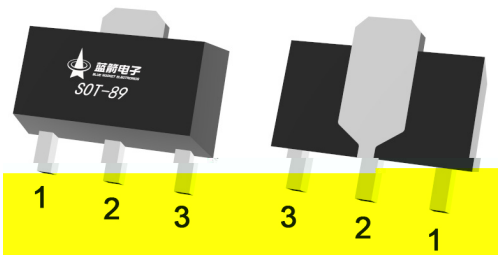
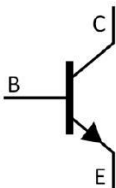


SOT-89 NPN Silicon NPN transistor in a SOT-89 Plastic Package.

MBIT - ,
BRKTB1124Q AEC-Q101
Adoption of MBIT processes, low collector-to-emitter saturation voltage, fast Switching Speed, Large current capacity and wide ASO, Complementary to BRKTB1124Q, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

Voltage regulators ,relay drivers lamp drivers, electrical equipment, Meet the stringent requirements of automotive applications.



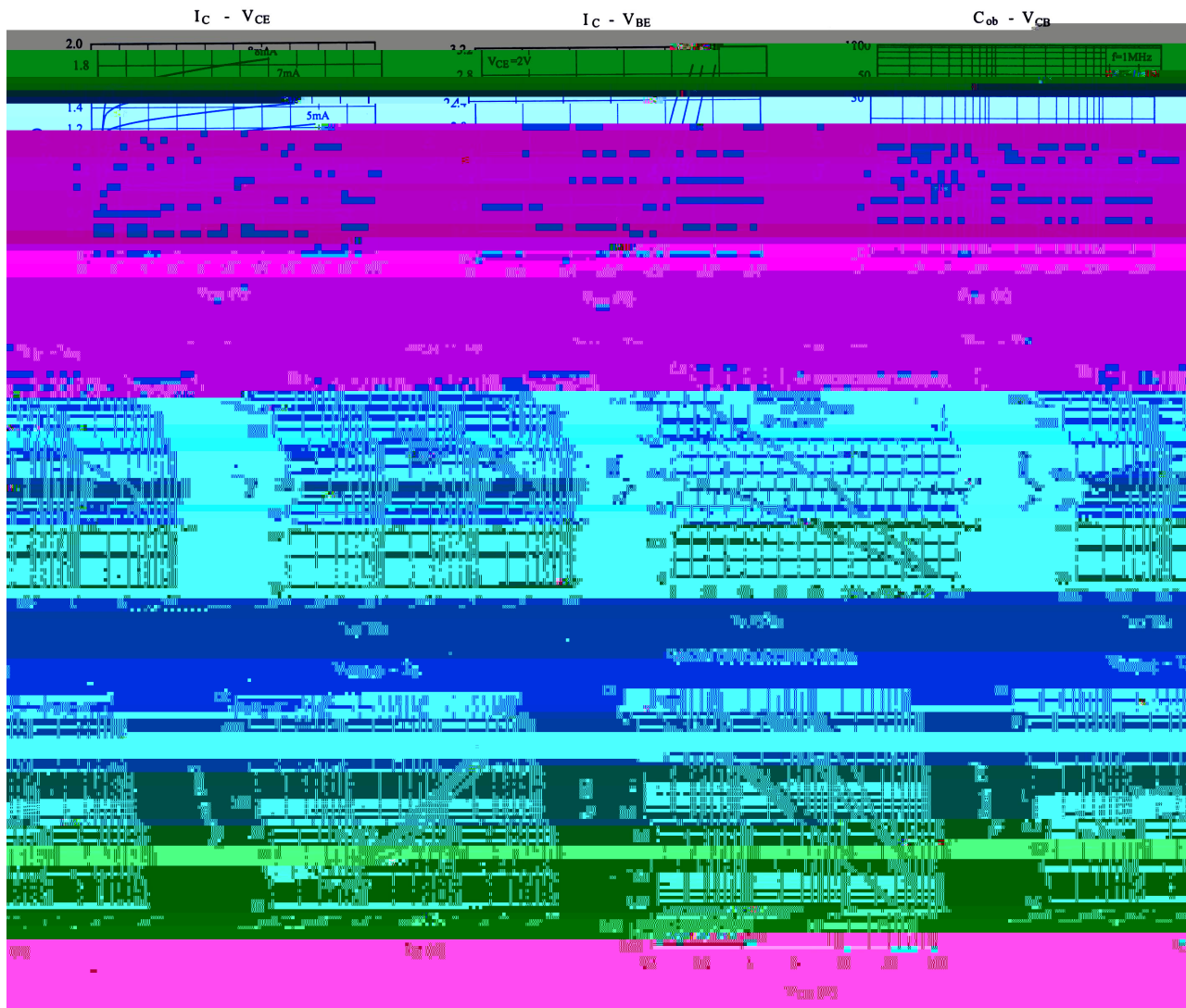
PIN1 Base PIN 2 Collector PIN 3 Emitter

hFE Classifications Symbol	A	B	C
hFE Range	100~200	140~280	200~400
Marking	YQA * 	YQB * 	YQC *

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	50	V
Emitter to Base Voltage	V_{EBO}	6.0	V
Collector Current - Continuous	I_C	3.0	A
Collector Current – Continuous (Pulse)	I_{CP}	6.0	A
Collector Power Dissipation	P_C	500	mW
Collector Power Dissipation*	* P_C	1.0	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C

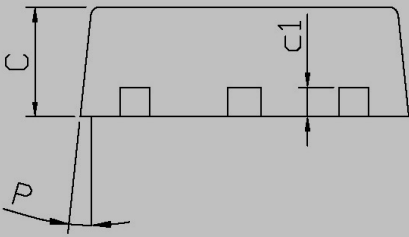
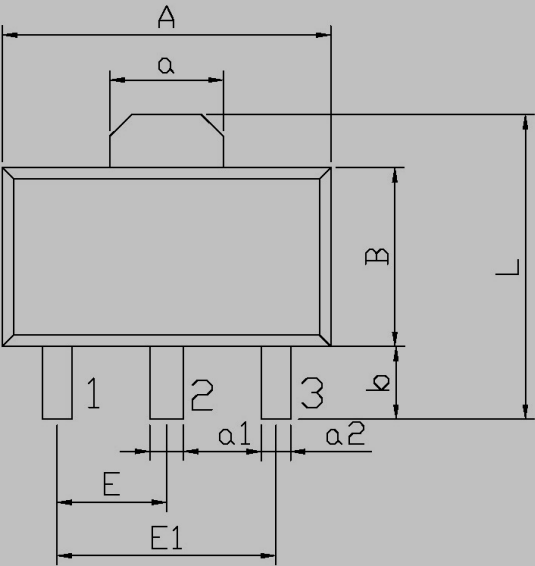
*:Package mounted on ceramic substrate(250mm²×0.8t)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=10\mu A$ $I_E=0$	60			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=1.0mA$ $I_B=0$	50			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=10\mu A$ $I_C=0$	6.0			V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=40V$ $I_E=0$			1.0	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=4.0V$ $I_C=0$			1.0	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2.0V$ $I_C=100mA$	100		400	
	$h_{FE(2)}$	$V_{CE}=2.0V$ $I_C=3.0A$	35			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2.0A$ $I_B=100mA$		0.19	0.5	V
Base to Emitter Voltage	V_{BE}	$I_C=2.0A$ $I_B=100mA$		0.94	1.2	V
Transition Frequency	f_T	$V_{CE}=10V$ $I_C=50mA$		150		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10V$ $I_E=0$ $f=1MHz$		25		pF
Turn-On Time	t_{on}	$10I_{B1}=-10I_{B2}=I_C=1.0A$		70		nS
Storage Time	t_{stg}			650		nS
Fall Time	t_f			35		nS

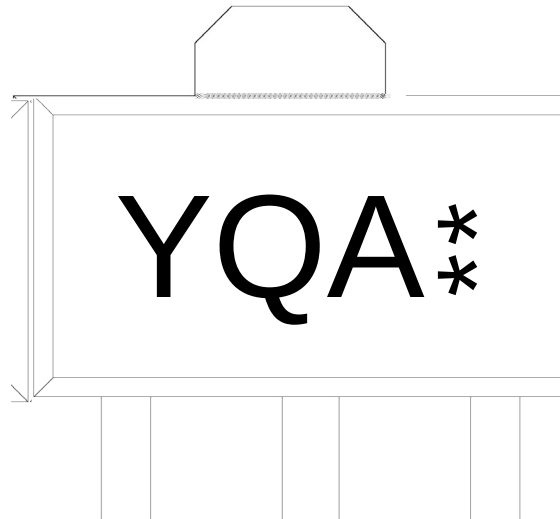


SOT-89

单位: mm



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max



Y

Q

A

h_{FE}

**

Note:

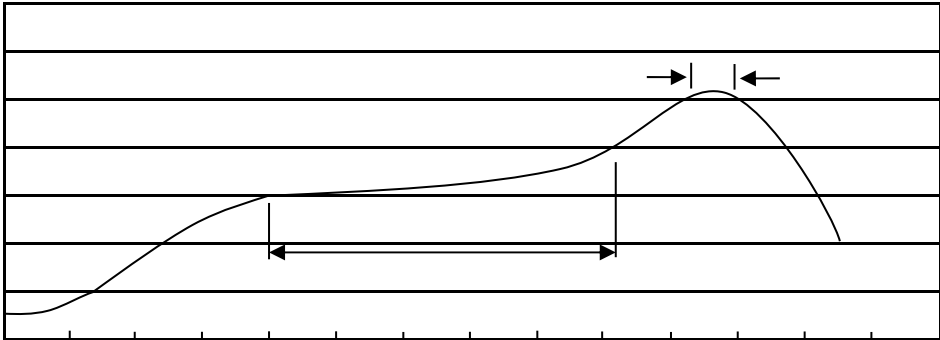
Y: Product Type.

Q: Automobile halogen-free product Code

A 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 , 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.

260±5

10±1 sec.

Temp.:260±5℃

Time:10±1 sec

/ REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm³)		
	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
SOT-89	1,000	7	7,000	6	42,000	7" ×12	180×120×180	390×385×205