

BR2SB2012TAQ

Rev.A Dec.-2023

/ Descriptions

SOT-89 PNP

Silicon PNP transistor in a SOT-89 Plastic Package.

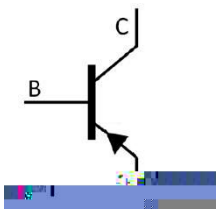
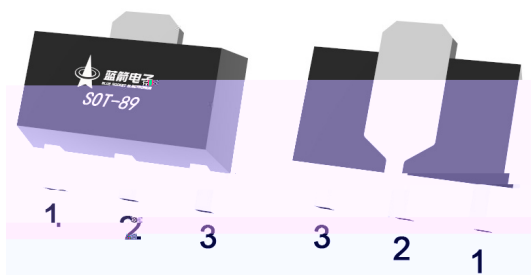
BR2SD2010TAQ AEC-Q101

Complementary pair with BR2SD2010TAQ, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

MOSFETs IGBTs

Emergency Lighting Circuits, Motor Driving (Including DC Fans), Backlight Inverters, Power Switches, Gate Driving MOSFETs and IGBTs, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ hFE Classifications & Marking

See Marking Instructions.



Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-100	V
Collector to Emitter Voltage	V_{CEO}	-60	V
Emitter to Base Voltage	V_{EBO}	-7	V
Collector Current	I_C	-4.3	A
Base Current	I_B	-2	A
Peak Collector Current	I_{CM}	-15	A
Collector Dissipation	P_C	1.5	W
Junction Temperature	T_j	150	
Storage Temperature	T_{stg}	-65 150	
Junction to Ambient	θ_{JA}	83	/W
Junction to Case	θ_{JC}	60	/W

Notes:

1.Absolute maximum ratings are those values beyond which the device could be permanently damaged.Absolute maximum ratings are stress ratings only and functional device operation is not implied.

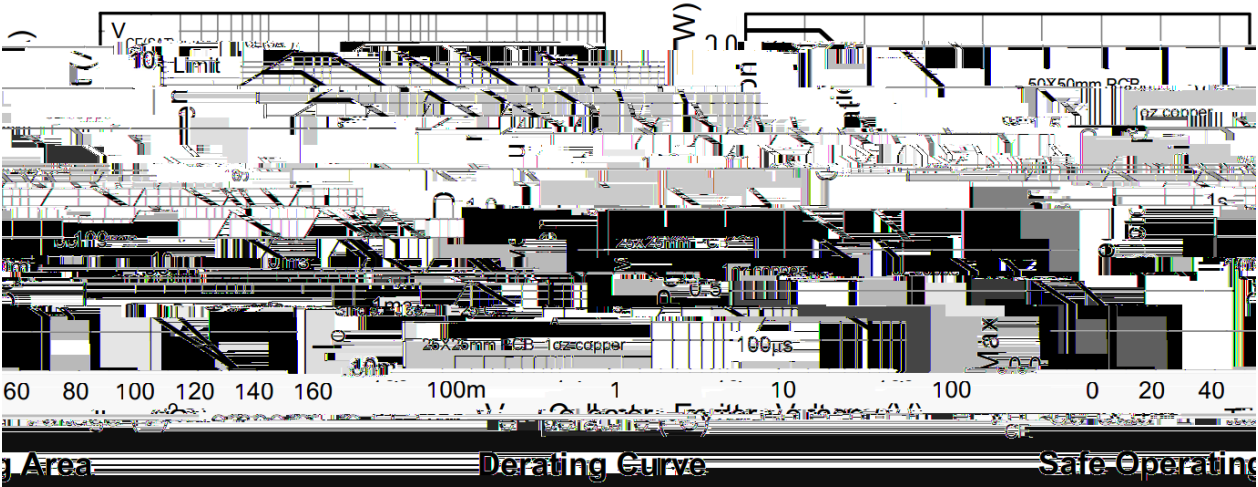
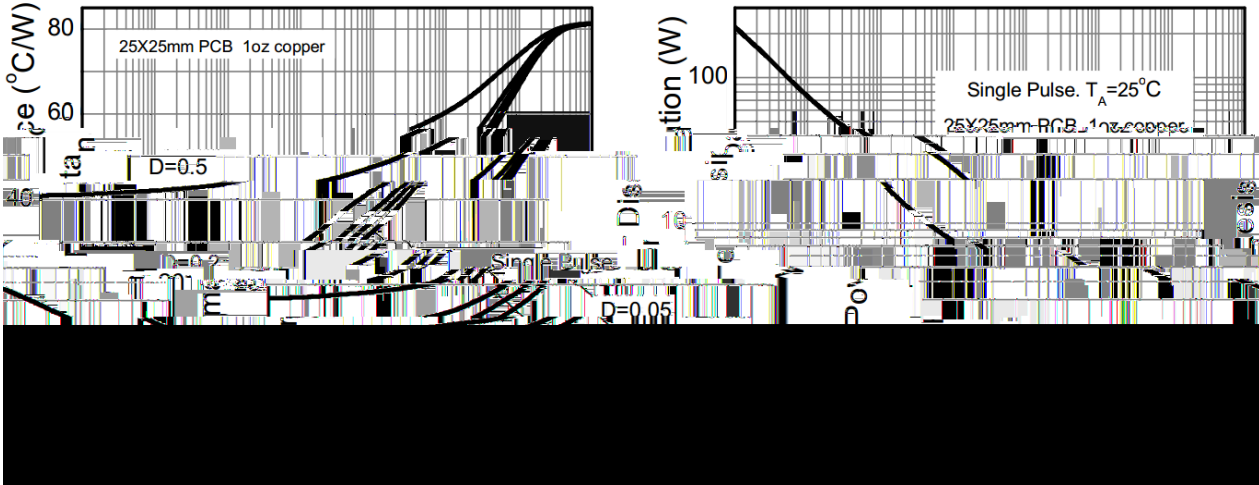
2.Single pulse, PW=10ms.

3.Device mounted on FR-4 PCB with minimum recommended pad layout. (25×25×1.6mm)

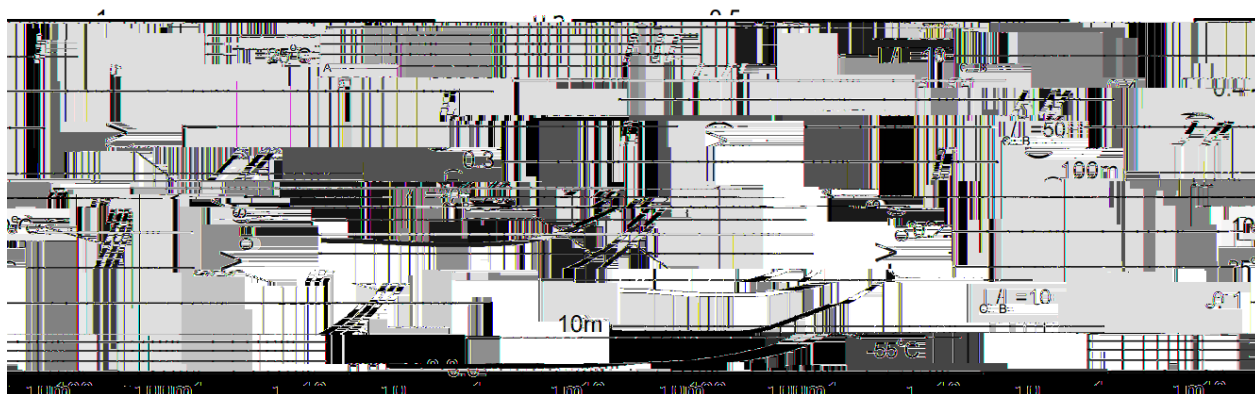
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V_{CBO}	$I_C=-100\mu A$ $I_E=0$	-100			V
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C=-10mA$ $I_B=0$	-60			V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E=-100\mu A$ $I_C=0$	-7.0			V

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
DC Current Transfer Ratio (Note)	h					

/ Thermal Characteristics and Derating Information

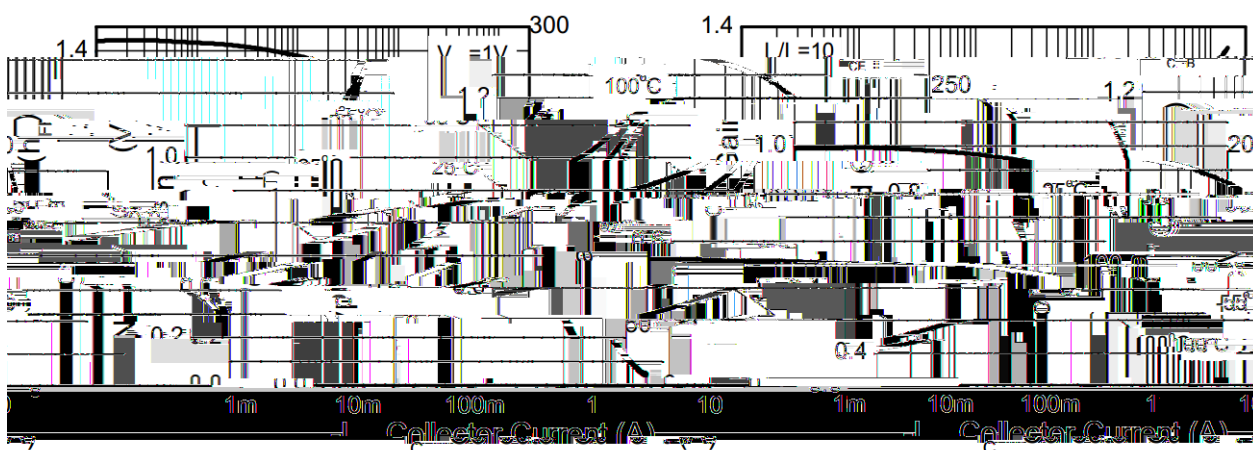


/ Electrical Characteristic Curve



$V_{CE(SAT)}$ vs I_C

$V_{CE(SAT)}$ vs I_C

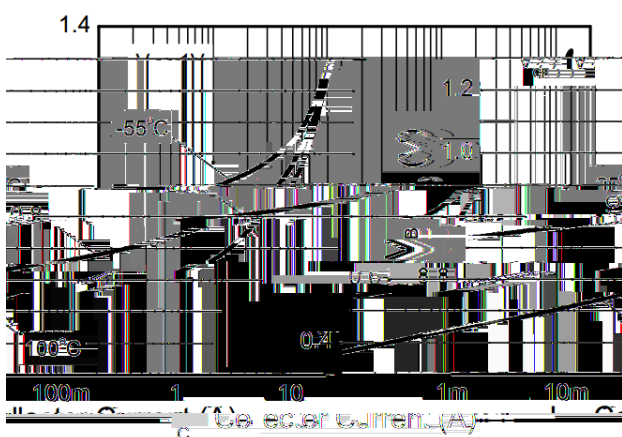


||| **FF** **VS** **C**

V vol

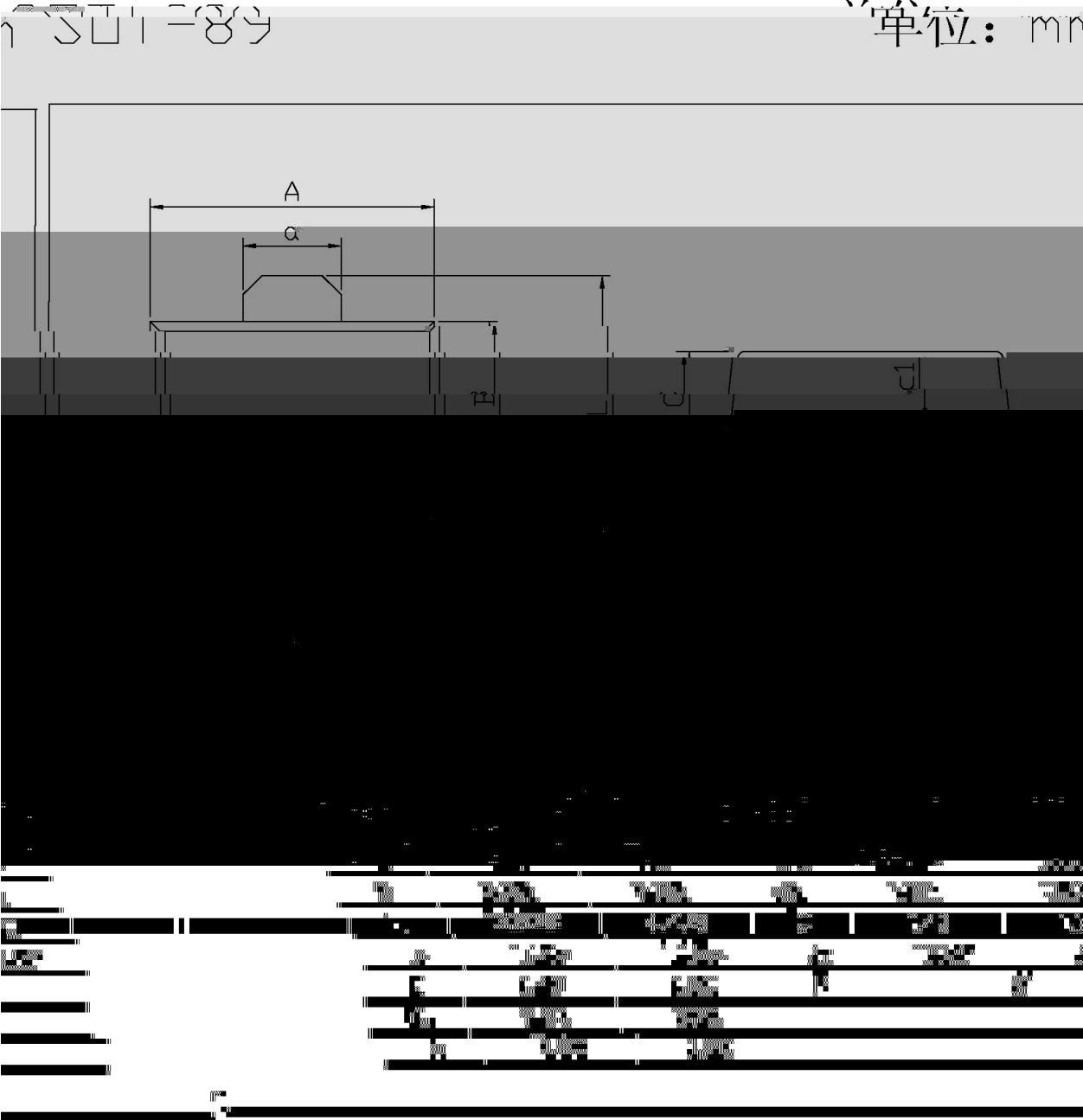
RE/CA

h vel

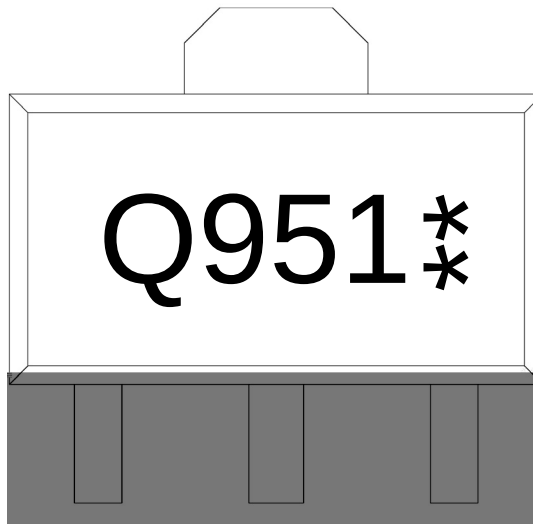


$V_{BE(ON)}$ vs I_C

/ Package Dimensions



/ Marking Instructions



Q

951

**

Note:

Q: Automobile halogen-free product Code

951: Product Type

**: 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)
--------------	-------	-----------	-------------------------