

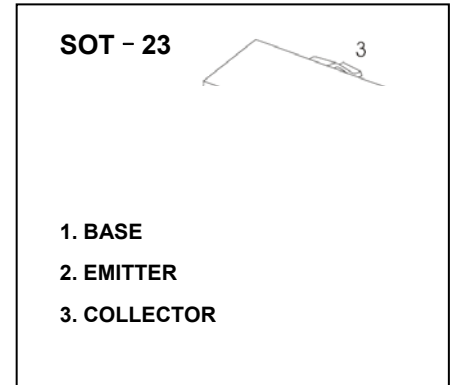
Plastic-Encapsulate Transistors

TRANSISTOR (NPN)

FEATURES

- Audio frequency power amplifier
- Medium speed switching

MARKING:16



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	6	V
I_C	Collector Current	1	A
P_C	Collector Power Dissipation	350	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	357	$^{\circ}\text{C}/\text{W}$
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^{\circ}\text{C}$

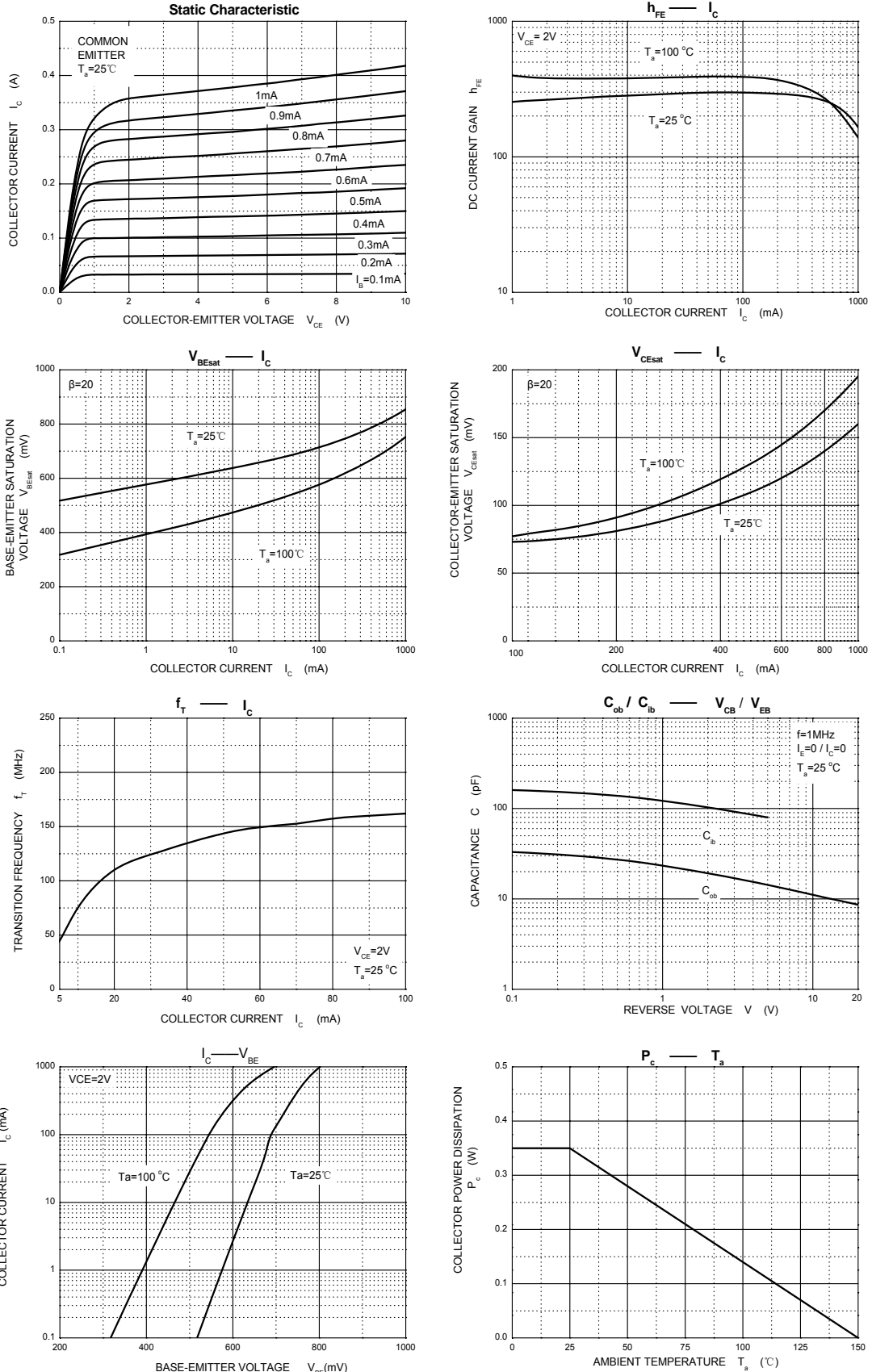
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=2\text{mA}, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu\text{A}, I_C=0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=6\text{V}, I_C=0$			100	nA
DC current gain	$h_{FE(1)}$	$V_{CE}=2\text{V}, I_C=100\text{mA}$	135		600	
	$h_{FE(2)}$	$V_{CE}=2\text{V}, I_C=1\text{A}$	81			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=1\text{A}, I_B=50\text{mA}$			0.3	V
Collector-emitter saturation voltage	$V_{BE(sat)}$	$I_C=1\text{A}, I_B=50\text{mA}$			1.2	V
Base-emitter voltage	V_{BE}	$V_{CE}=2\text{V}, I_C=50\text{mA}$	0.6		0.7	V
Transition frequency	f_T	$V_{CE}=2\text{V}, I_C=100\text{mA}, f=100\text{MHz}$	100			MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			19	pF

CLASSIFICATION OF $h_{FE(1)}$

RANK	Y	G	L
RANGE	135~270	200~400	300~600

Typical Characteristics

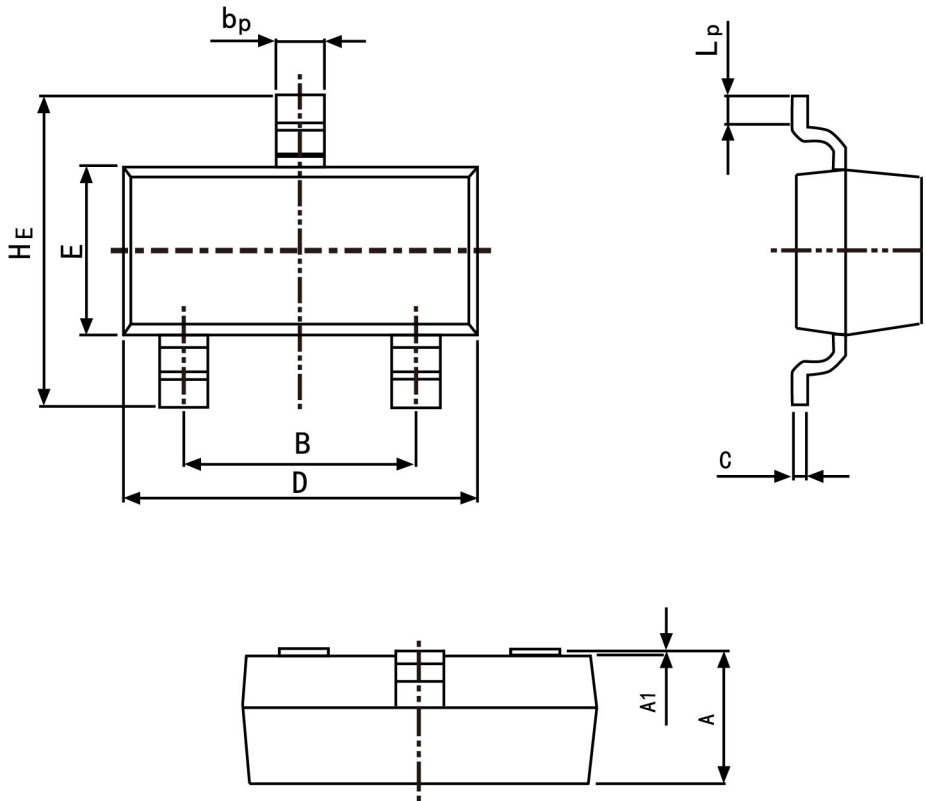




PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



Symbol	Dimension in Millimeters	
	Min	Max
A	0.95	1.40
B	1.78	2.04
bp	0.35	0.50
C	0.08	0.19
D	2.70	3.10
E	1.20	1.65
HE	2.20	3.00
A1	0.100	0.013
Lp	0.20	0.50