

特征 Features

- Complementary to A92
- Power Dissipation of 500mW
- High Breakdown Voltage
- Low Collector-Emitter Saturation Voltage

机械数据 Mechanical Data

- SOT-89-3L Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

Marking: A42

极限值和温度特性(TA = 25℃ 除非另有规定)

Maximum Ratings & Thermal Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified.)

参数 Parameters	符号 Symbol	数值 Value	单位 Unit
Collector-Base Voltage	V <sub>CB0</sub>	310	V
Collector-Emitter Voltage	V <sub>CEO</sub>	305	V
Emitter -Base Voltage	V <sub>EBO</sub>	5	V
Collector Current-Continuous	I <sub>C</sub>	200	mA
Collector Current-Pulsed	I <sub>CM</sub>	500	mA
Collector Power Dissipation	P <sub>C</sub>	500	mW
Junction Temperature	T <sub>j</sub>	150	℃
Storage Temperature	T <sub>stg</sub>	-55-+150	℃
Thermal resistance From junction to ambient	R <sub>θJA</sub>	250	℃/W

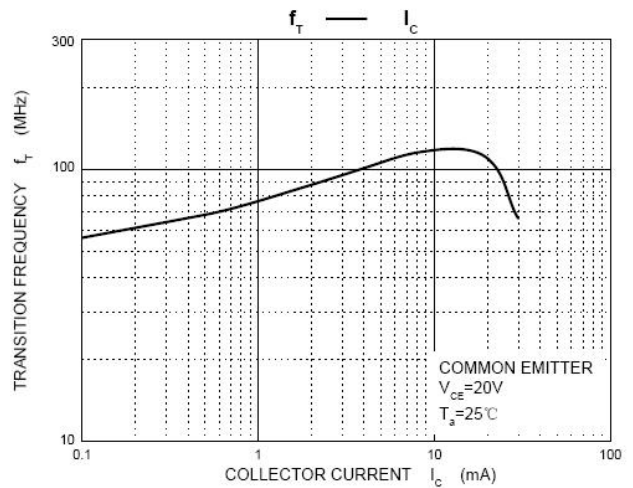
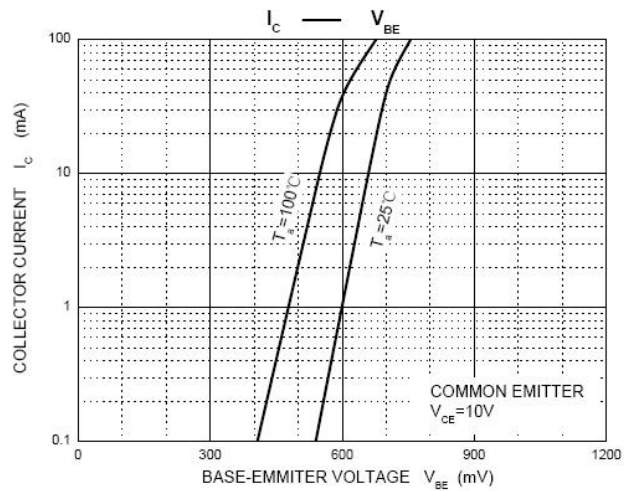
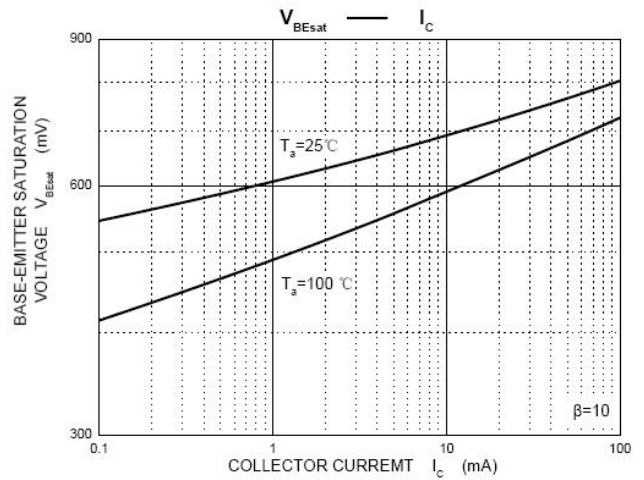
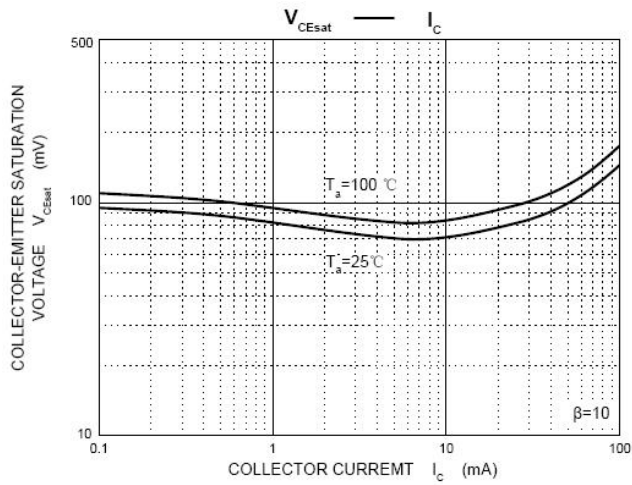
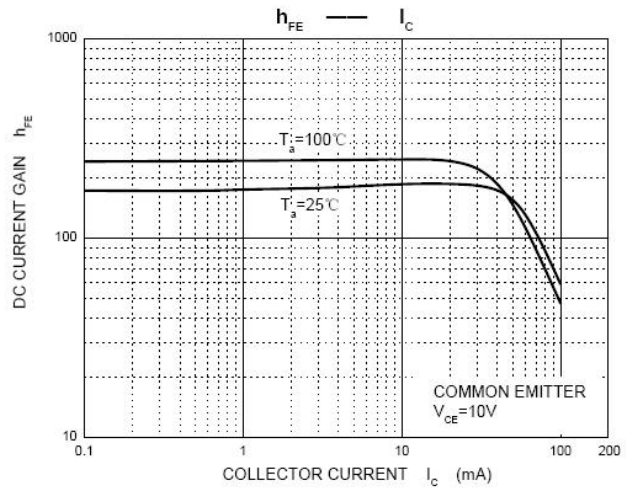
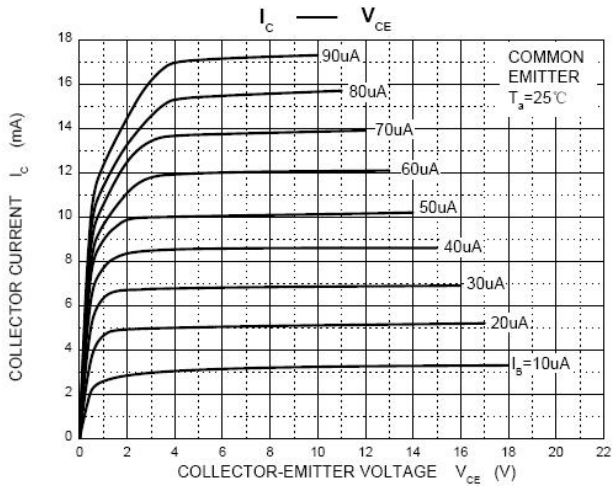
电特性 (TA = 25℃ 除非另有规定)

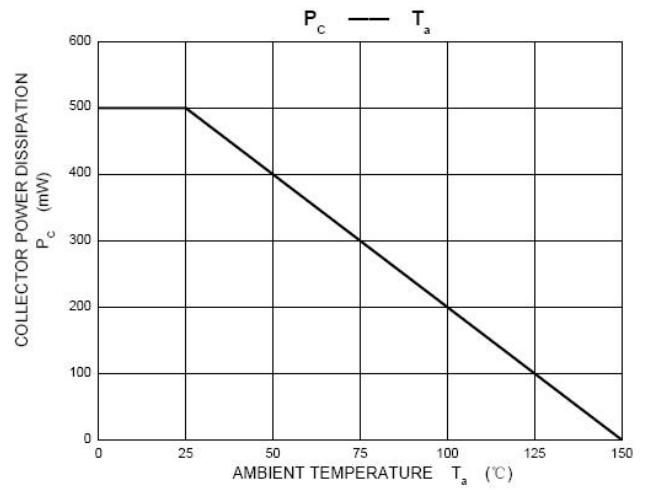
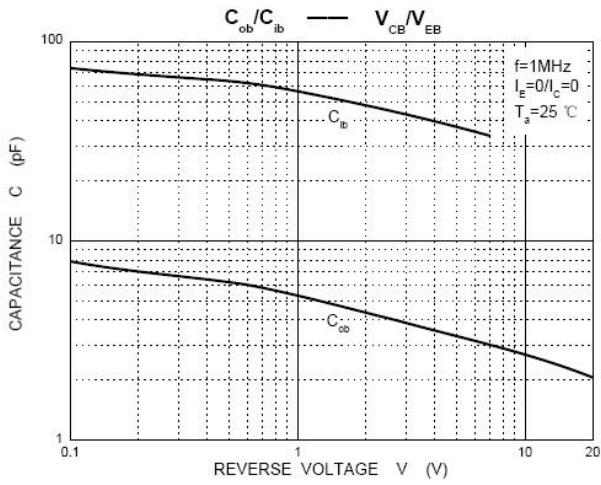
Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified.)

参数 Parameter	符号 Symbols	测试条件 Test Condition	界限 Limits		单位 Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	I <sub>C</sub> =100uA, I <sub>E</sub> =0	310		V
Collector-emitter breakdown voltage	V(BR)CEO	I <sub>C</sub> =1mA, I <sub>B</sub> =0	305		V
Emitter-base breakdown voltage	V(BR)EBO	I <sub>E</sub> =100uA, I <sub>C</sub> =0	5		V
Collector cut-off current	I <sub>CBO</sub> I <sub>CEX</sub>	V <sub>CB</sub> =200V, I <sub>E</sub> =0		250	nA
		V <sub>CE</sub> =100V, I <sub>X</sub> =5V		5	uA
		V <sub>CE</sub> =300V, I <sub>X</sub> =5V		10	uA
Emitter Cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =5V, I <sub>C</sub> =0		100	nA
DC current gain	h <sub>FE</sub> (1)* h <sub>FE</sub> (2)* h <sub>FE</sub> (3)*	V <sub>CE</sub> =10V, I <sub>C</sub> =1mA	60		
		V <sub>CE</sub> =10V, I <sub>C</sub> =10mA	100	300	
		V <sub>CE</sub> =10V, I <sub>C</sub> =30mA	75		
Collector-emitter saturation voltage	V <sub>CE(sat)*</sub>	I <sub>C</sub> =20mA, I <sub>B</sub> =2mA		0.20	V
Base -emitter saturation voltage	V <sub>BE(sat)*</sub>	I <sub>C</sub> =20mA, I <sub>B</sub> =2mA		0.90	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =20V, I <sub>C</sub> =100mA; f=30MHz	50		MHz

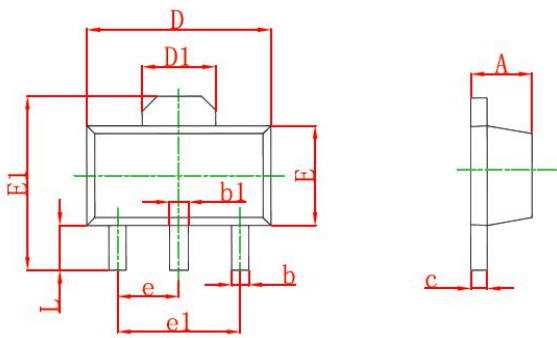
\*Pulse test: pulse width ≤ 300us, duty cycle ≤ 2.0%.

Typical characteristics





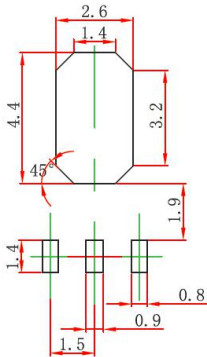
**SOT-89-3L PACKAGE OUTLINE** Plastic surface mounted package



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

**焊盘设计参考** Precautions: PCB Design

Recommended land dimensions for SOT-89-3L diode. Electrode patterns for PCBs



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