



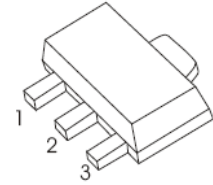
TRANSISTOR (PNP)

#### FEATURES

- Power Transistor
- Excellent DC current Gain
- Low Collector-emitter Saturation Voltage
- **Pb-Free package is available**  
RoHS product for packing code suffix "G"  
Halogen free product for packing code suffix "H"
- **Moisture Sensitivity Level 1**

#### SOT-89

1. BASE
2. COLLECTOR
3. EMITTER



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

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	-30	V
$V_{CEO}$	Collector-Emitter Voltage	-20	V
$V_{EBO}$	Emitter-Base Voltage	-6	V
$I_C$	Collector Current	-3	A
$P_C$	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	$^{\circ}\text{C}/\text{W}$
$T_j$	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)

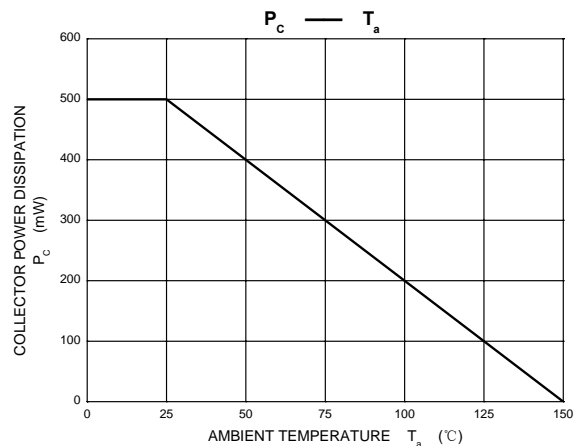
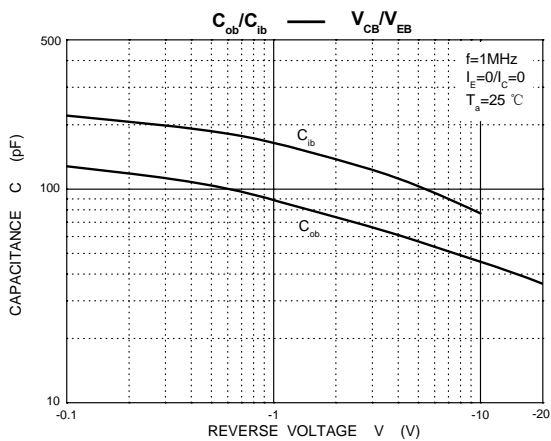
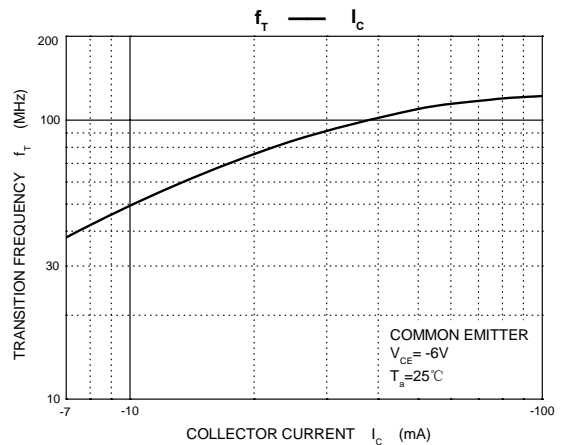
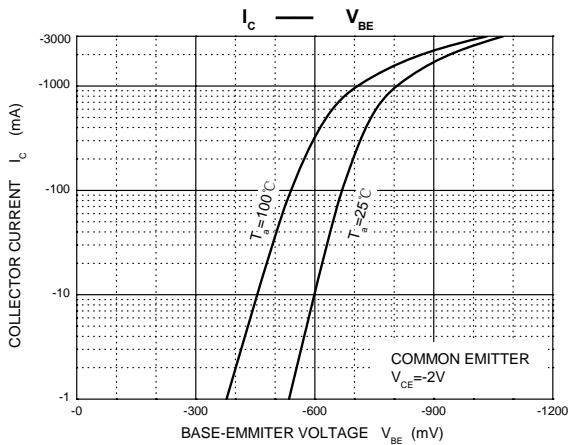
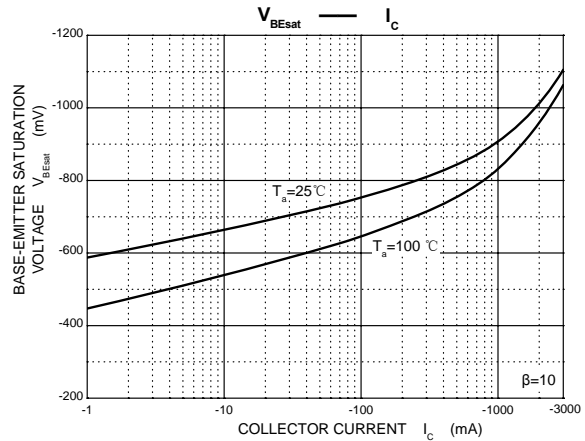
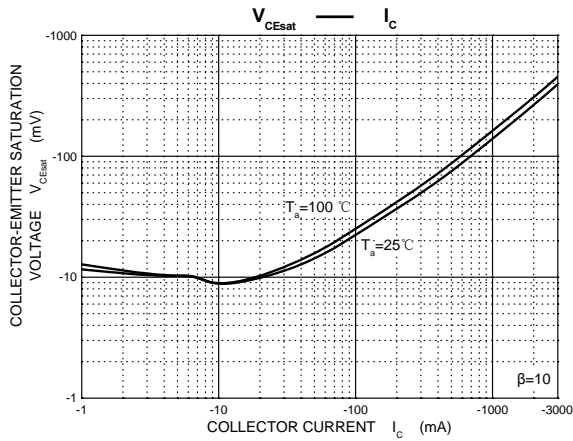
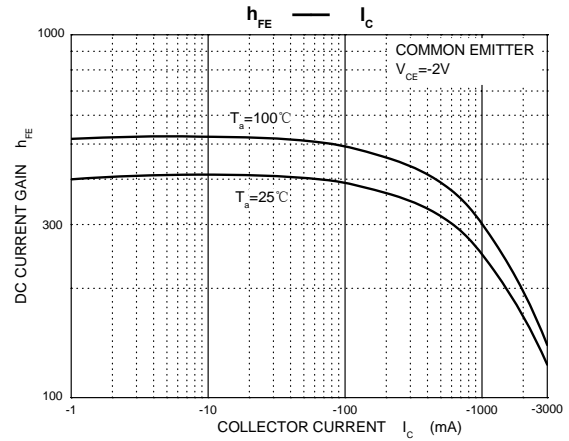
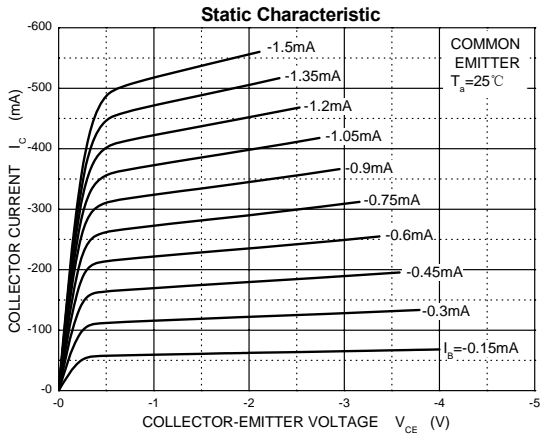
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-50\mu\text{A}, I_E=0$	-30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, I_B=0$	-20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-50\mu\text{A}, I_C=0$	-6			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-20\text{V}, I_E=0$			-0.5	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-5\text{V}, I_C=0$			-0.5	$\mu\text{A}$
DC current gain	$h_{FE}$	$V_{CE}=-2\text{V}, I_C=-0.5\text{A}$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-1.5\text{A}, I_B=-0.15\text{A}$			-0.45	V
Collector output capacitance	$C_{ob}$	$V_{CB}=-20\text{V}, I_E=0, f=1\text{MHz}$		60		pF
Transition frequency	$f_T$	$V_{CE}=-6\text{V}, I_C=-50\text{mA}, f=30\text{MHz}$		120		MHz

#### CLASSIFICATION OF $h_{FE}$

RANK	P	Q	R
RANGE	82 - 180	120 - 270	180 - 390
MARKING	BFP	BFQ	BFR



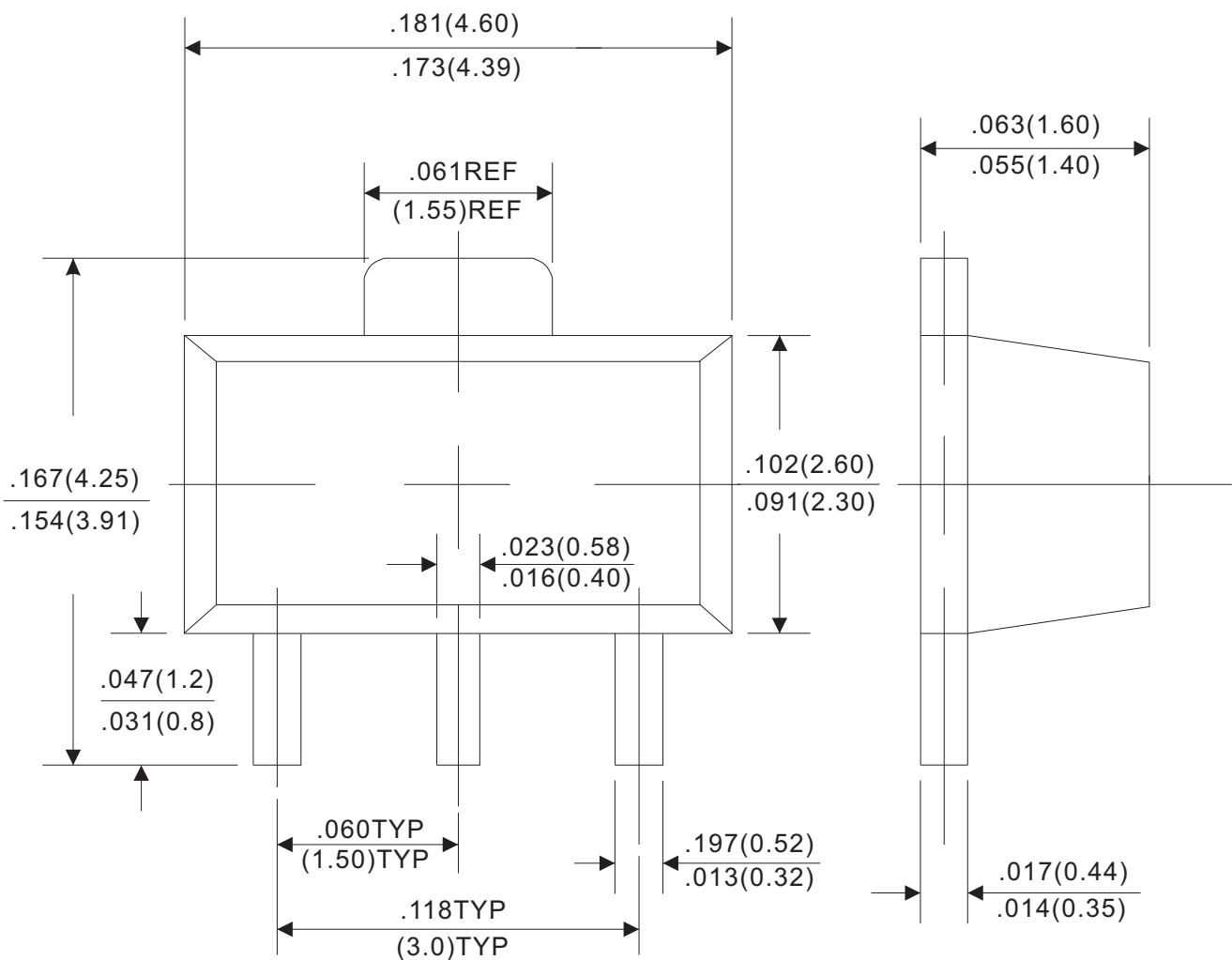
### Typical Characteristics





# Outline Drawing

# SOT-89



Dimensions in inches and (millimeters)

### Ordering Information:

Device PN	Packing
2SB1308 x <sup>(3)</sup> -SOT89 <sup>(1)</sup> G <sup>(2)</sup> -WS	Tape& Reel: 1 Kpcs/Reel

Note: (1) CASE:SOT-89

(2) RoHS product for packing code suffix "G" ; Halogen free product for packing code suffix "H"

(3) CLASSIFICATION OF hFE RANK

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