

/ Descriptions

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

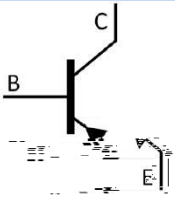
/ Features

Low $V_{CE(sat)}$, high current, HF product.

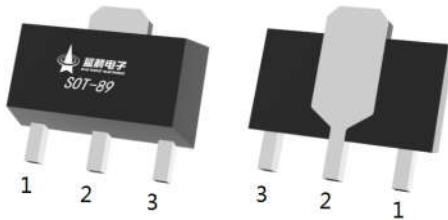
/ Applications

General purpose switching and muting, LCD back-lighting, supply line switching circuits.

/ Equivalent Circuit



/ Pinning



PIN1 Base PIN 2 Collector PIN 3 Emitter

/ Marking

Marking	HS46 **
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/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-50	V
Collector to Emitter Voltage	V_{CEO}	-50	V
Emitter to Base Voltage	V_{EBO}	-5	V
Collector Current - Continuous	I_C	-3	A
Peak collector current	I_{CM}	-5	A
Collector Base - Continuous	I_B	-0.5	A
Total power dissipation()	$P_{tot}()$	550	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-65~150	°C

/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-50V$ $I_E=0$			-100	nA
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-50V$ $I_E=0$ $T_j=150^\circ C$			-50	μA
Collector cut-off current	I_{CES}	$V_{CE}=-50V$ $V_{BE}=0$			-100	nA
Emitter Base Cut-Off Current	I_{EBO}	$V_{EB}=-5.0V$ $I_C=0$			-100	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=-2.0V$ $I_C=-0.1A$	200			
	$h_{FE(2)}$	$V_{CE}=-2.0V$ $I_C=-0.5A$	200			
	$h_{FE(3)*}$	$V_{CE}=-2.0V$ $I_C=-1.0A$	200		450	
	$h_{FE(4)*}$	$V_{CE}=-2.0V$ $I_C=-2.0A$	130			
	$h_{FE(5)*}$	$V_{CE}=-2.0V$ $I_C=-3.0A$	80			
Collector to Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C=-0.5A$ $I_B=-50mA$			-90	mV
	$V_{CE(sat)(2)}$	$I_C=-2.0A$ $I_B=-100mA$			-320	mV
Equivalent on-resistance	$R_{CE(sat)*}$	$I_C=-2.0A$ $I_B=-200mA$		90	135	m
Base to Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=-2.0A$ $I_B=-100mA$			-1.1	V
	$V_{BE(sat)(2)*}$	$I_C=-3.0A$ $I_B=-300mA$			-1.2	V
Base-emitter turn-on voltage	$V_{BE(ON)}$	$V_{CE}=-2.0V$ $I_C=-1.0A$			-1.1	V
Transition Frequency	f_T	$V_{CE}=-5.0V$ $I_C=100mA$ $f=100MHz$	100			MHz
Collector capacitance	C_C	$V_{CB}=-10V$ $I_E=0$ $f=1.0MHz$			35	pF

* $300\mu s, \delta 2.0\%$ *pulse test: pulse width $300\mu s, \delta 2.0\%$.

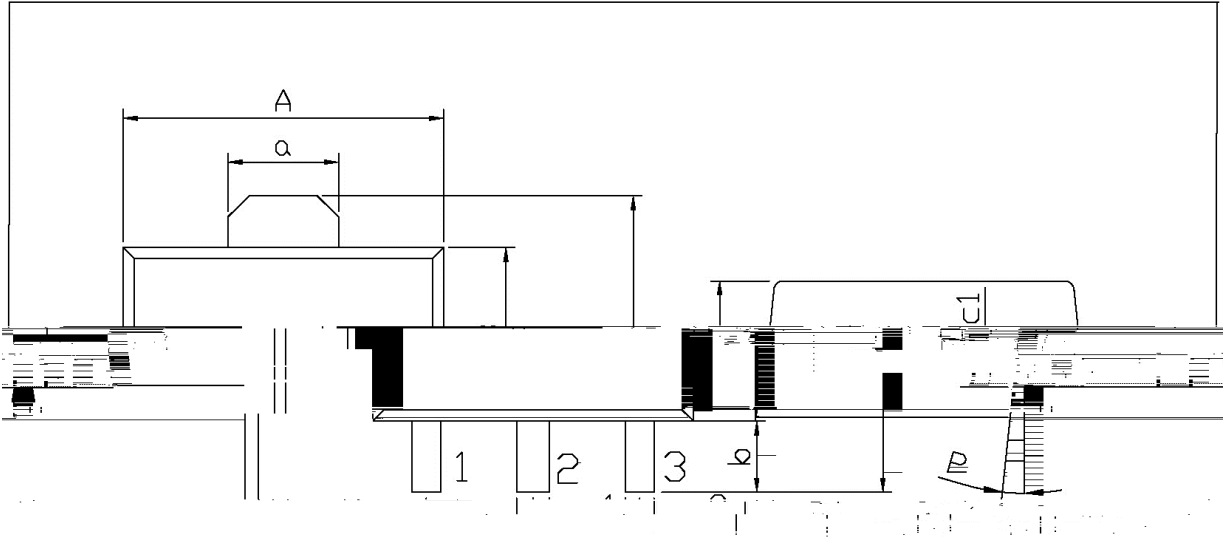
BR3CG5350TA
Rev.A Sep.-2022



/ Package Dimensions

SOT-89

单位: mm

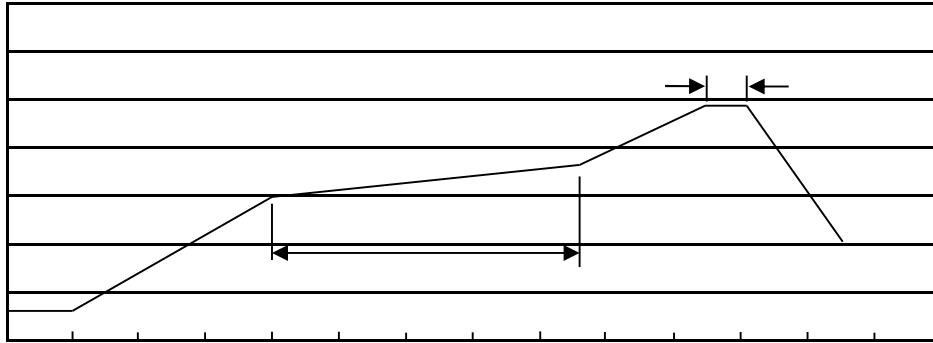


Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	4.4	4.7	a1	0.36	0.56
B	2.35	2.65	a2	0.30	0.50
L	3.878	4.478	C	1.40	1.70
a	1.45	1.65	c1	0.35	0.50
E	1.40	1.60	P	6°	
E1	2.80	3.20			
h	0.80	1.20			

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() / Temperature Profile for IR Reflow Soldering (Pb-Free)



Note:

- | | | | |
|---|---------|-----------|---|
| 1 | 150 180 | 60 90sec; | 1.Preheating:150~180 , Time:60~90sec. |
| 2 | 245±5 | 5±0.5sec; | 2.Peak Temp.:245±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