

SOT-23 Plastic-Encapsulate Transistors

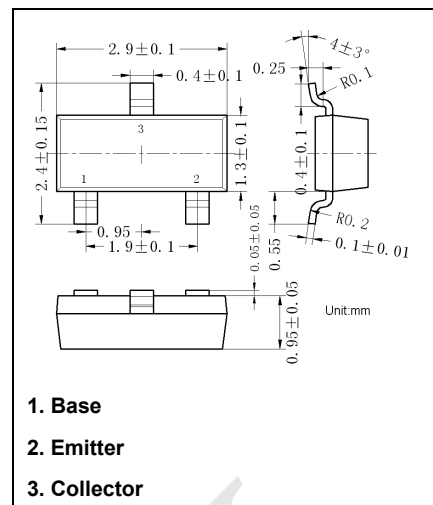
C945

NPN Transistors

Features

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

Marking: CR



Maximum Ratings ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector Base Voltage	60	V
V_{CEO}	Collector Emitter Voltage	50	V
V_{EBO}	Emitter Base Voltage	5	V
I_C	Collector Current	150	mA
P_C	Collector Power Dissipation	200	mW
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55 ~ +150	$^{\circ}\text{C}$
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	625	$^{\circ}\text{C/W}$

Electrical Characteristics ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
$V_{(BR)CBO}$	Collector-base breakdown voltage	$I_C = 100\mu\text{A}, I_E = 0$	60			V
$V_{(BR)CEO}$	Collector-emitter breakdown voltage	$I_C = 1\text{mA}, I_B = 0$	50			
$V_{(BR)EBO}$	Emitter-base breakdown voltage	$I_E = 100\mu\text{A}, I_C = 0$	5			
I_{CBO}	Collector cut-off current	$V_{CB} = 60\text{V}, I_E = 0$			100	nA
I_{CER}	Collector cut-off current	$V_{CE} = 55\text{V}, R = 10\text{M}\Omega$			100	
I_{EBO}	Emitter cut-off current	$V_{EB} = 5\text{V}, I_C = 0$			100	
$h_{FE(1)}$	DC current gain	$V_{CE} = 5\text{V}, I_C = 1\text{mA}$	130			
$h_{FE(2)}$		$V_{CE} = 6\text{V}, I_C = 1\text{mA}$	300		400	
$h_{FE(3)}$		$V_{CE} = 6\text{V}, I_C = 0.1\text{mA}$	40			
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C = 100\text{mA}, I_B = 10\text{mA}$			0.3	V
$V_{BE(sat)}$	Base-emitter saturation voltage	$I_C = 100\text{mA}, I_B = 10\text{mA}$			1	V
f_T	Transition frequency	$V_{CE} = 6\text{V}, I_C = 10\text{mA}, f = 30\text{MHz}$	150			MHz
C_{ob}	Collector output capacitance	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$			3.0	pF
NF	Noise figure	$V_{CE} = 6\text{V}, I_C = 0.1\text{mA}$ $R_g = 10\text{k}\Omega, f = 1\text{kHz}$		4	10	dB

Typical Characteristics

