

■ NPN Transistors



■ Simplified outline(SOT-23)

■ Features

- Collector current up to 150mA
- High hFE linearity
- Complementary to 2SA733

■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector to base voltage	V <sub>CB0</sub>	60	V
Collector to emitter voltage	V <sub>CEO</sub>	50	V
Emitter to base voltage	V <sub>EBO</sub>	5	V
Collector current (DC)	I <sub>c</sub>	150	mA
Power dissipation	P <sub>c</sub>	200	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature range	T <sub>stg</sub>	-55 to +150	°C

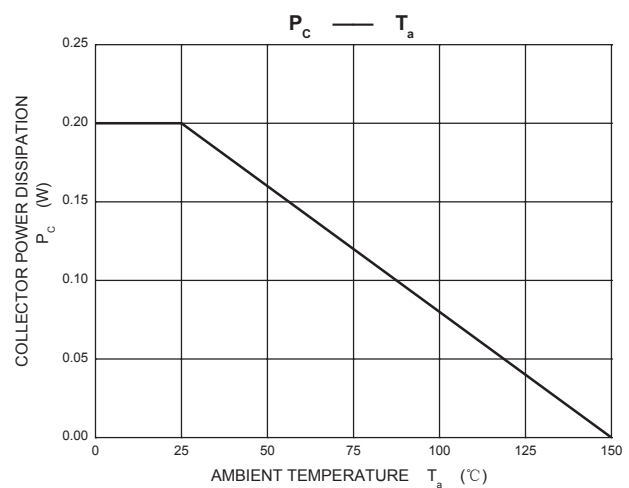
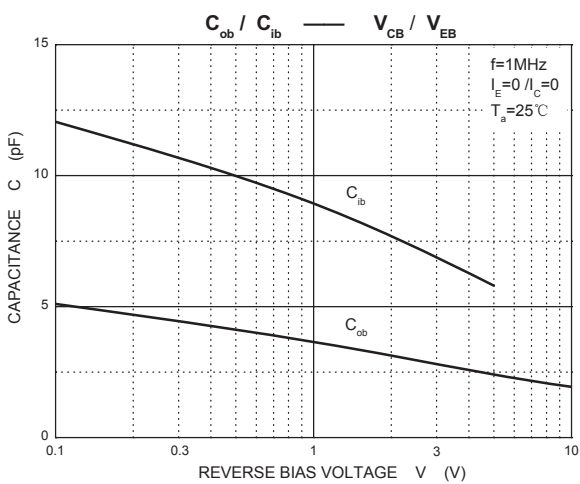
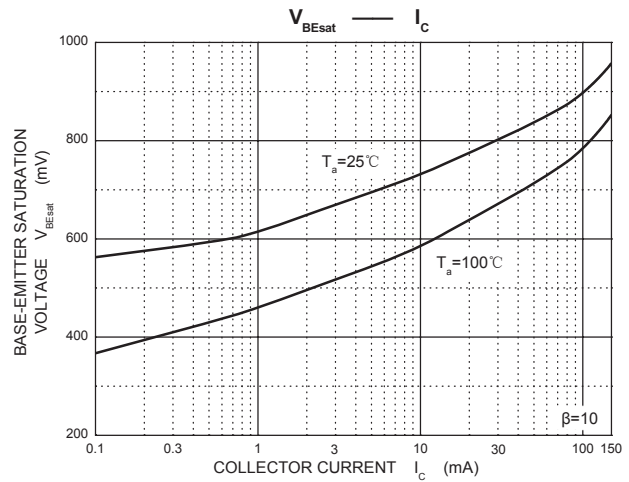
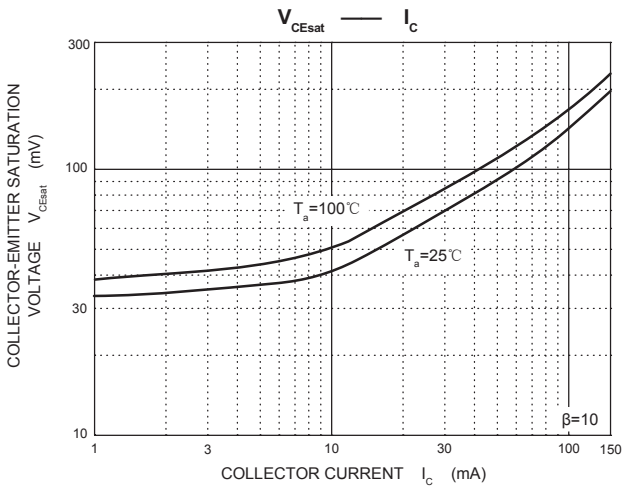
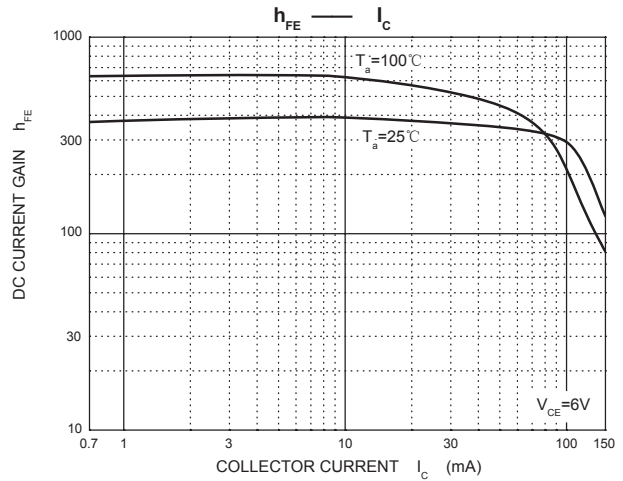
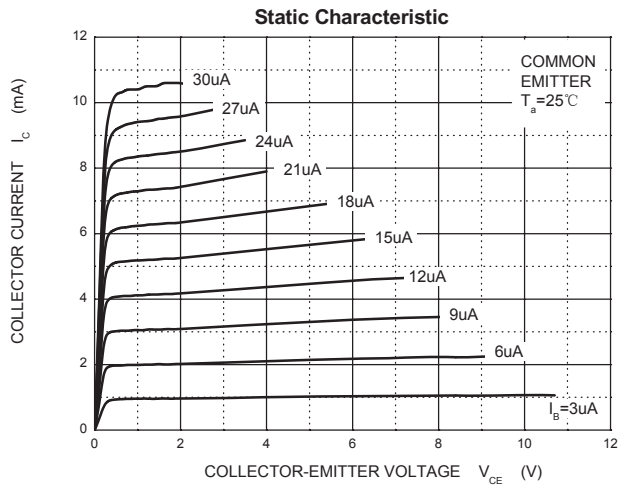
■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>c</sub> =100 μA, I <sub>E</sub> =0	60			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>c</sub> =1mA, I <sub>B</sub> =0	50			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =100 μA, I <sub>c</sub> =0	5			V
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> = 60V, I <sub>E</sub> = 0			0.1	μA
Emitter cutoff current	I <sub>EBO</sub>	V <sub>EB</sub> = 5.0 V, I <sub>c</sub> = 0			0.1	μA
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> = 6.0V, I <sub>c</sub> = 1.0mA	130		400	
		V <sub>CE</sub> = 6.0V, I <sub>c</sub> = 0.1mA	40			
Collector saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =100mA, I <sub>B</sub> =10mA			0.3	V
Base saturation voltage	V <sub>BE(sat)</sub>	I <sub>c</sub> =100mA, I <sub>B</sub> =10mA			1.0	V
Collector to base capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz			3.0	pF
Noise figure	NF	V <sub>CE</sub> =6V, I <sub>c</sub> =0.1mA, R <sub>g</sub> =10k Ω, f=1kHz		4	10	dB
Transition frequency	f <sub>t</sub>	V <sub>CE</sub> =6V, I <sub>c</sub> =10mA, f = 30 MHz	150			MHz

■ Classification of hfe(1)

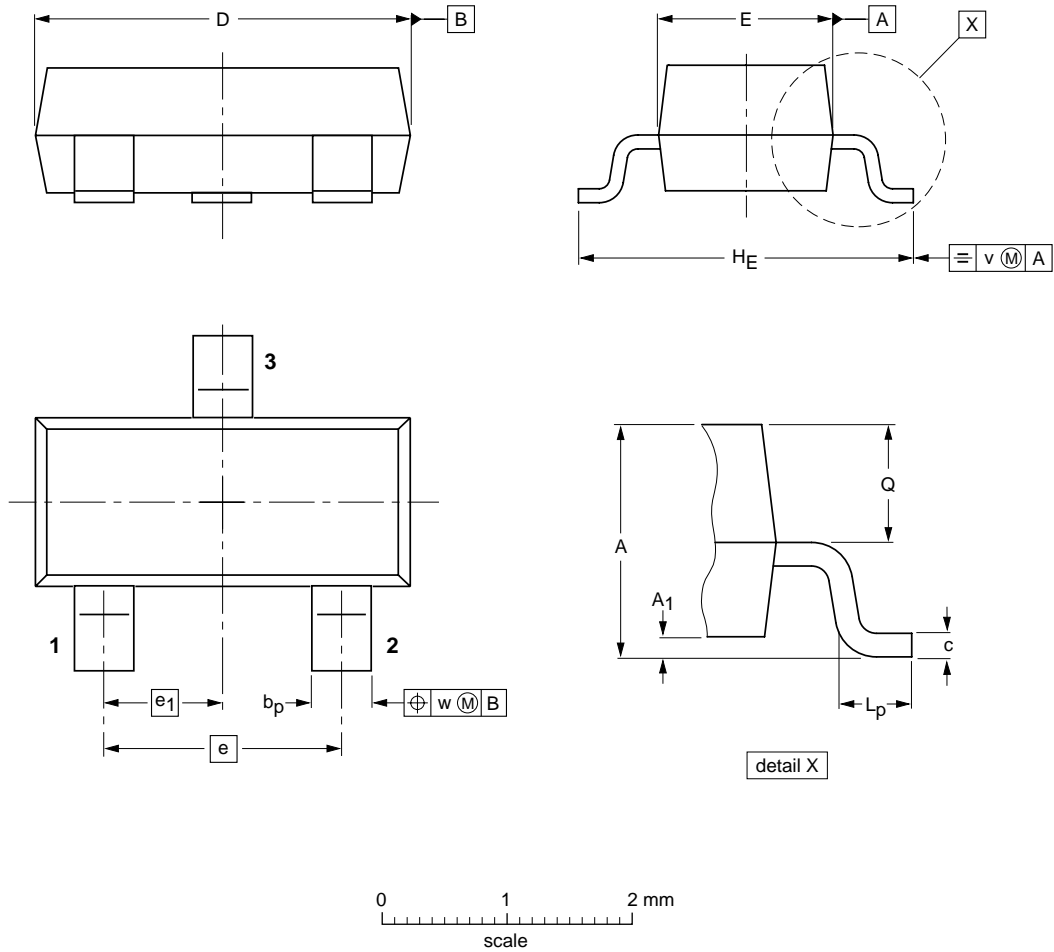
Type	2SC945-L	2SC945-H
Range	130-200	200-400
Marking	CRL	CR

■ Typical Characteristics



**Package Outline**

**SOT-23**



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

**Summary of Packing Options**

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel, 7" reel	3000	EIA-481-1