Time:60~120sec.

2.Peak Temp.:255±5 , Duration:5±0.5sec.

3. Cooling Speed: 2~10 /sec.

温度：260±5 时间：10±1 sec.

Temp.:260±5℃ Time:10±1 sec

卷盘包装 / 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

套管包装 / 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