



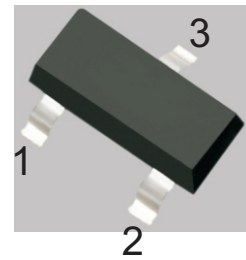
C945

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  $h_{FE}$

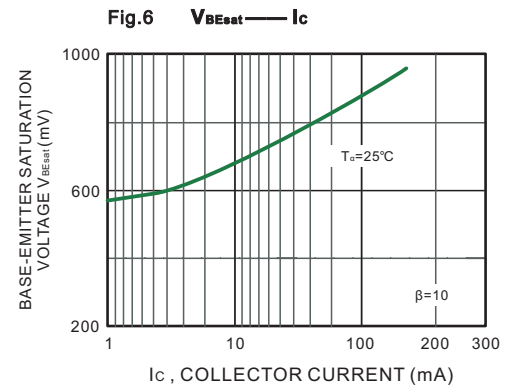
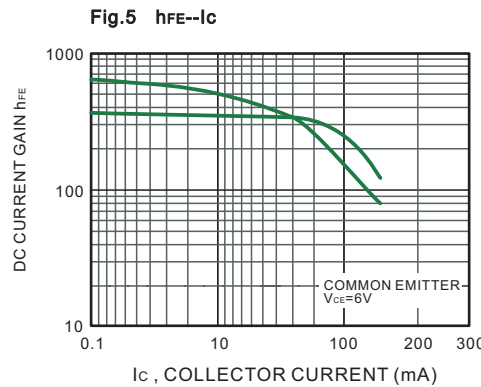
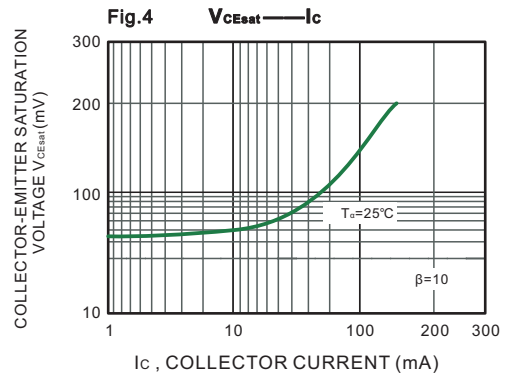
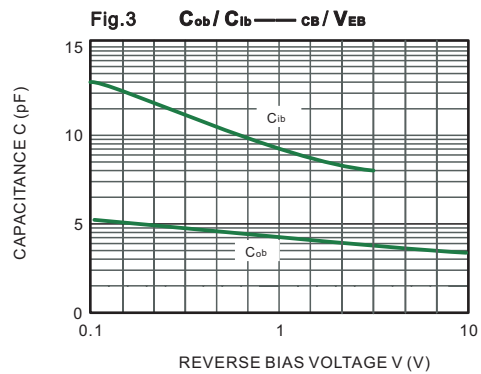
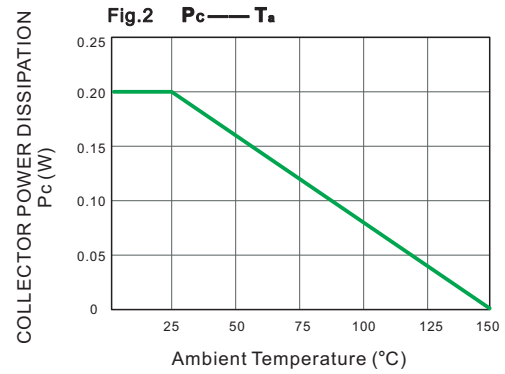
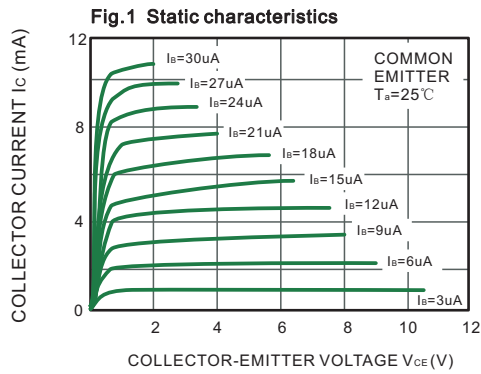
Rank	L	H
Range	130-200	200-400

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	$\mu A$
Collector cut-off current	$I_{CER}$	$V_{CE} = 55\text{ V}, R = 10\text{ M}\Omega$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5\text{ V}, I_C = 0$			0.1	$\mu A$
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

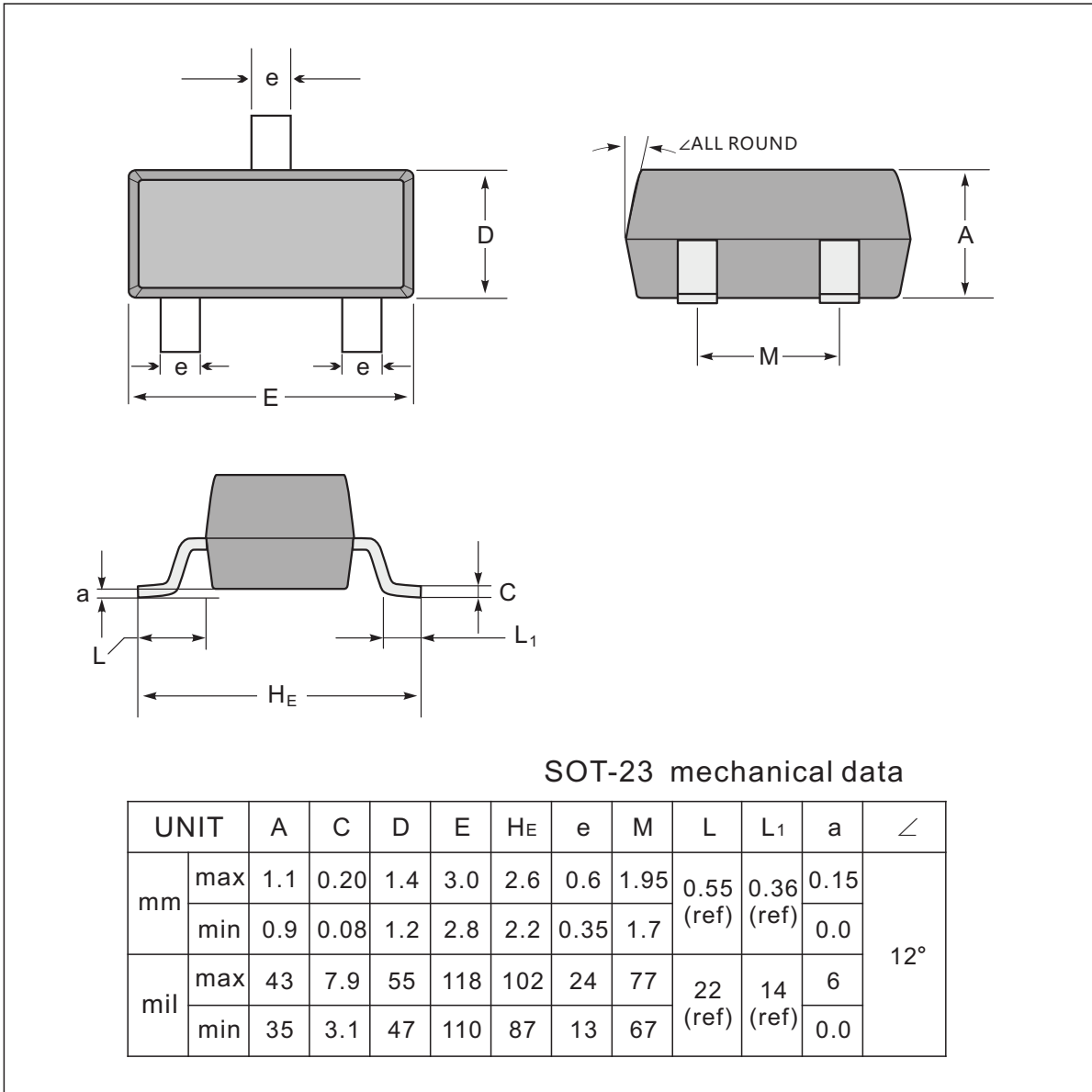


### TYPICAL CHARACTERISTICS

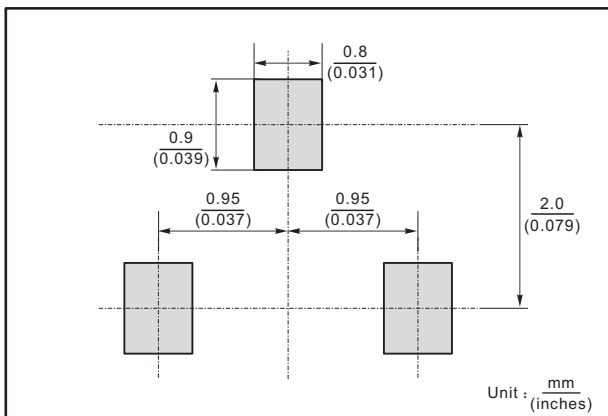




### SOT-23 Package Outline Dimensions



#### The recommended mounting pad size



#### Marking

Type number	Marking code
C945	CR