/ Descriptions

Silicon PNP transistor in a SOT-89 Plastic Package.

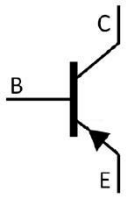
/ Features

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

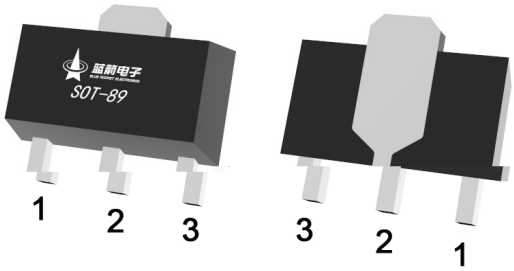
/ Applications

, Meet the stringent requirements of automotive applications.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ h_{FE} 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	$_{JA}$	83	℃/W
Junction to Case	$_{JC}$	60	℃/W

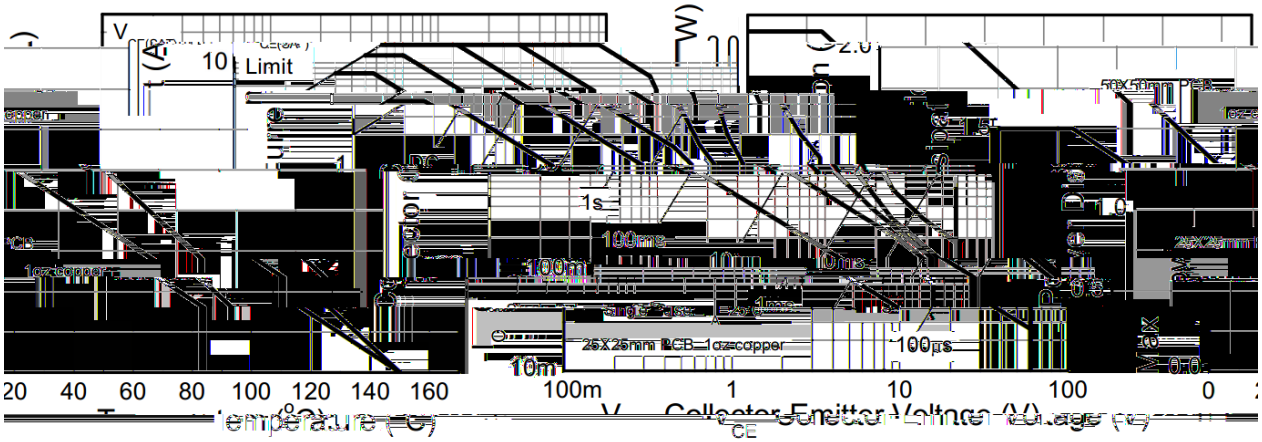
Notes:
1.Absolute maximum ratings are those values beyond which the device could be permanently damaged.Absolute maximum ratings are stress ratings only and functional device operation is not implied.
2.Single pulse, PW=10ms.
3.Device mounted on FR-4 PCB with minimum recommended pad layout. (25×25×1.6mm)

/ Electrical Characteristics(Ta=25)

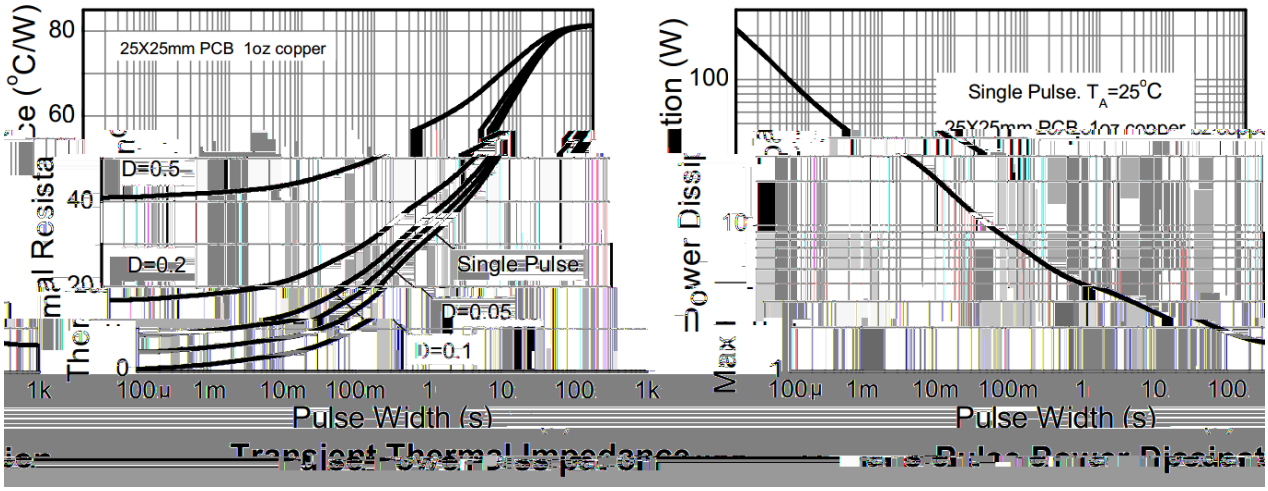
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V_{CBO}	I_C=-100μA I_E=0	-100			V
Collector-Emitter Breakdown Voltage	V_{CEO}	I_C=-10mA I_B=0	-60			V
Emitter-Base Breakdown Voltage	V_{EBO}	I_E=-100μA I_C=0	-7.0			V
Collector Cutoff Current	I_{CBO}	V_{CB}=-80V I_E=0			-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

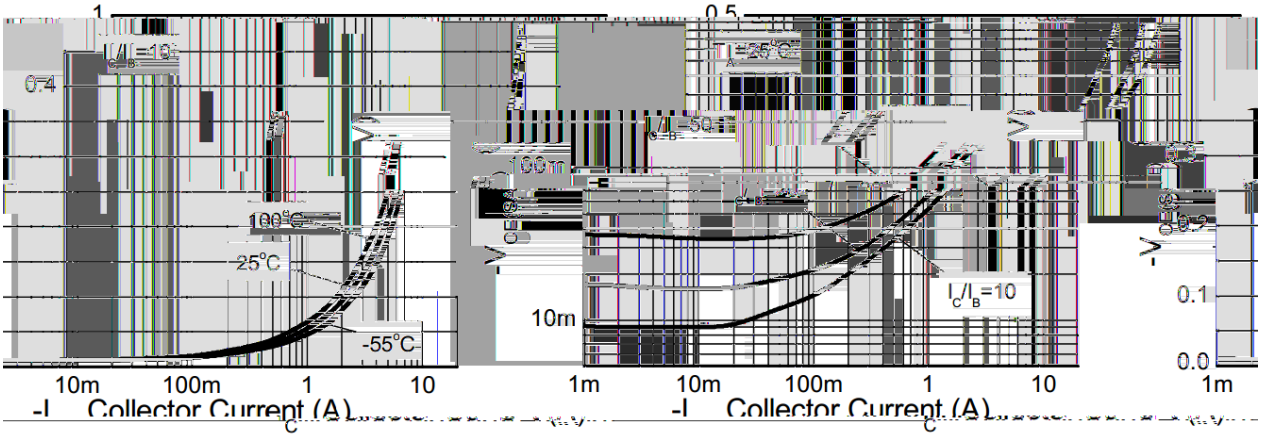


Derating Curve **Safe Operating Area**

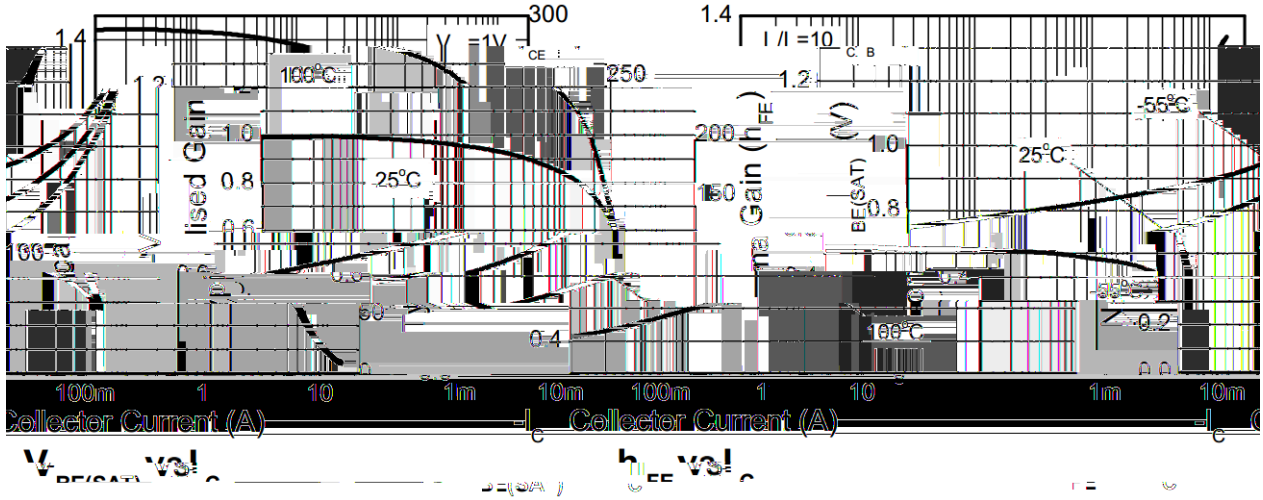


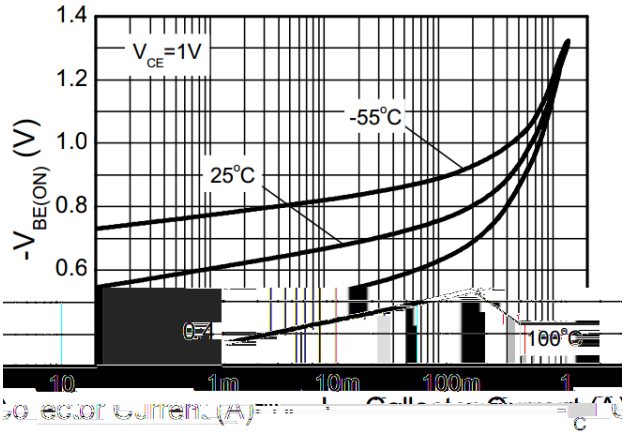
Transient Thermal Impedance **Pulse Power Dissipation**

/ Electrical Characteristic Curve



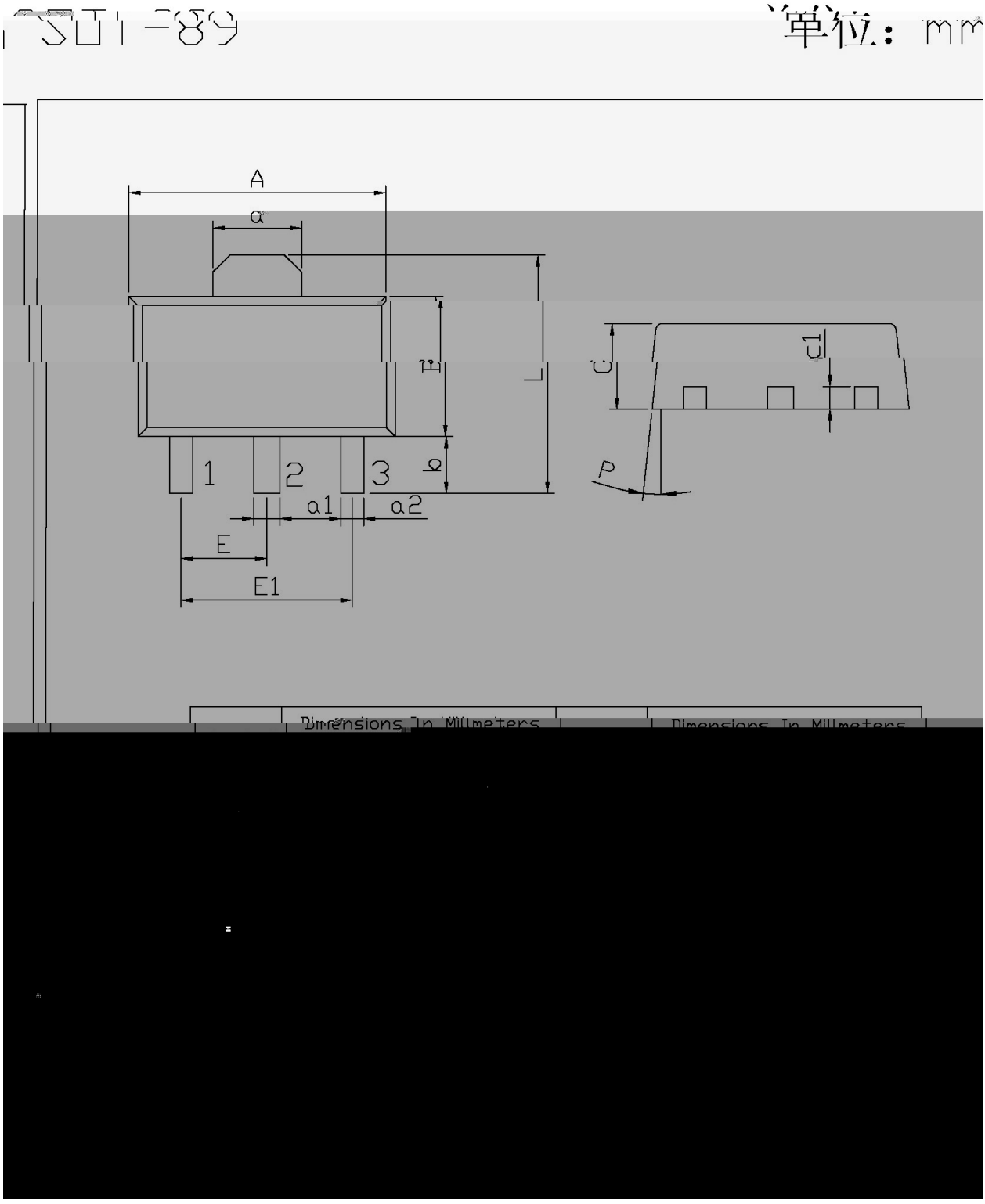
$V_{CE(SAT)}$ vs I_C $V_{CE(SAT)}$ vs I_C



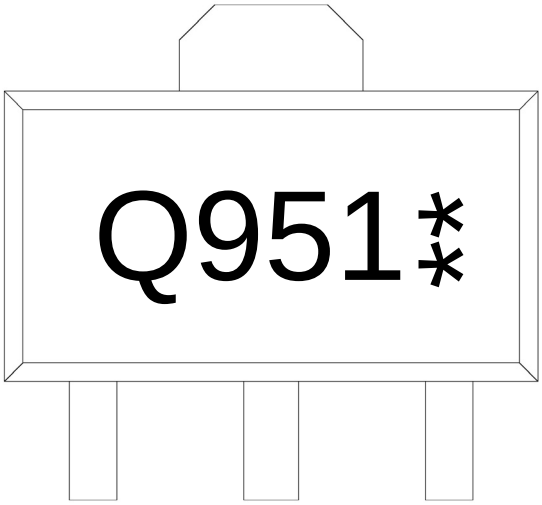


$V_{BE(ON)}$ vs I_C

/ Package Dimensions



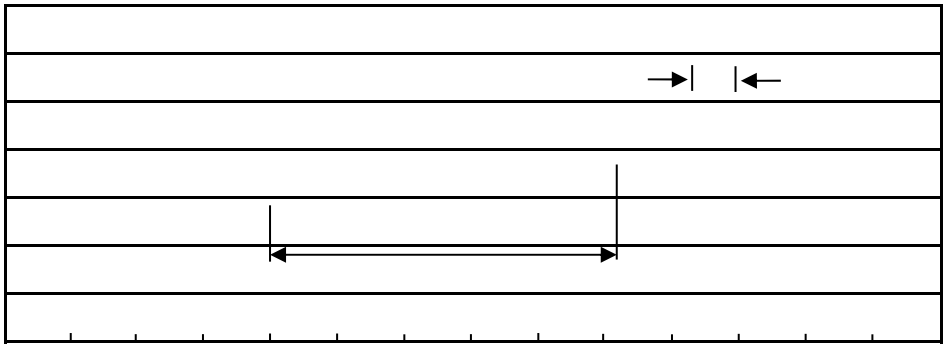
/ Marking Instructions



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 mm³)
	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