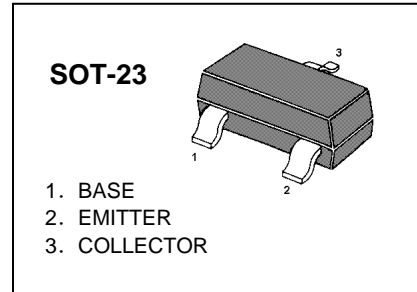


TRANSISTOR (NPN)

FEATURE

- 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	Units
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 -Continuous	150	mA
P_C	Collector Power Dissipation	200	mW
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

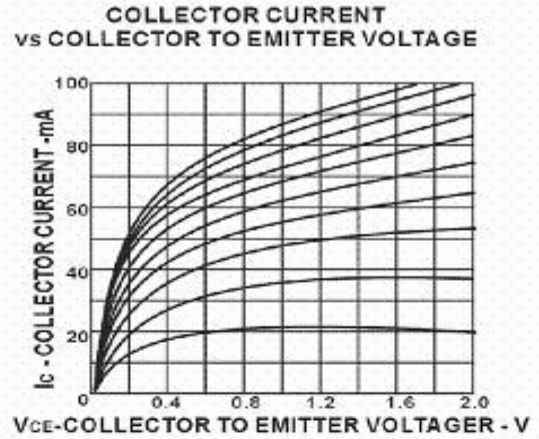
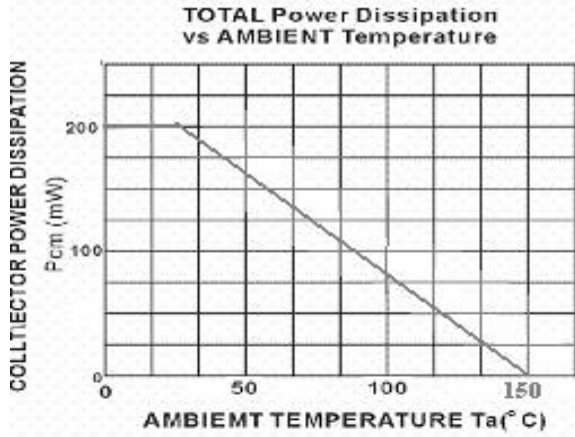
ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

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	$V(BR)_{EBO}$	$I_E=0.1\text{mA}$, $I_C=0$	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	$h_{FE(1)}$	$V_{CE}=6\text{V}$, $I_C=1\text{mA}$	200		400	
	$h_{FE(2)}$	$V_{CE}=6\text{V}$, $I_C=0.1\text{mA}$	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

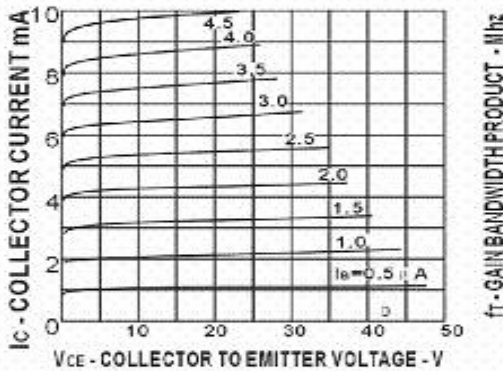


Typical Characteristics

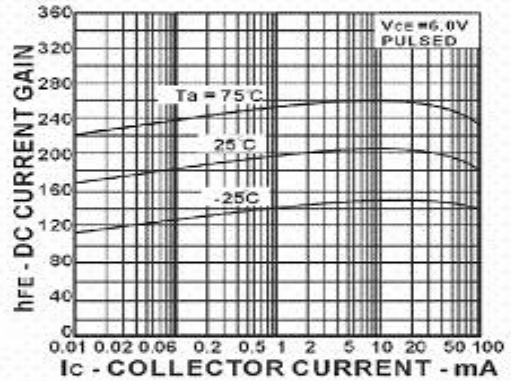
C945



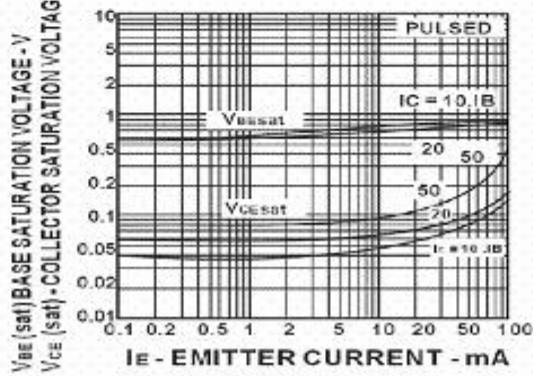
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



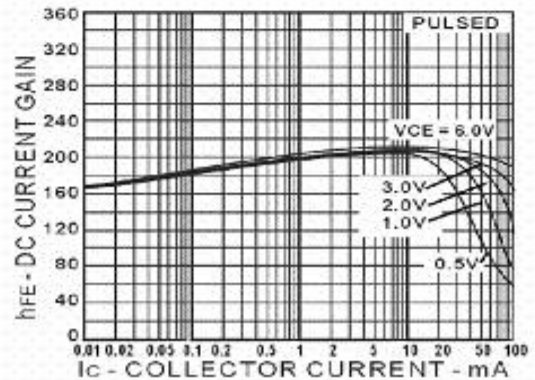
DC CURRENT GAIN vs. COLLECTOR CURRENT



COLLECTOR AND BASE SATURATION VOLTAGE vs. COLLECTOR CURRENT



DC CURRENT GAIN vs. COLLECTOR CURRENT

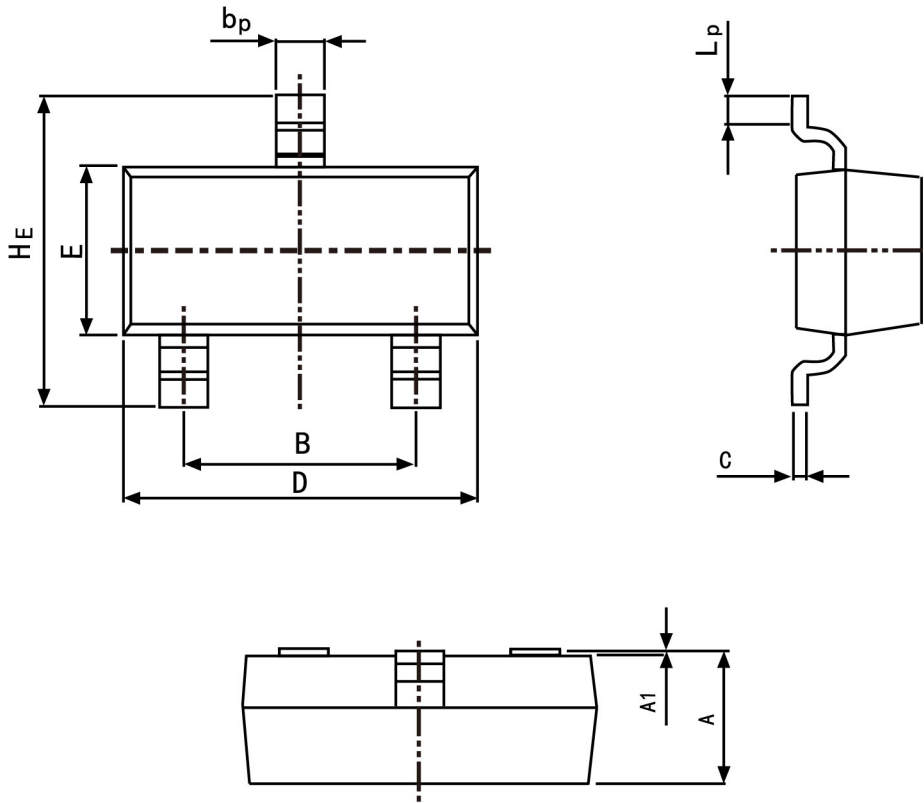




PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



Symbol	Dimension in Millimeters	
	Min	Max
A	0.95	1.40
B	1.78	2.04
b_p	0.35	0.50
C	0.08	0.19
D	2.70	3.10
E	1.20	1.65
HE	2.20	3.00
A_1	0.100	0.013
L_p	0.20	0.50