



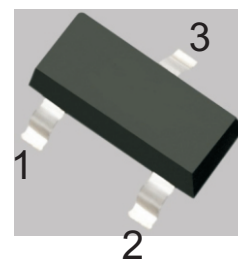
C945

NPN TRANSISTOR

FEATURES

- Excellent h_{FE} Linearity
- Low noise
- Complementary to A733

SOT-23



1.BASE
2.EMITTER
3.COLLECTOR

MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current — Continuous	I_C	150	mA
Collector Power Dissipation	P_C	200	mW
Thermal Resistance From Junction To Ambient	R_{thJA}	625	°C/W
Operation Junction and Storage Temperature Range	T_J, T_{stg}	-55~+150	°C

CLASSIFICATION OF h_{FE}

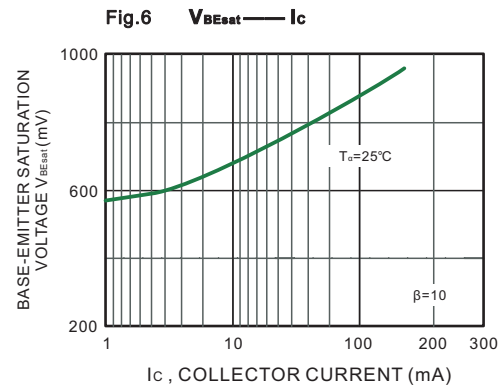
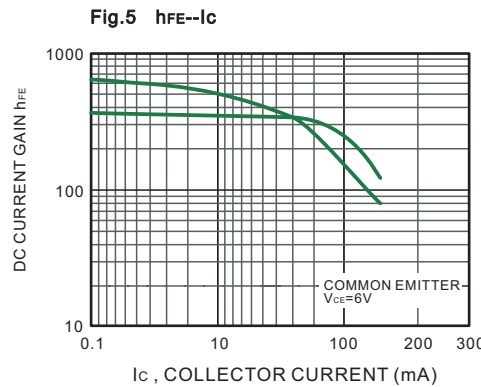
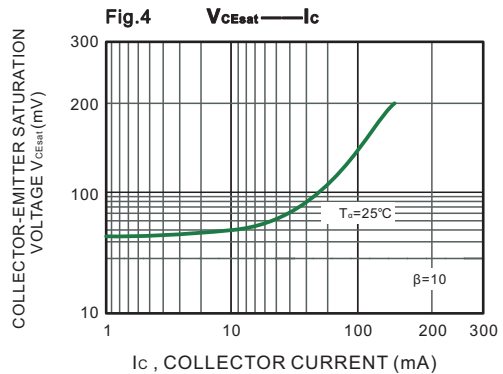
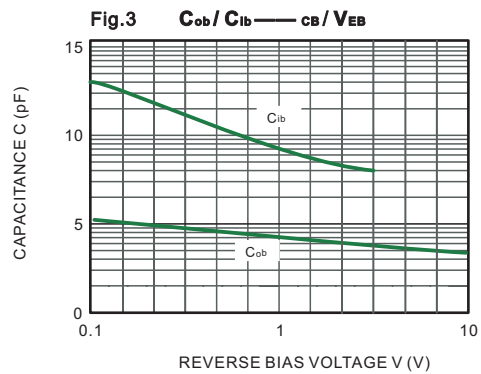
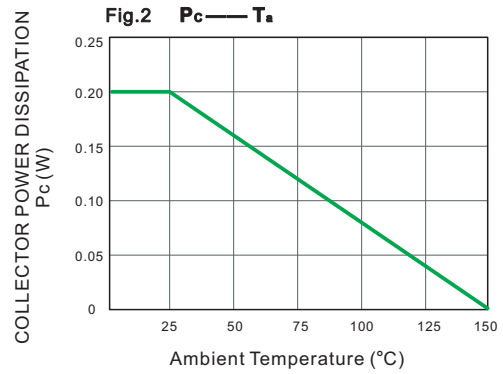
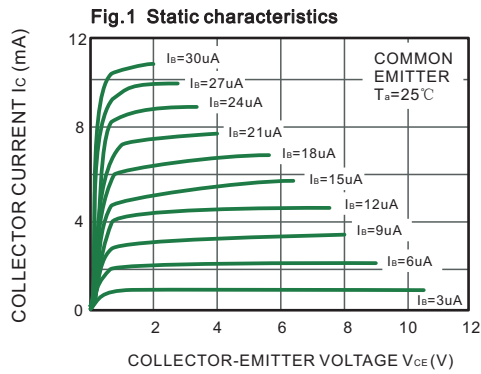
Rank	L	H
Range	130-200	200-400

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100\mu A, I_E = 0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1\text{ mA}, I_B = 0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 0.1\text{ mA}, I_C = 0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB} = 60\text{ V}, I_E = 0$			0.1	μA
Collector cut-off current	I_{CER}	$V_{CE} = 55\text{ V}, R = 10\text{ M}\Omega$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$			0.1	μA
DC current gain	h_{FE1}	$V_{CE} = 6\text{ V}, I_C = 1\text{ mA}$	130		400	
	h_{FE2}	$V_{CE} = 6\text{ V}, I_C = 0.1\text{ mA}$	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100\text{ mA}, I_B = 10\text{ mA}$			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100\text{ mA}, I_B = 10\text{ mA}$			1	V
Transition frequency	f_T	$V_{CE} = 6\text{ V}, I_C = 10\text{ mA}, f = 30\text{ MHz}$	150			MHZ
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$			3.0	pF
Noise figure	NF	$V_{CE} = 6\text{ V}, I_C = 0.1\text{ mA}, R_g = 10\text{ k}\Omega, f = 1\text{ kHz}$		4	10	dB

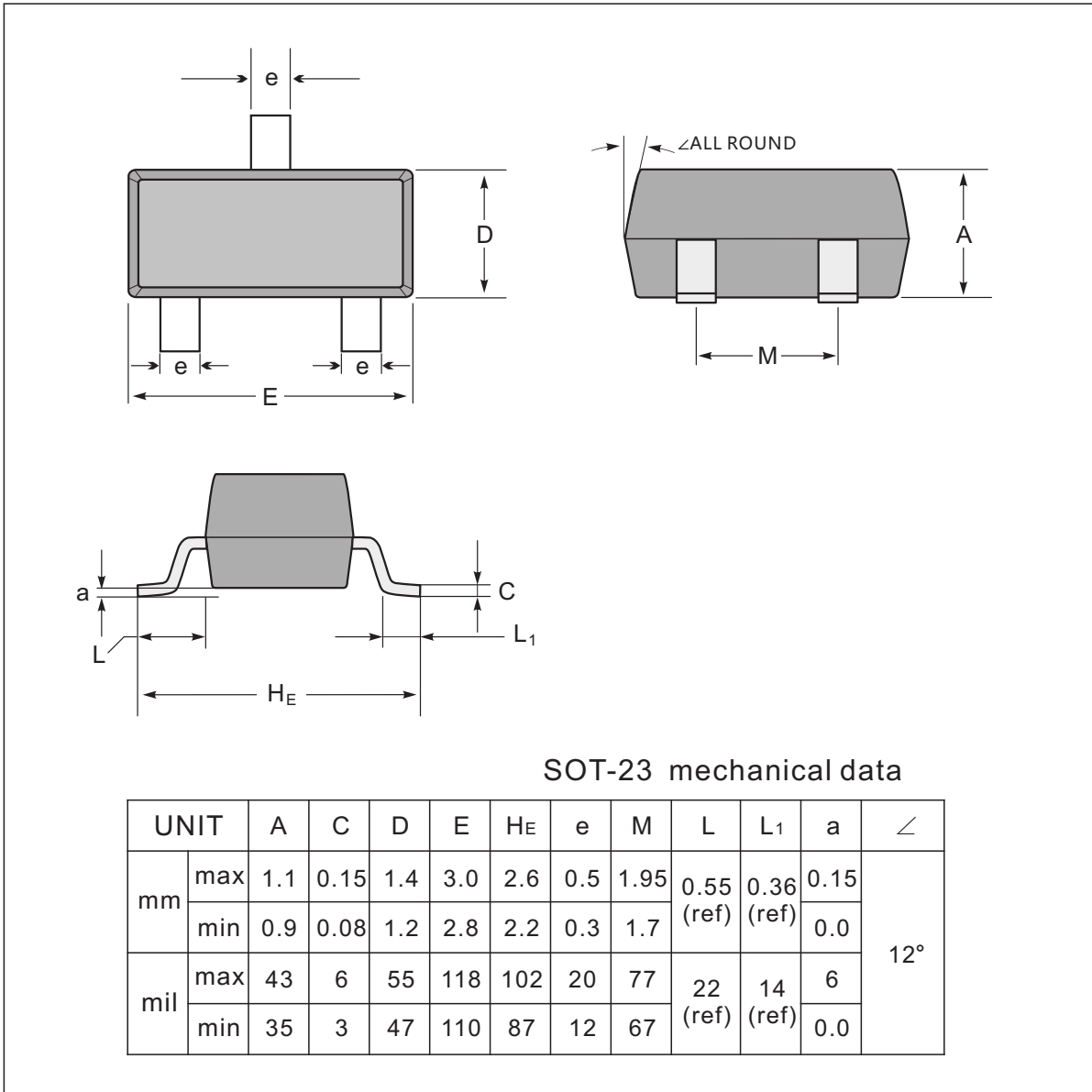


TYPICAL CHARACTERISTICS

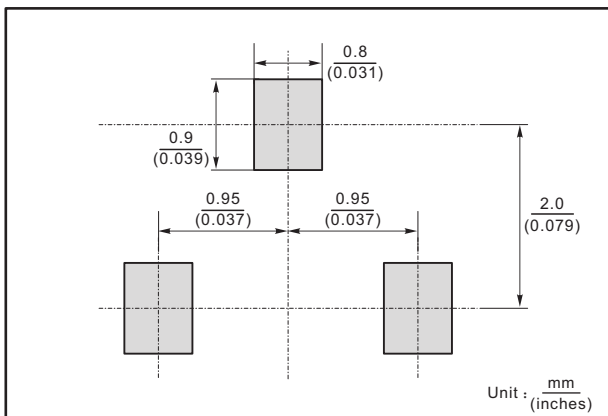




SOT-23 Package Outline Dimensions



The recommended mounting pad size



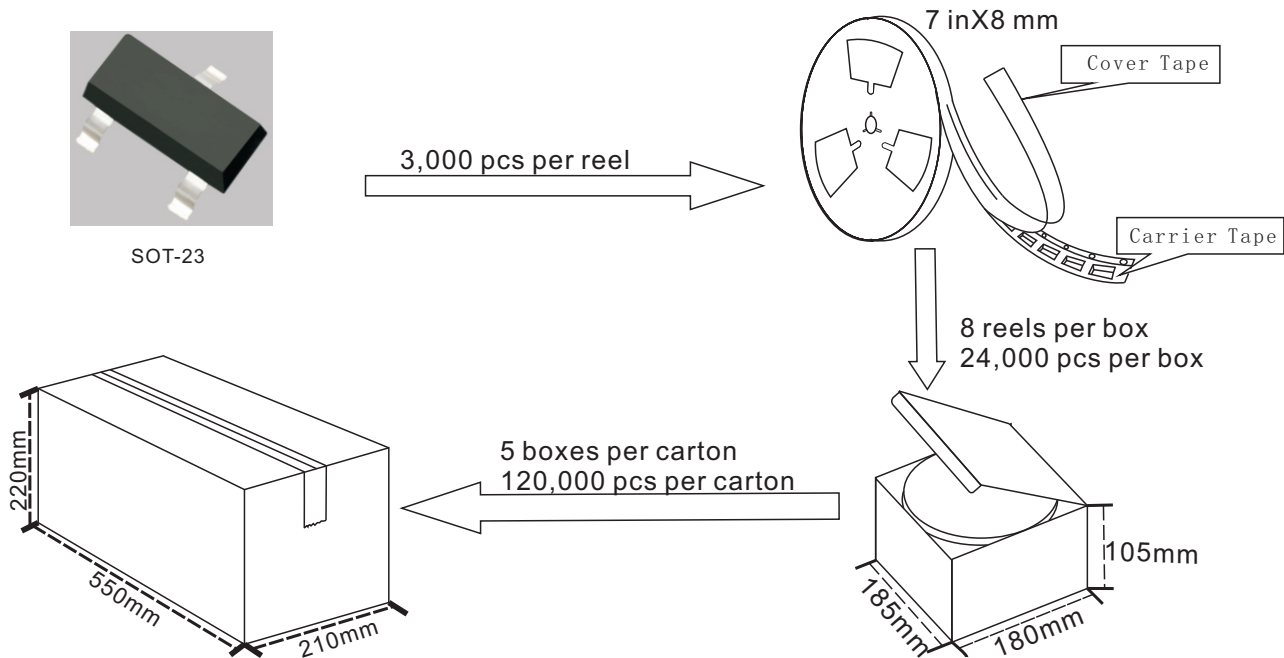
Marking

Type number	Marking code
C945	CR

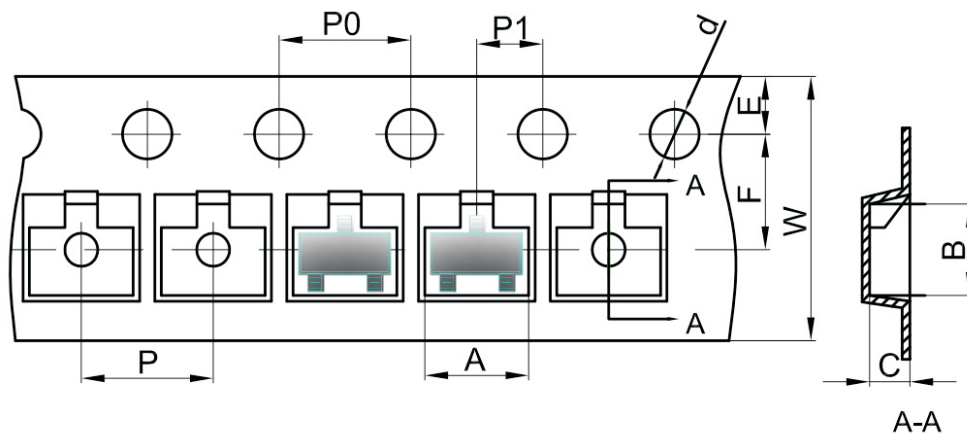


SOT-23 Packing

1. The method of packaging and dimension are shown as below figure. (Dimension in mm)



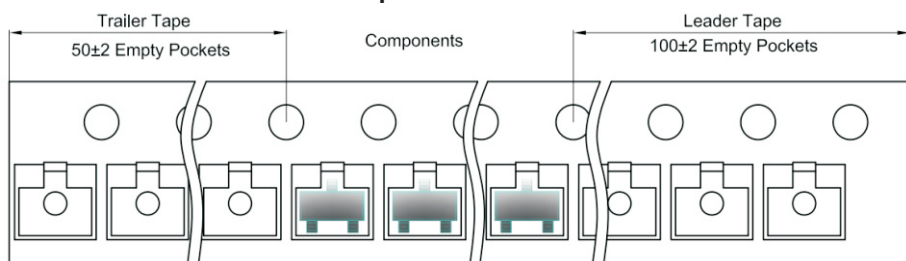
SOT-23 Embossed Carrier Tape



Dimensions are in millimeter

Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00

SOT-23 Tape Leader and Trailer



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