

BR2SD1815Q

Rev.A Apr.-2022



DATA SHEET

/ Descriptions

Silicon NPN transistor in a TO-252 Plastic Package.

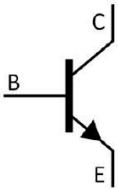
/ Features

Qualified to AEC-Q101 Standards for High Reliability, HF Product.

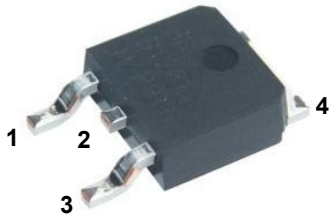
/ Applications

Relay drivers,high-speed inverters,converters,and other general high-current switching applications, 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	Q	R	S	T
h_{FE} Range	70-140	100-200	140-280	200-400

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Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	120	V
Collector to Emitter Voltage	V_{CEO}	100	V
Emitter to Base Voltage	V_{EBO}	6	V
Collector Current - Continuous	I_C	3	A
Collector Current – Continuous(Pulse)	I_{CP}	6	A
Collector Power Dissipation	P_C	1	W
Collector Power Dissipation	$P_C(T_c=25^\circ C)$	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 to Base Breakdown Voltage	V_{CBO}	$I_C=10\mu A$ $I_E=0$	120			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1mA$ $I_B=0$	100			V
Emitter to Base Breakdown Voltage	V_{EBO}	I				

=0

/ Electrical Characteristic Curve

Fig. 1 - Static Characteristics

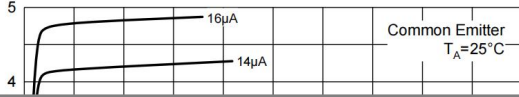


Fig. 2 - DC Current Gain Characteristics

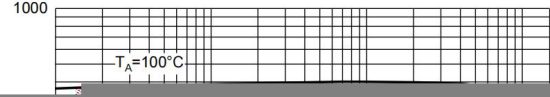


Fig. 3 - Collector-Emitter Saturation Voltage Characteristics

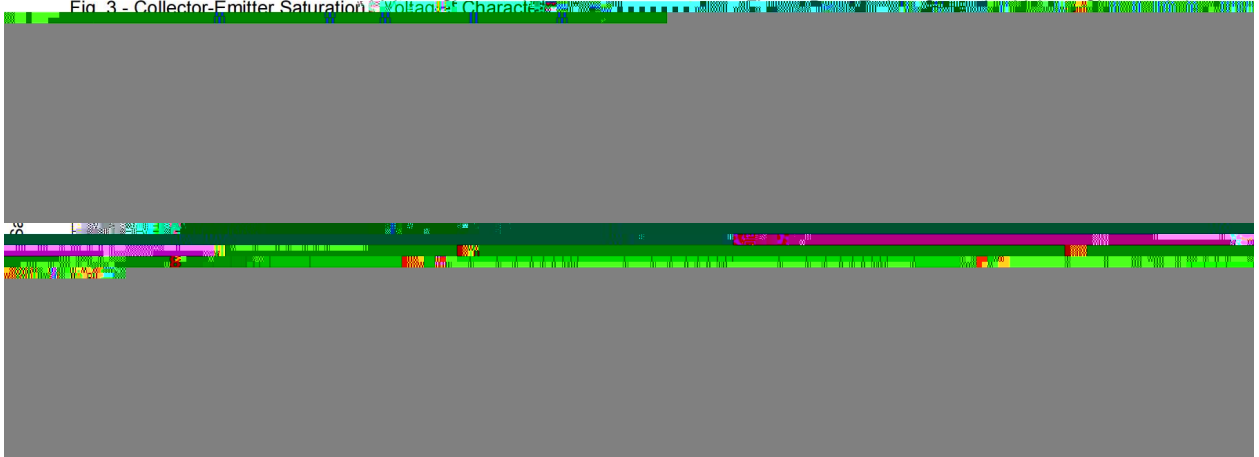
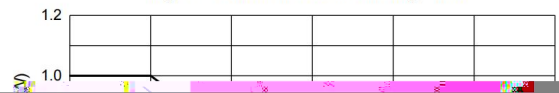


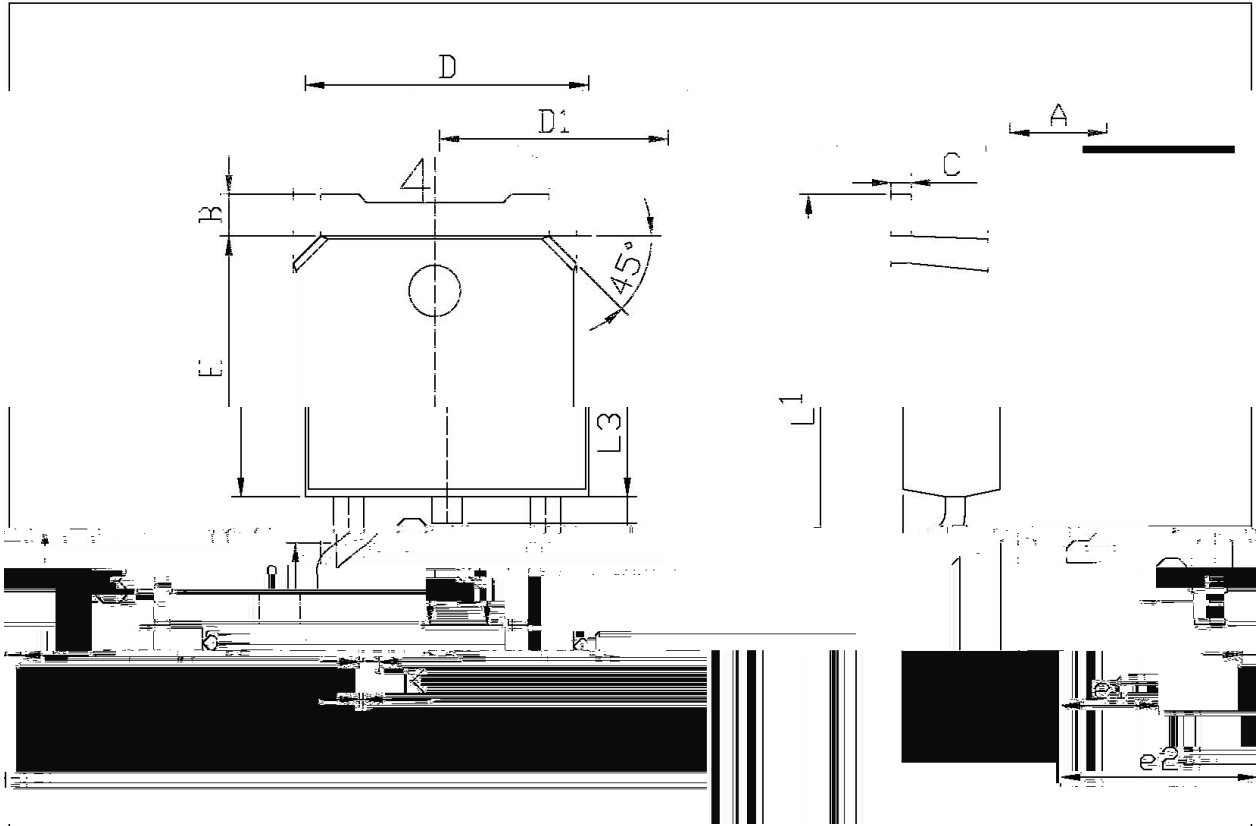
Fig. 5 - Base-Emitter Voltage Characteristics



Fig. 6 - Collector Power Derating Curve



/ Package Dimensions

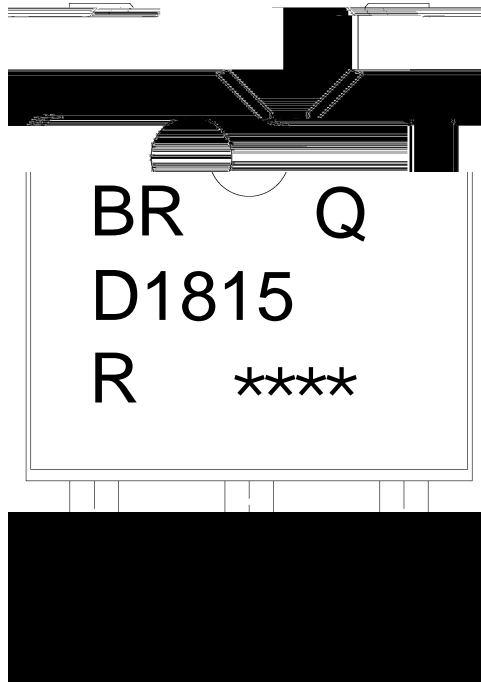


单位: mm

Dimensions in Millimeters		Dimensions in Millimeters					
Symbol	Max	Symbol	Min	Max	Symbol	Min	Max
a	6.35	A	3.20	3.40	B	0.95	1.25
b	2.34	b	0.70	0.90	e1	2.20	2.50
c	4.73	b1	0.45	0.55	e2	4.40	4.70
d	10.35	C	0.15	0.40	L1	9.80	10.10
D	6.45	D	6.75	13.00	L3	0.60	0.90
D1	5.10	K	0.00	0.10			

T0-252

/ Marking Instructions



BR
Q

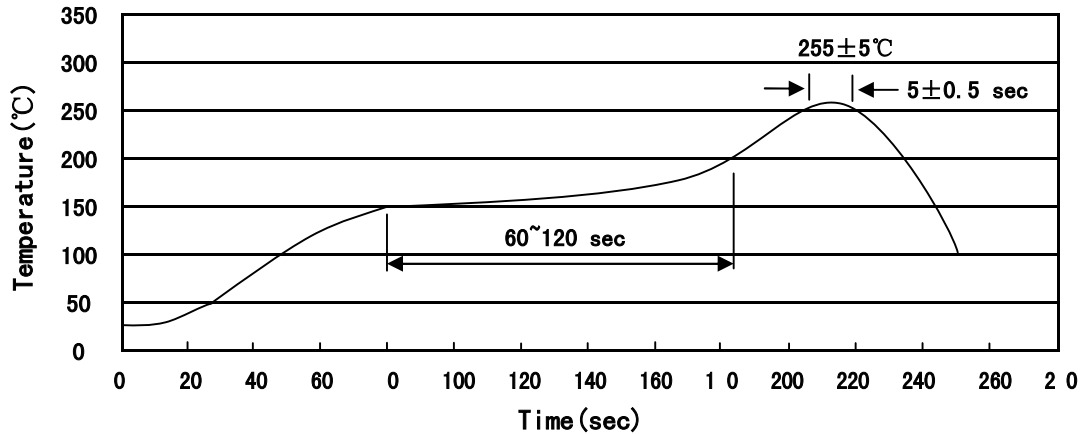
h_{FE}

Note:

- BR: Company Code
- Q: Automobile halogen-free product Code
- D1815: 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°C, Time:60~120sec.
- 2 255±5 5±0.5sec; 2.Peak Temp.:255±5°C, Duration:5±0.5sec.
- 3 2 10°C/sec. 3. Cooling Speed: 2~10°C/sec.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (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	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 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	Inner Box	Outer Box
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices