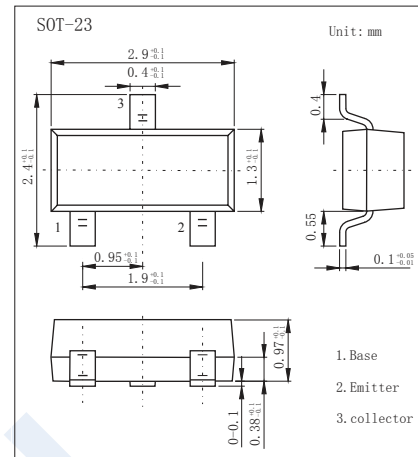


## NPN Transistors

### 2SC945-HF

#### ■ Features

- Collector current up to 150mA
- High  $h_{FE}$  linearity
- Complementary to 2SA733-HF
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish



#### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector to base voltage	$V_{CBO}$	60	V
Collector to emitter voltage	$V_{CEO}$	50	V
Emitter to base voltage	$V_{EBO}$	5	V
Collector current (DC)	$I_C$	150	mA
Power dissipation	$P_C$	200	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 to +150	$^\circ\text{C}$

#### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\ \mu\text{A}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\ \mu\text{A}, I_C=0$	5			V
Collector cutoff current	$I_{CBO}$	$V_{CB} = 60\text{V}, I_E = 0$			0.1	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 5.0\text{V}, I_C = 0$			0.1	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE} = 6.0\text{V}, I_C = 1.0\text{mA}$	130		400	
		$V_{CE} = 6.0\text{V}, I_C = 0.1\text{mA}$	40			
Collector saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			0.3	V
Base saturation voltage	$V_{BE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$			1.0	V
Collector to base 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
Transition frequency	$f_T$	$V_{CE}=6\text{V}, I_C=10\text{mA}, f=30\text{MHz}$	150			MHz

#### ■ Classification of $h_{FE}(1)$

Type	2SC945-L-HF	2SC945-H-HF
Range	130-200	200-400
Marking	CRL <sub>F</sub>	CR <sub>F</sub>

# NPN Transistors

## 2SC945-HF

### Typical Characteristics

