

/ Descriptions

SOT-89 PNP

Silicon PNP transistor in a SOT-89 Plastic Package.

/ Features

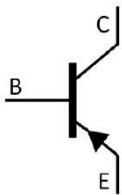
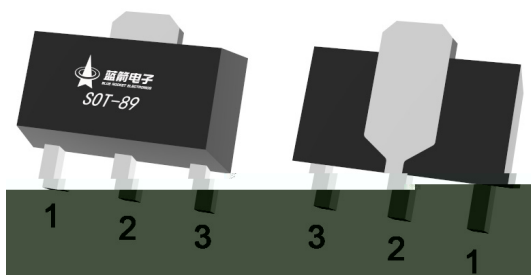
BR2SD2010TAQ AEC-Q101

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

/ Applications

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**/ Pinning**

PIN1 Base PIN 2 Collector PIN 3 Emitter

/ hFE Classifications & Marking

See Marking Instructions.

/ Absolute Maximum Ratings(Ta=25)

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	°C/W
Junction to Case	θ_{JC}	60	°C/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.

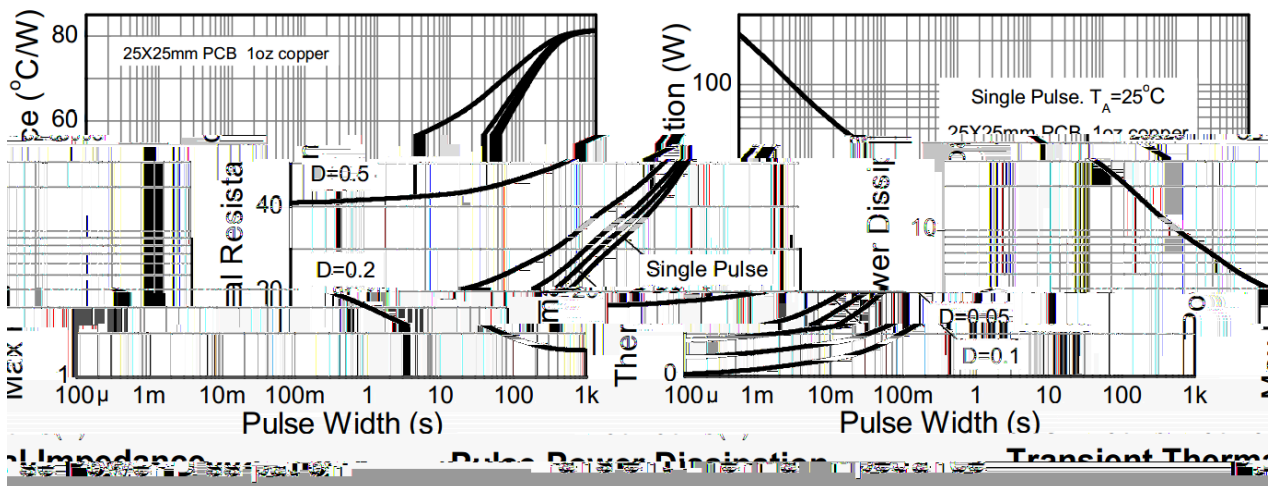
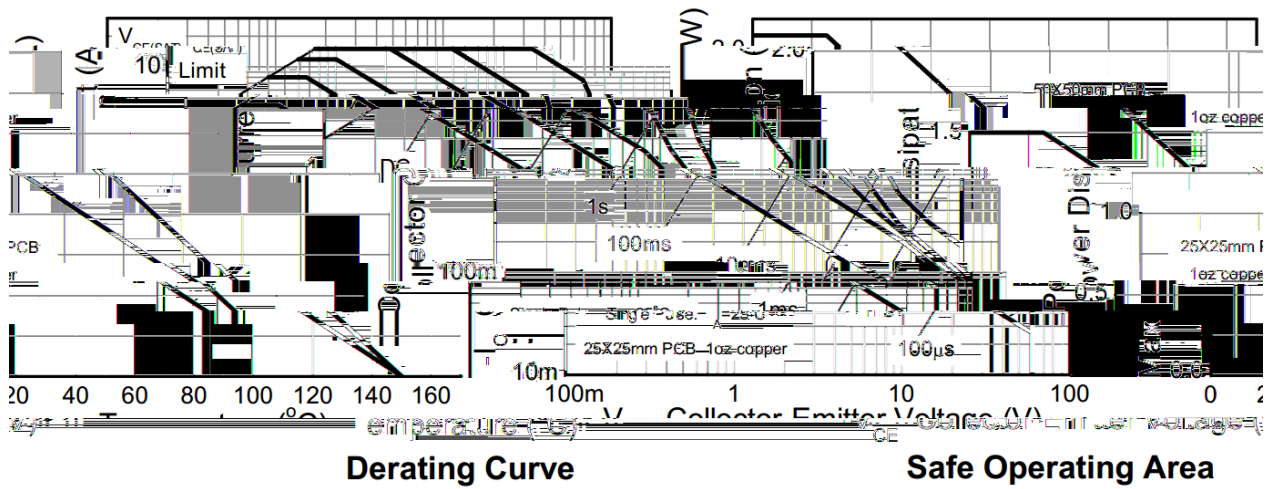
3.Device mounted on FR-4 PCB with minimum recommended pad layout. (25×25×1.6mm)

/ Electrical Characteristics(Ta=25)

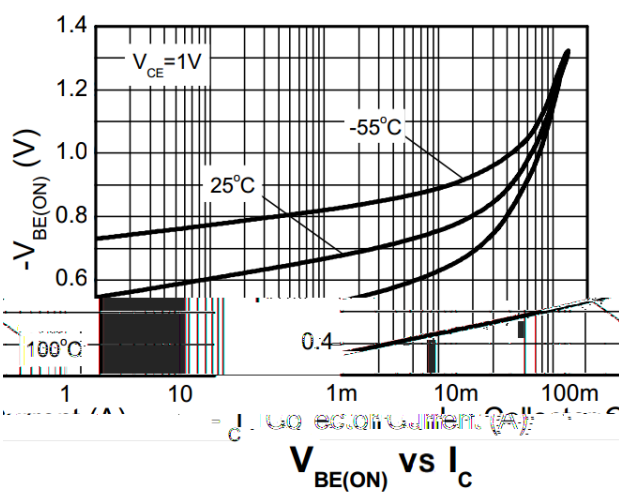
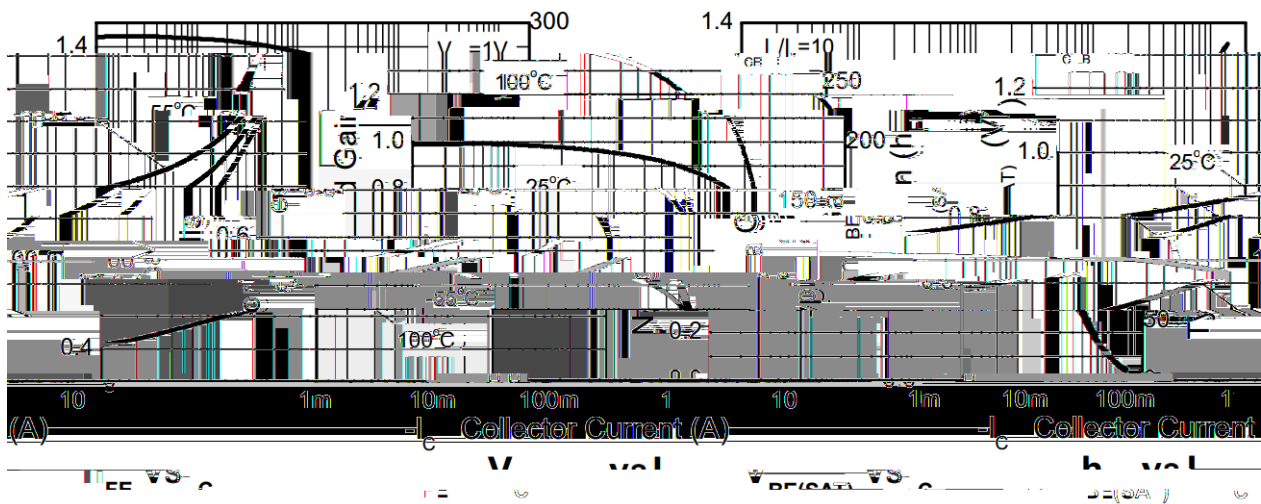
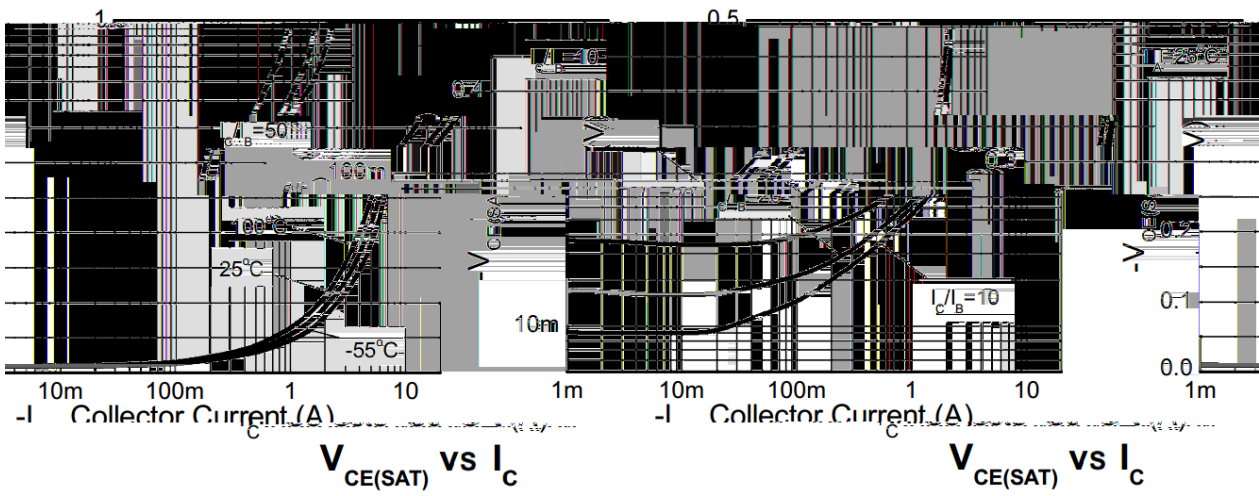
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V_{CBO}	$I_C=-100\mu A$ $I_E=0$	-100			V
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C=-10mA$ $I_B=0$	-60			V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E=-100\mu A$ $I_C=0$	-7.0			V
Collector Cutoff Current	I_{CBO}	$V_{CB}=-80V$ $I_E=0$			-20	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-6.0V$ $I_C=0$			-10	nA
Base Emitter On Voltage (Note)	$V_{BE(ON)}$	$V_{CE}=-1.0V$ $I_C=-5A$			-950	mV
Base-Emitter Saturation Voltage (Note)	$V_{BE(sat)}$	$I_C=-5A$ $I_B=-500mA$			-1050	mV
Collector-Emitter Saturation Voltage(Note)	$V_{CE(sat)}$	$I_C=-100mA$ $I_B=-10mA$			-20	mV
		$I_C=-1A$ $I_B=-100mA$			-65	mV
		$I_C=-2A$ $I_B=-200mA$			-110	mV
		$I_C=-5A$ $I_B=-500mA$			-240	mV

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

/ Thermal Characteristics and Derating Information



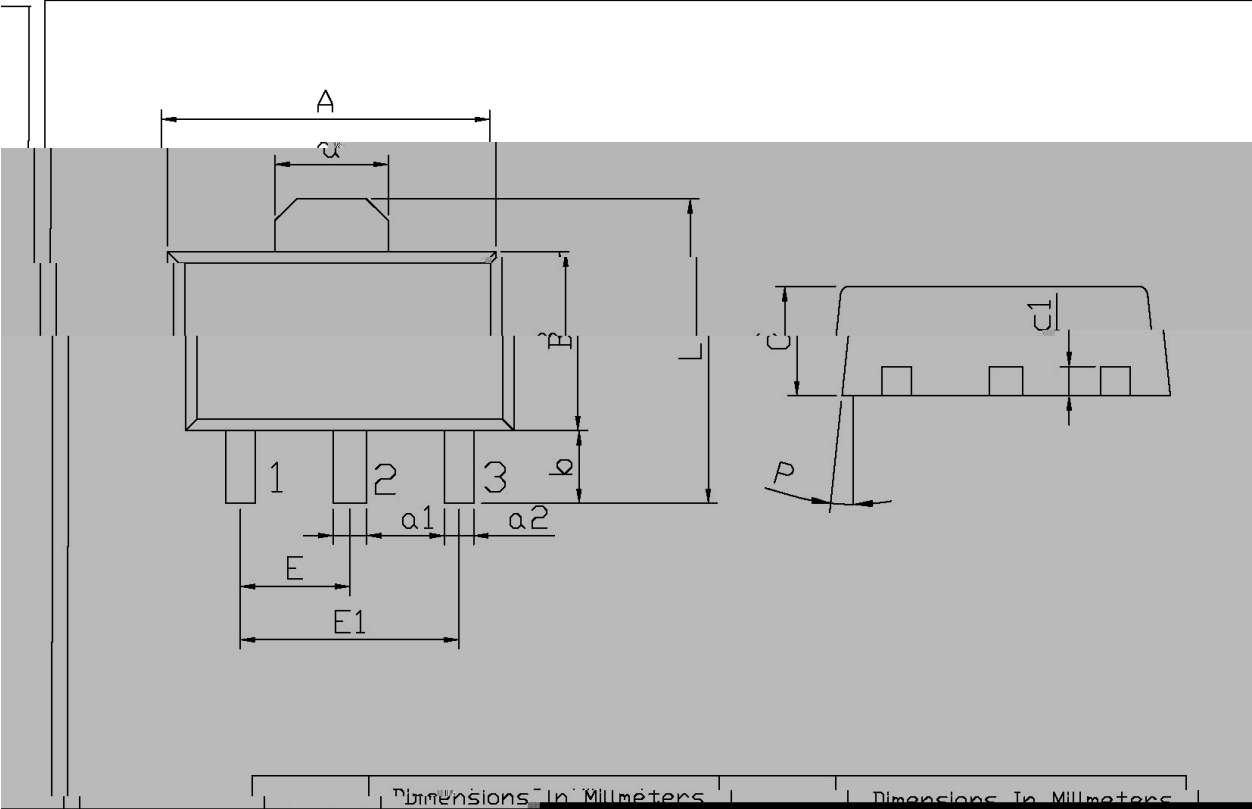
/ Electrical Characteristic Curve



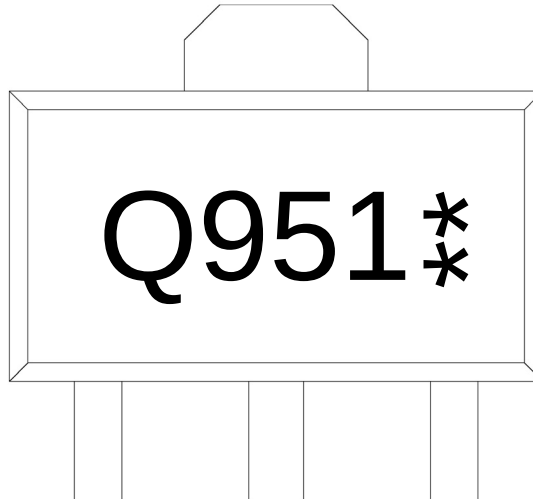
/ Package Dimensions

ISO 789

单位: mm



/ Marking Instructions



Q

951

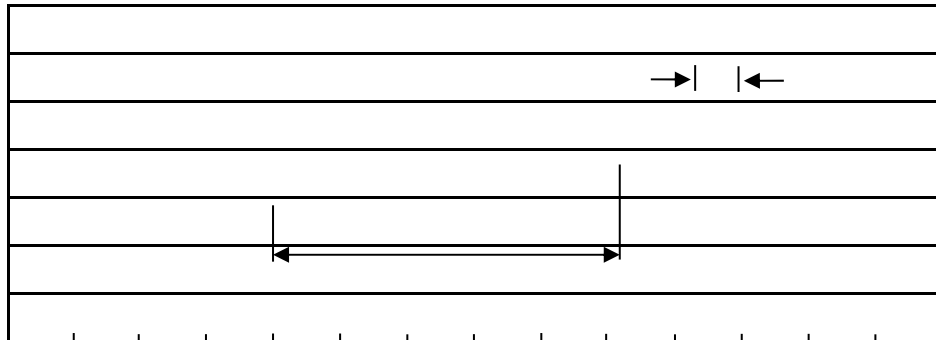
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Note:

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)		
	Units/Reel /	Reels/Inner Box /	Units/Inner Box /	Inner Boxes/Outer Box /	Units/Outer Box /	Reel	Inner Box	Outer Box
SOT-89	1,000	7	7,000	6	42,000	7" ×12	180×120×180	390×385×205

/ Notices