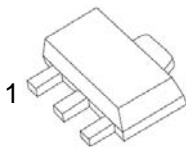


Transistor (NPN)	
<p style="text-align: center;"><u>SOT-89</u></p> <p>1. BASE 2. COLLECTOR 3. EMITTER</p> 	<p>Feature</p> <p>High Speed Switching</p> <p>Marking: 13003</p>

**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	符号 Symbol	数值 Rating	单位 Unit
Collector to Base Voltage	V <sub>CB0</sub>	600	V
Collector to Emitter Voltage	V <sub>CEO</sub>	400	V
Emitter to Base Voltage	V <sub>EBO</sub>	9.0	V
Collector Current - Continuous	I <sub>C</sub>	0.5	A
Collector Power Dissipation	P <sub>C</sub>	500	mW
Collector Power Dissipation	*P <sub>C</sub>	1.0	W
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature Range	T <sub>stg</sub>	-55~150	°C

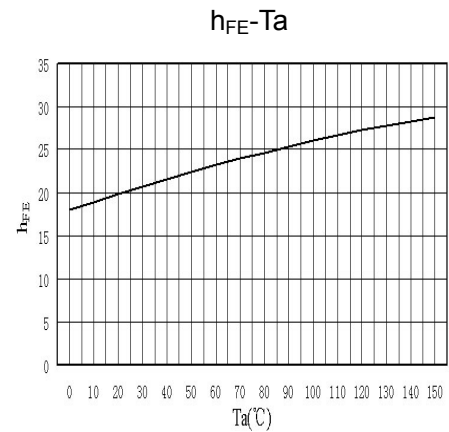
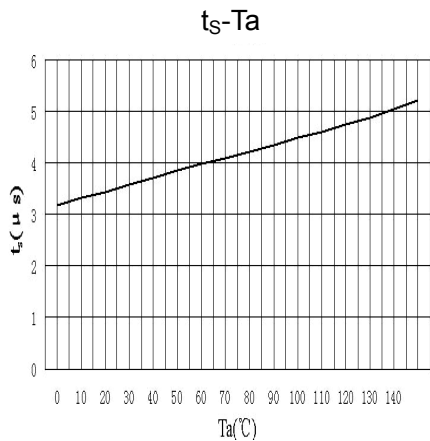
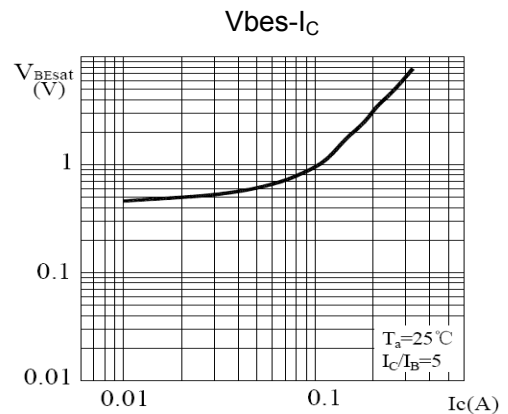
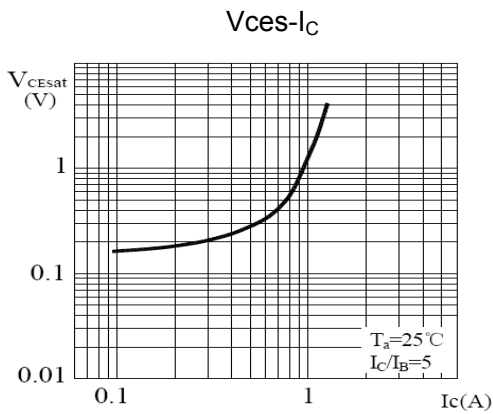
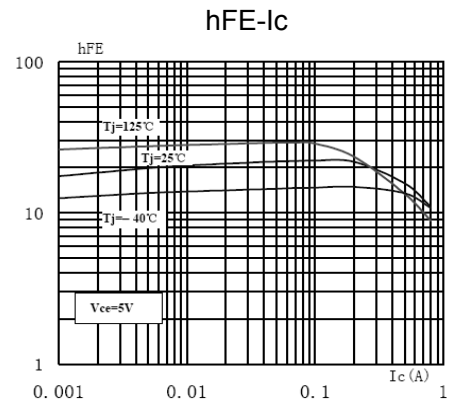
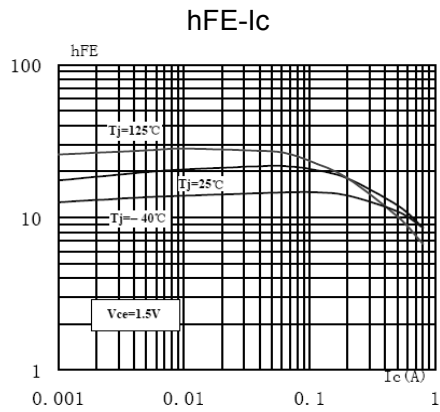
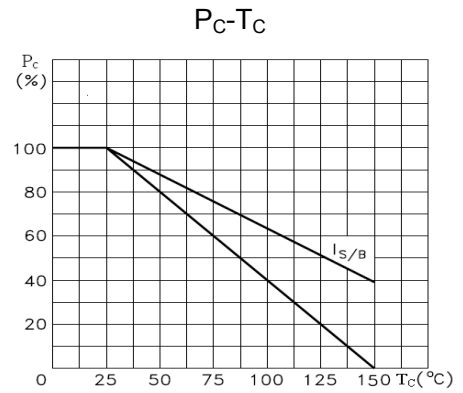
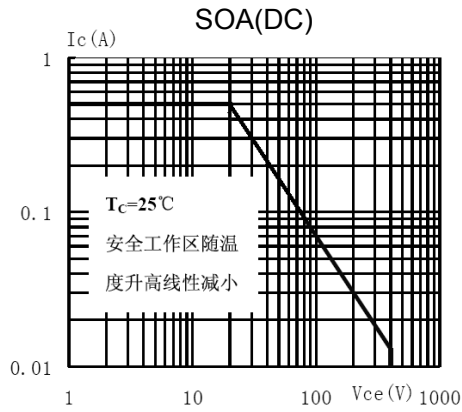
\*mounted on ceramic substrate(250mm<sup>2</sup>×0.8t)

\*贴装于 250mm<sup>2</sup>×0.8t 的陶瓷板上。

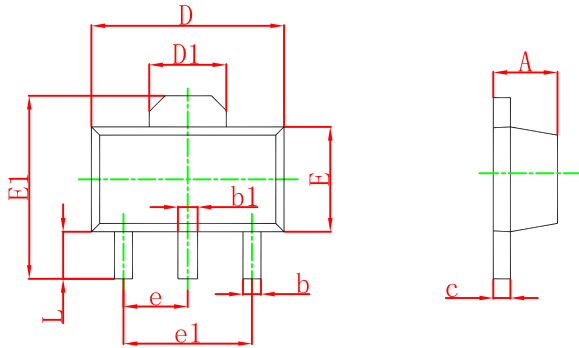
**电性能参数 / Electrical Characteristics(Ta=25°C)**

参数 Parameter	符号 Symbol	测试条件 Test Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
Collector-Base Voltage	V <sub>CB0</sub>	I <sub>C</sub> =1mA I <sub>E</sub> =0	600			V
Collector-Emitter Voltage	V <sub>CEO</sub>	I <sub>C</sub> =10mA I <sub>B</sub> =0	400			V
Emitter-Base Voltage	V <sub>EBO</sub>	I <sub>E</sub> =1mA I <sub>C</sub> =0	9.0			V
Collector Cut-Off Current	I <sub>CB0</sub>	V <sub>CB</sub> =600V I <sub>E</sub> =0			0.1	mA
Collector cut-off current	I <sub>CEO</sub>	V <sub>CE</sub> =400V I <sub>B</sub> =0			0.1	mA
Emitter Base Cut-Off Current	I <sub>EBO</sub>	V <sub>EB</sub> =9.0V I <sub>C</sub> =0			0.1	mA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =5.0V I <sub>C</sub> =200mA	10		40	
Collector to Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =200mA I <sub>B</sub> =40mA			0.5	V
Base to Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =200mA I <sub>B</sub> =40mA			1.2	V
Transition Frequency	f <sub>T</sub>	V <sub>CE</sub> =10V I <sub>C</sub> =50mA f=1.0MHz	5.0			MHz
Fall time	t <sub>f</sub>	V <sub>CE</sub> =5V I <sub>C</sub> =100mA			0.6	μs
Storage time	t <sub>s</sub>	(UI9600)			4.0	μs

Typical Characteristics

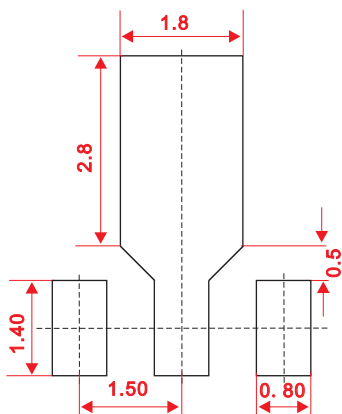


**SOT-89-3L Package Outline Dimensions**



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047

**SOT-89-3L Suggested Pad Layout**



- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05$  mm.
  3. The pad layout is for reference purposes only.