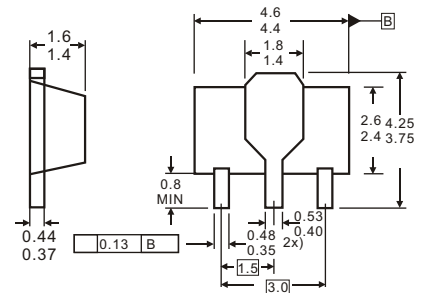


1. BASE
2. COLLECTOR
3. EMITTER

SOT-89



Dimensions in inches and (millimeters)

Features

- ✧ Low collector saturation voltage,
- ✧ Excellent current-to-gain characteristics

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CB0}	Collector-Base Voltage	-30	V
V_{CEO}	Collector-Emitter Voltage	-20	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current -Continuous	-5	A
P_C	Collector Power Dissipation	0.5	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

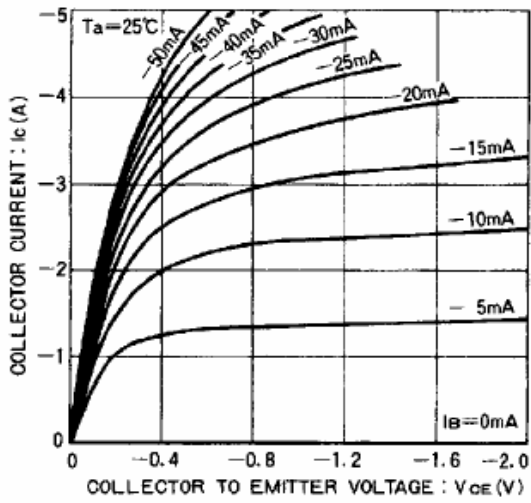
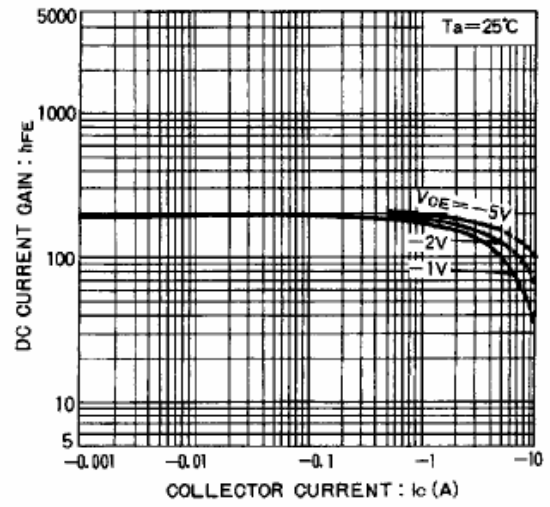
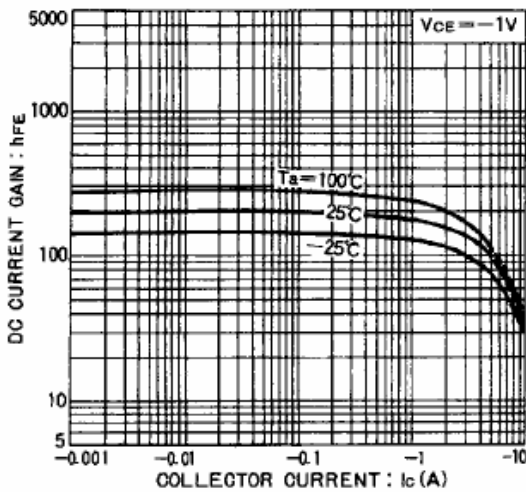
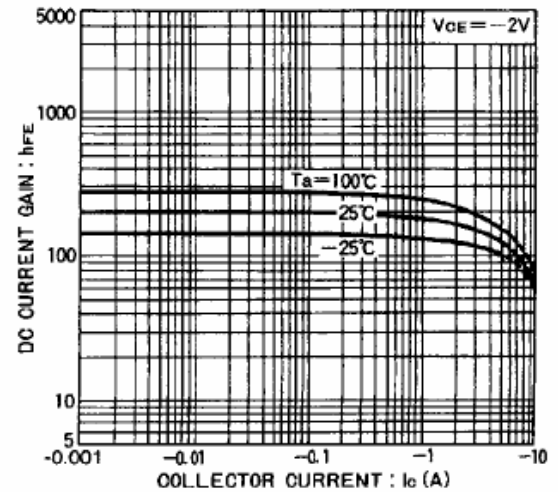
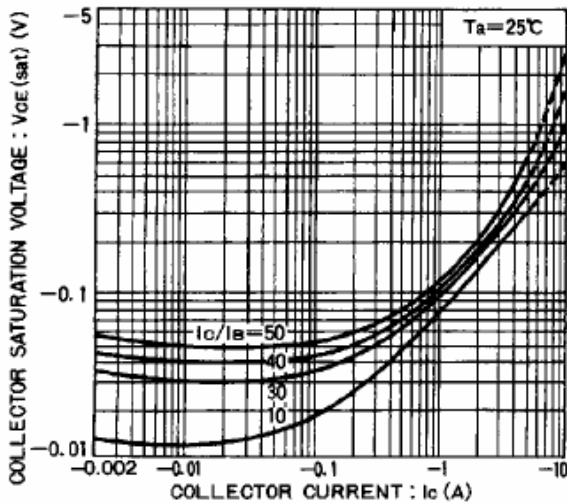
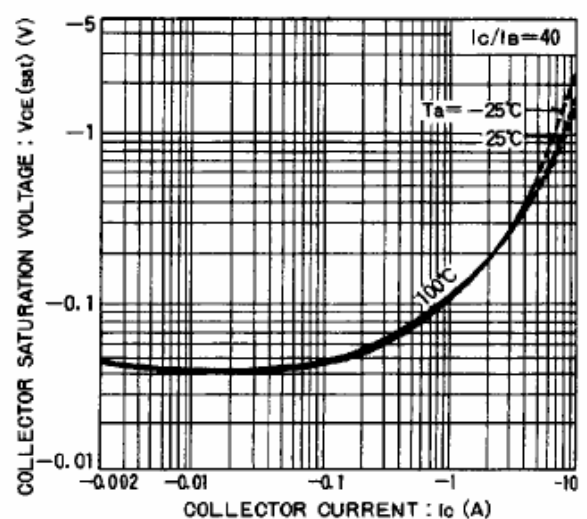
ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-50\mu\text{A}, I_E=0$	-30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, I_B=0$	-20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-50\mu\text{A}, I_C=0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB}=-20\text{V}, I_E=0$			-0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5\text{V}, I_C=0$			-0.5	μA
DC current gain	h_{FE}	$V_{CE}=-2\text{V}, I_C=-500\text{mA}$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-4\text{A}, I_B=-100\text{mA}$			-1	V
Transition frequency	f_T	$V_{CE}=-6\text{V}, I_C=-50\text{mA}, f=30\text{MHz}$		120		MHz
Collector output capacitance	C_{ob}	$V_{CB}=-20\text{V}, I_E=0, f=1\text{MHz}$		60		pF

CLASSIFICATION OF h_{FE}

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	BHP	BHQ	BHR

Typical Characteristics


Figure 1

Figure 2

Figure 3

Figure 4

Figure 5

Figure 6

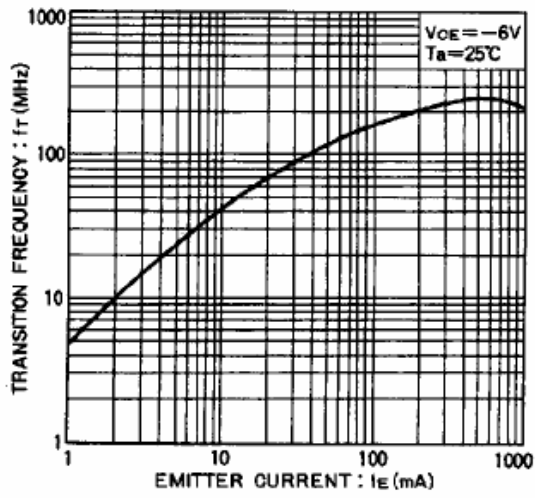


Figure 7

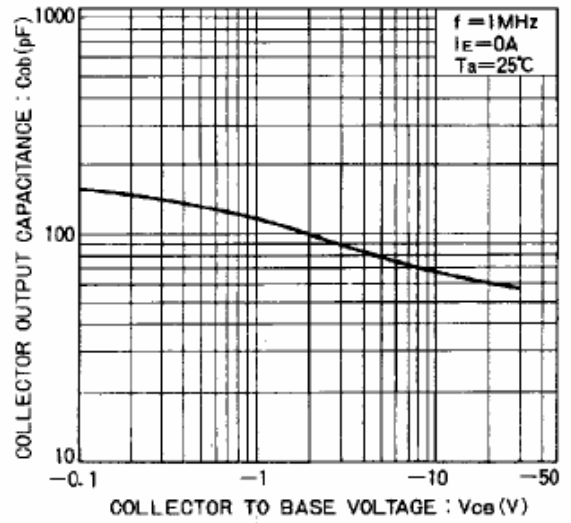


Figure 8

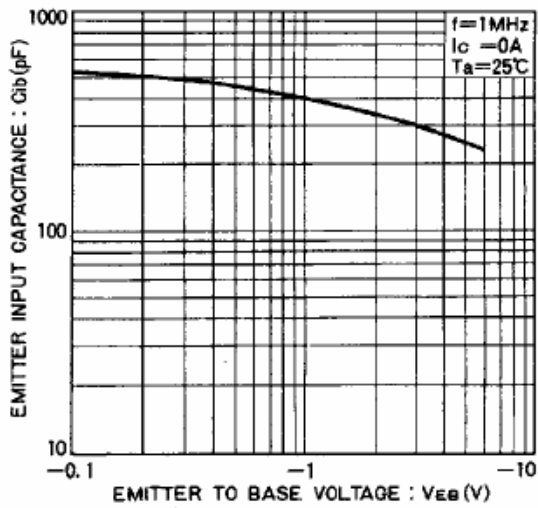


Figure 9