

Rev.A Mar.-2023

SOT-89

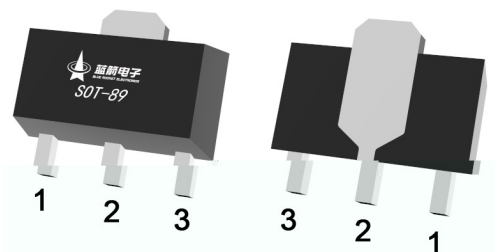
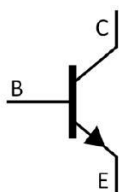
NPN

Silicon NPN transistor in a SOT-89 Plastic Package.

AEC-Q101

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

Driver stages of audio and video amplifiers applications, Meet the stringent requirements of automotive applications.



PIN1 Base

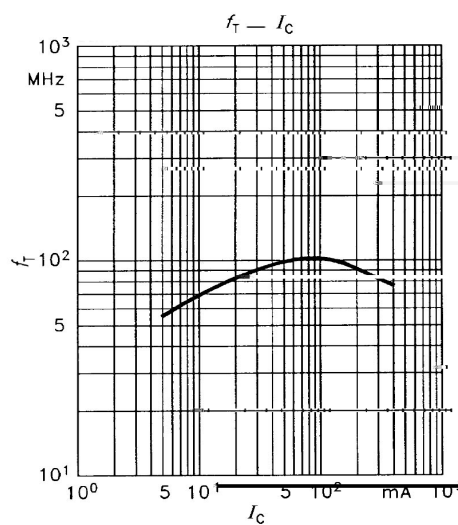
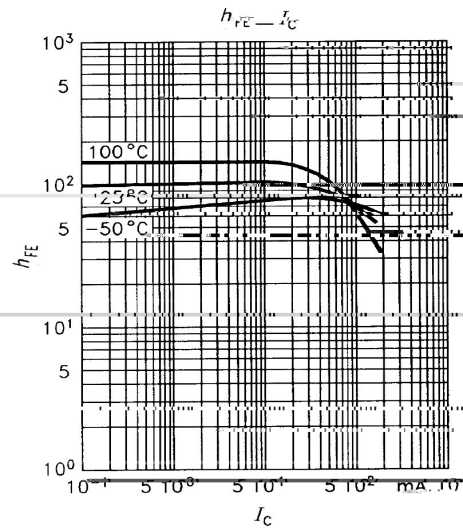
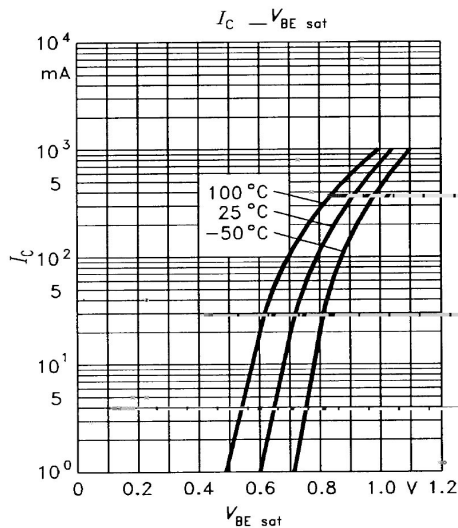
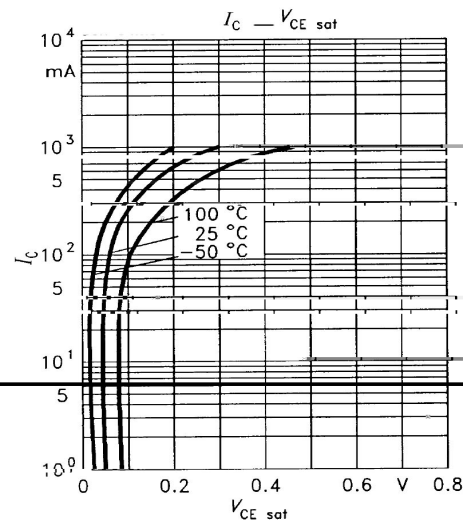
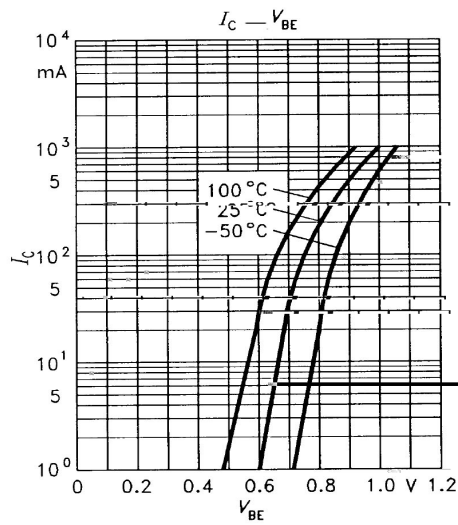
PIN 2 Collector

PIN 3 Emitter

$h_{FE(1)}$ Classifications	10	16
$h_{FE(1)}$ Range	63 160	100 250
Marking	QBK *	QBL *

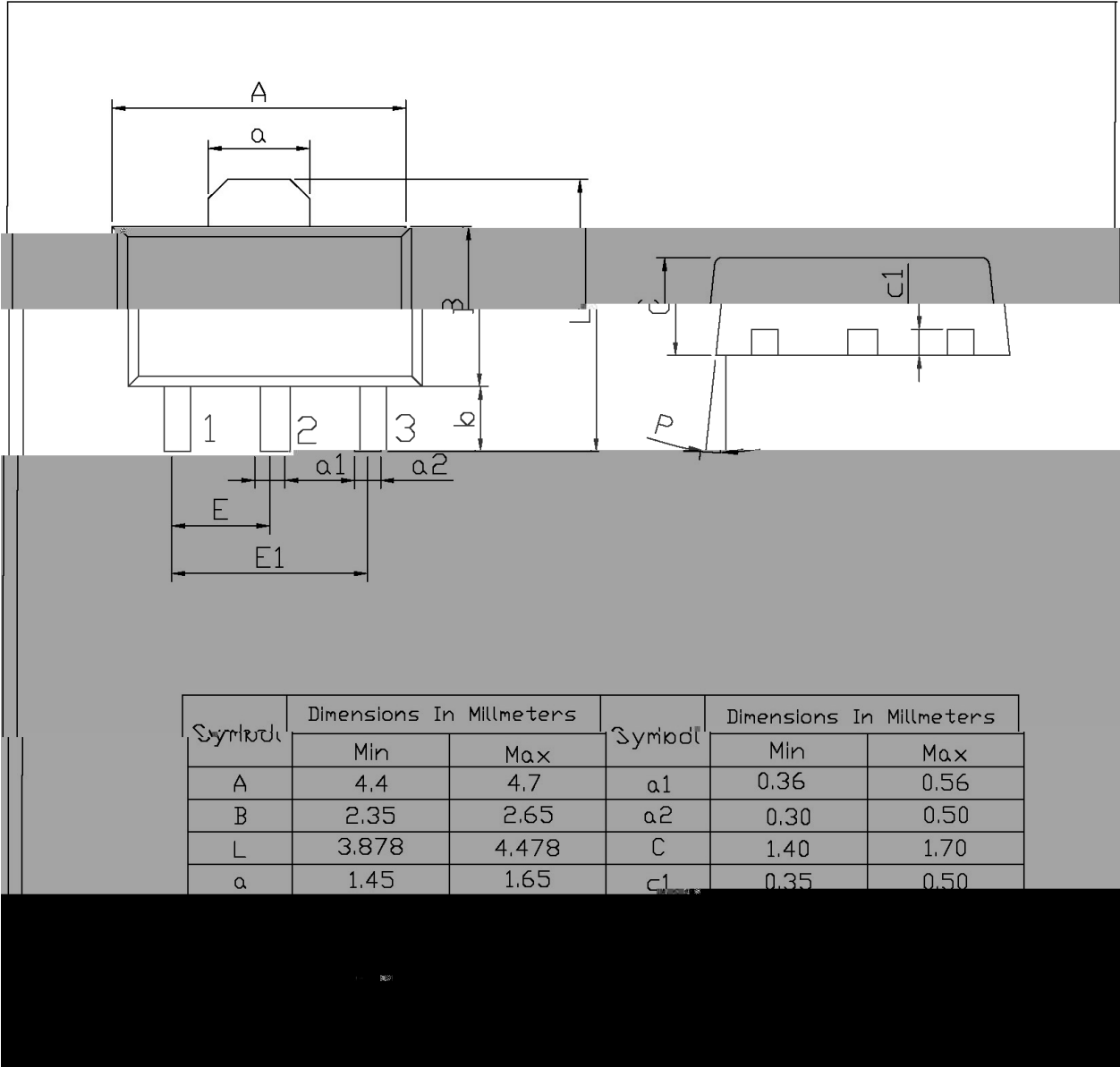
Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	100	V
Collector to Emitter Voltage	V_{CEO}	80	V
Emitter to Base Voltage	V_{EBO}	5	V
Collector Current-Continuous	I_C	1	A
Peak Collector Current	I_{CM}	1.5	A
Peak Base Current	I_{BM}	0.2	A
Collector Power Dissipation	$P_C(T_C=25^\circ\text{C})$	1.3	W
Storage Temperature Range	T_{stg}	-55 ~ 150	

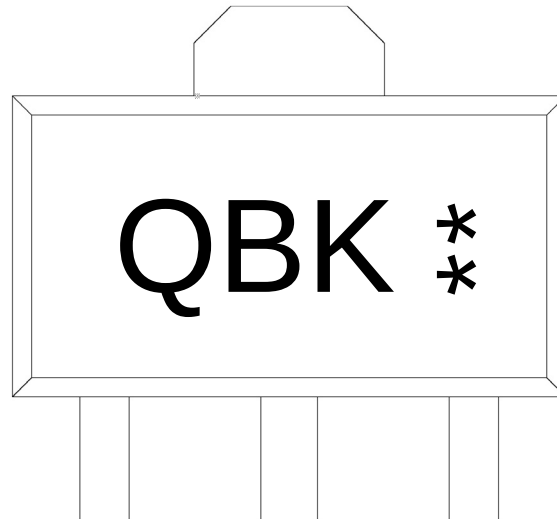
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=100\mu\text{A}$ $I_E=0$	100			V
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=500\mu\text{A}$ $I_B=0$	80			V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=100\mu\text{A}$ $I_C=0$	5.0			V
Collector Cut-Off Current	$I_{CBO(1)}$	$V_{CB}=30\text{V}$ $I_E=0$			0.1	μA
	$I_{CBO(2)}$	$V_{CB}=30\text{V}$ $I_E=0$ $T_j=125^\circ\text{C}$			10	μA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=5\text{V}$ $I_C=0$			0.1	μA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2\text{V}$ $I_C=150\text{mA}$	63		250	
	$h_{FE(2)}$	$V_{CE}=2\text{V}$ $I_C=5\text{mA}$	40			
	$h_{FE(3)}$	$V_{CE}=2\text{V}$ $I_C=500\text{mA}$	25			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=500\text{mA}$ $I_B=50\text{mA}$			0.5	V
Base to Emitter Voltage	V_{BE}	$I_C=500\text{mA}$ $V_{CE}=2\text{V}$			1	V
Transition Frequency	f_T	$I_C=10\text{mA}$ $V_{CE}=5\text{V}$ $f=100\text{MHz}$		130		MHz
DC Current Gain Ratio Of The Complementary Pairs	$\frac{h_{FE1}}{h_{FE2}}$	$ I_C =150\text{mA}$ $ V_{CE} =2\text{V}$		1.3	1.6	



SOT-89

单位：mm





Q

BK

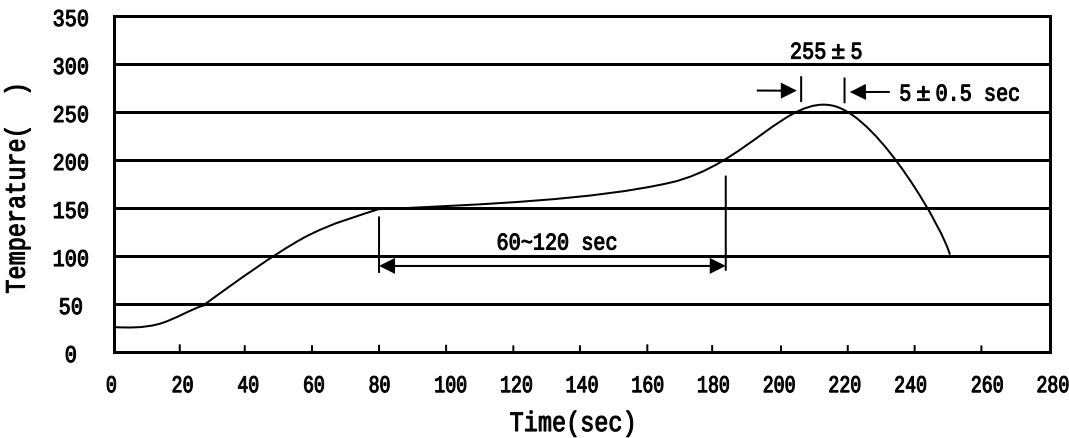
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Note:

Q: Automobile halogen-free product Code

BK: Product Type

**: Lot No. Code, code change with Lot No



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

/sec.

3. Cooling Speed: 2~10 °C /sec.

260±5

10±1 sec.

Temp.:260±5

Time:10±1 sec

/ 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